MANSTON AIRPORT DEVELOPMENT CONSENT ORDER EXAMINATION
ADDITIONAL SUBMISSION: COMMENTS ON RESPONSES RECEIVED TO THE ExA's FIFTH WRITTEN QUESTIONS AND PUBLISHED 8 JULY 2019
SUBMITTED BY LOCAL BUSINESS AND INTERESTED PARTY, FIVE10TWELVE LTD

1. General

1.1. We note the contents of Stone Hill Park's Deadline 11 Submission, responses to Fifth Written Questions, [TR020002-004654], and - in particular - Stone Hill Park's statement that, *"subject to the sale of the SHP land completing on the contracted terms, SHP will request the withdrawal of the representations it has made objecting to the Application"*.

1.2. We consider it entirely unfair, unreasonable and inappropriate that any withdrawal of a significant body of material evidence across a wide range of Principal Issues beyond those relating purely to the Compulsory Acquisition of Stone Hill Park's land may be under threat of removal at any stage - let alone on the day before the close of the Examination. If allowed, this would be prejudicial to all other Interested Parties.

1.3. As the ExA is aware, a significant proportion of time during the Examination Process and hearings has been allocated to hearing, assessing and commenting on arguments that may have been based in whole or in part on representations made by Stone Hill Park.

1.4. These representations - and any underlying evidence - cannot simply be withdrawn from the Examination as they are absolutely intertwined and interlinked with so many other aspects of the process.

1.5. It is reasonable to assume that other Interested and Affected Parties will have sought to avoid duplicating arguments and questions raised by other parties throughout the process - including Stone Hill Park - in an effort to ensure a smooth and efficient process. This is particularly true given the

significant issues and impact of the Applicant's failure to 'front-load' and project manage its own Application and the unprecedented volume of questions from the ExA, as set out in our Submission to Deadline 11, [TR020002-004701].

1.6. Equally, many of the questions raised by the ExA during its five rounds of questions and directed towards Stone Hill Park might reasonably have been directed to other Interested or Affected Parties, Statutory Bodies, Local Authorities etc if Stone Hill Park was not given such a prominent position in this Examination.

1.7. Similarly, it is reasonable to assume that time afforded to Stone Hill Park and/or its representatives during Hearings may have been afforded to other Interested Parties to present similar or connected evidence.

1.8. Any withdrawal of evidence or representations submitted by Stone Hill Park would, if permitted, call into question the entire Examination process itself and the opportunities or time to comment and/or present evidence that may have otherwise been afforded to other Interested or Affected Parties had Stone Hill Park not participated in the process.

1.9. We note that York Aviation, in particular, has put on record its own objections to the Applicant's positions and questions throughout the process in its Deadline 11 submission, [TR020002-004642]. We fully support this stance and maintain that all evidence and representations made by York Aviation throughout the Examination - whether instructed by Stone Hill Park or not - should stand and remain under consideration by the ExA. This should include but not be limited to representations made by York Aviation orally during all Hearings, and/or in written representations and/or in answers to ExA's questions and/or underlying evidence or reports authored by York Aviation, irrespective of whether or not they were submitted by Stone Hill Park.

1.10. We raised concerns and questions regarding Stone Hill Park's representations with the Planning Inspectorate in our emails of 4 and 5 July 2019, seeking clarification as to whether or not these representations will stand and be used by the ExA and whether they will carry the same weight as prior to the SHP agreement with the Applicant[1].

1.10.1. The response received from the Planning Inspectorate on 8th July 2019[2] - 24 hours before the closure of the Examination - did not directly answer the questions in our emails. This has significantly impacted upon our ability to address issues that might arise both from the late agreement between SHP and the Applicant and/or from SHP's Deadline 11 submission.

1.11. In the event that the Stone Hill Park representations and/or underlying evidence are allowed to be removed from the Examination Library and/or are removed from the ExA's consideration in these circumstances, we would consider this to be wholly counter to the fundamental values of the Planning Inspectorate's values of *"openness, transparency and impartiality"* and will robustly challenge any decisions that might be impacted by this action.

2. Re-Submission

2.1. At the time of writing, Monday 8 July 2019, these documents are a matter of public record, having been made available as per Rule 21 of the Infrastructure Planning (Examination Procedure) Rules 2010.

2.2. Under Rule 21(1) of the Infrastructure Planning (Examination Procedure) Rules 2010, and in keeping with the Planning Inspectorate's commitment to openness and transparency, it is our understanding that copies may be made of these public records by Interested Parties.

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[1] Appendix A: Emails queries between Five10Twelve and UK Planning Inspectorate, July 2019

[2] *ibid*

2.3. In the interests of preserving this significant evidence-base for the purposes of an open, fair, transparent and impartial Examination, we are today re-submitting copies of the evidence and representations made by Stone Hill Park to date[3]. These have been attached and indexed according to reference numbers as per the current Examination Library or "TR" reference numbers for more recent submissions where Examination Library references have not yet been generated.

3. Five10Twelve Objections

3.1. Where we have referenced Stone Hill Park representations and/or evidence in any of our previous submissions, these underlying documents - resubmitted herewith - shall continue to support statements and objections to the proposed development.

3.2. Where we have not previously directly commented on Stone Hill Park's representations or evidence previously presented and resubmitted herewith, we would like to put on record that the only matter that we consider has in any way been settled or materially changed by the agreement between Stone Hill Park and the Applicant is the issue of Compulsory Acquisition of Stone Hill Park's land.

3.3. Matters still outstanding and as previously raised in the attached documentation include, but are not limited to, the following Principal Issues:

- Air Quality
- Climate Change
- Funding (excluding funding required for purchase of Stone Hill Park land)
- Habitat Regulations Assessment and effects on biodiversity
- Landscape, design, archaeology and heritage
- Planning policy

[3] Appendix B: Appendices 1-41 - Stone Hill Park Representations

- Need - including NSIP justification
- Noise
- Operational issues
- Other environmental issues
- Socio-economic issues
- Traffic and transport
- Associated development

3.4. We do not consider that any of the above issues addressed, raised or supported by the evidence base attached have been settled by the agreement between Stone Hill Park and the Applicant and, as such, we wholly endorse, support, commend and herewith resubmit questions and evidence relating to these subjects in the attached documentation.

3.5. Whilst we appreciate that Stone Hill Park has exercised its right to withdraw its own objections, we hereby formally raise our own objections to the proposed development on grounds previously raised in the attached documentation. We fully support, endorse, commend and herewith resubmit all other comments, evidence, third party reports, objections, observations, answers provided to the ExA and any other documentation, issues and concerns raised within these documents throughout this Examination, as evidenced in the Appendices attached.

3.6. We trust the ExA will fully consider this entire body of evidence as re-presented by Five10Twelve in order to reasonably continue with the Examination, lines of questioning and reasoning that have been maintained throughout this process to date and in the spirit of fairness to all Interested and Affected Parties and communities.

Appendix A

Emails queries between Five10Twelve and UK Planning Inspectorate, July 2019

Gmail

Samara Jones-Hall [redacted].com>

Query

5 messages

Samara Jones-Hall [redacted].com> Thu, Jul 4, 2019 at 9:54 AM
To: Manston Airport <manstonairport@pins.gsi.gov.uk>

Dear Sirs

On the recent news about Stone Hill Park and the Applicant's agreement to sell and Stone Hill Park's withdrawal of its objection after completion.

Could you please confirm that a) all Stone Hill Park's submissions will stand and be used by the Examiners in making their recommendation; and b) that Stone Hill Park's submissions will still carry the same weight as they did before?

Cheers

Samara

Samara Jones-Hall
[redacted]

Ramsgate, East Kent, the largest Conservation Area in the whole of Kent and proudly ChalkCliffs white, Van Gogh yellow, Royal Harbour blue, Ellington green, Pugin red, James Tissot Black

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Love Ramsgate is a private limited company incorporated in England & Wales under the name Love Ramsgate Limited, Company No 8413566

Samara Jones-Hall [redacted].com> Thu, Jul 4, 2019 at 10:13 AM
To: Manston Airport <manstonairport@pins.gsi.gov.uk>

Dear Sirs

How long do submissions stay up on the Planning Inspectorate website? And, secondly is it all submissions that stay up?

Samara Jones-Hall
[redacted]

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>
> Cheers
>
> Samara
>
> **Samara Jones-Hall**
>
> [redacted]
>
> [redacted]
>
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Samara Jones-Hall [redacted].com> Fri, Jul 5, 2019 at 8:41 AM
To: Manston Airport <manstonairport@pins.gsi.gov.uk>, Manston Airport <ManstonAirport@planninginspectorate.gov.uk>

Dear Sirs

Could you please confirm that a) all Stone Hill Park's submissions will stand and be used by the Examiners in making their recommendation; and b) that Stone Hill Park's submissions will still carry the same weight as they did before?

---------- Forwarded message ---------
From: **Samara Jones-Hall** <[redacted].com>
Date: Thu, Jul 4, 2019 at 9:54 AM
Subject: Query
To: Manston Airport <manstonairport@pins.gsi.gov.uk>

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Manston Airport <ManstonAirport@planninginspectorate.gov.uk> Mon, Jul 8, 2019 at 1:49 PM
To: Samara Jones-Hall [redacted].com>
Cc: Manston Airport <manstonairport@pins.gsi.gov.uk>

Hi Samara

The following documents are removed from the website after the Judicial Review period has expired ie six weeks after the SoS decision:

- Book of Reference.
- Any tables dealing with land interests eg in this case, all iterations of the Applicant's 'Compulsory Acquisition Status Report'.
- Relevant Representations.

After five years all other documents are removed, save for:

- S51 advice.
- The SoS decision letter.
- The ExA's Recommendation Report.
- The DCO (if made).
- Any documents relating to change applications (material/non-material).
- Correction notices.

Note if a DCO is made, the documents certified within it remain available at the location specified in the Explanatory Note at the end of the DCO.

Kind regards

Richard Price

Case Manager

From: Samara Jones-Hall <[redacted].com>
Sent: 04 July 2019 10:14
To: Manston Airport <manstonairport@pins.gsi.gov.uk>
Subject: Re: Query

Dear Sirs

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Samara Jones-Hall

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Samara Jones-Hall

[redacted]

[redacted]

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Samara Jones-Hall [redacted].com> Mon, Jul 8, 2019 at 2:38 PM
To: Manston Airport <ManstonAirport@planninginspectorate.gov.uk>
Cc: Manston Airport <manstonairport@pins.gsi.gov.uk>

Dear Richard

Could you please confirm that a) all Stone Hill Park's submissions will stand and be used by the Examiners in making their recommendation; and b) that Stone Hill Park's submissions will still carry the same weight as they did before?

Samara Jones-Hall
[redacted]

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Appendix B

Appendices 1-41
Stone Hill Park Representations - Resubmitted and Commended by Five10Twelve - with Supporting Evidence

Appendix	Previous Library Ref	Description
File name: Appendix 1-6_Additional Submissions.pdf		
1	AS-075	Additional submission
2	AS-102	Additional submission
3	AS-107	Additional submission
4	AS-130	Additional submission
5	AS-131	Additional submission
6	AS-207	Additional submission
File name: Appendix 7-9_DL1 Representations.pdf		
7	REP1-021	Deadline 1 submission - Written summary of oral submissions put at Examination events in January 2019
8	REP1-022	Deadline 1 submission - Written summary of oral submissions put at Examination events in January 2019
9	REP1-023	Deadline 1 submission - Written summary of oral submissions put at Examination events in January 2019
File name: Appendix 10-14_DL4 Representations.pdf		
10	REP4-064	DL 4 submission - cover letter
11	REP4-065	DL4 submission - Annex 1 - Appendix 1 - **York Aviation** report commenting on the Applicant's responses to the ExA's Written Questions (and supporting appendices A-F)
12	REP4-066	DL4 submission - Annex 2 - Thanet District Council

		Response to Statutory Consultation (February 2018)
13	REP4-067	DL4 submission - Annex 1 - comments on the Applicant's responses to the Written Questions from the Examining Authority
14	REP4-068	DL4 submission - Annex 1 - Other Appendices
File name: Appendix 15-17_DL5 Representations.pdf		
15	REP5-027	DL5 Submission - cover letter
16	REP5-028	DL5 submission - Comments on Applicant's comments on the Written Representation
17	REP5-029	DL5 submission - Written summary of oral representation - Issue Specific Hearing 21 March 2019
File name: Appendix 18_REP5-030.pdf		
18	REP5-030	DL5 submission - Written summary of oral representation - Evidence for compulsory acquisition hearing
FIle name: Appendix 19-20_DL5 Representations.pdf		
19	REP5-031	DL5 submission - Written summary of oral representation - Evidence for compulsory acquisition hearing 20 March 2019
20	REP5-032	DL5 submission - Oral evidence given by **York Aviation**
File name: Appendix 21-25_DL6 Representations.pdf		
21	REP6-051	DL6 submission - covering letter dated 3 May 2019
22	REP6-052	DL6 submission - Comments on the Applicant's Written summary of oral submissions put at the Compulsory Acquisition hearing held on 20 March 2019
23	REP6-053	DL6 submission - responses to the ExA's second written questions
24	REP6-054	DL6 submission - Emai from BDB Pitmans dated 5 April 2019
25	REP6-055	DL6 submission - Comments on the Applicant's Written summary of oral submissions put at the Need and Operations hearing held on 21 March 2019 (with accompanying appendices)
File name: Appendix 26-29_DL7 and DL7a Representations.pdf		
26	REP7-013	DL7 submission - cover letter
27	REP7-014	DL7 submission - Comment's on the Applicant's response to ExA's second written questions

28	REP7-015	DL7 submission - Comments on the Applicant's Revised Draft DCO and the ExA's Initial Draft DCO
29	REP7a_044	DL7a submission - Responses to ExA's third written questions issued on 10 May 2019
FIle name: Appendix 30-35_DL8 Representations.pdf		
30	REP8-030	DL8 submission - Written summary of oral representations put at Compulsory Acquisition Hearing 2
31	REP8-031	DL8 submission - Written summary of oral representations put at Issue Specific Hearing 5
32	REP8-032	DL8 submission - Written summary of oral representations put at Issue Specific Hearing 6
33	REP8-033	DL8 submission - Written summary of oral representations put at Issue Specific Hearing 8
34	REP8-034	DL8 submission - Published early to facilitate Examination - Written summary of oral representations put at Issue Specific Hearing 8 (dDCO)
35	REP8-035	DL8 submission - Comments on responses to ExA's third written questions
36	REP8-036	DL8 submission - Appendix 3.1 - Stansted 106
File Name: Appendix 37-41_DL9 Representations.pdf		
37	TR020002-004566	DL9 submission - Responses to the ExA's Fourth Written Questions
37	TR020002-004486	DL9 submission - Comments on any further information requested by the ExA and received to DL8
38	TR020002-004481	DL9 submission - Comments on any further information requested by the ExA and received to DL8
39	TR020002-004485	DL9 submission - Comments on any further information requested by the ExA and received to DL8
40	TR020002-004489	DL9 submission - Comments on ExA's second dDCO issued on 14 June 2019
41	TR020002-004455	DL9 submission - Comments on any further information requested by the ExA and received to DL8

From: [redacted]
To: Richard Price
Subject: Manston DCO
Date: 12 April 2019 13:18:43

Dear Richard,

Following on from the examination hearings held last month and the issue of the Examining Authority's second written questions, I just wanted to raise a couple of issues where we would appreciate guidance from either the Planning Inspectorate or the Examining Authority. These relate to the following two areas;

1. The continued failure of the Applicant to provide the examination with the explanation and justification of the Works that form the NSIP development and the Works that comprise Association Development. This is despite the request made by the Examining Authority and the commitment given by the Applicant at the dDCO hearing held on 10 January 2019. As we set out in more detail below, this information is of critical importance to the examination and, in so far as it is able to, we would request guidance on whether the Examining Authority intends to require the Applicant to provide this information to the examination in order that the Application can be adequately and fairly tested.

2. The timing of applications for costs awards to be submitted for consideration and the Examining Authority's ability to make a procedural decision that requires an Applicant to place funds in escrow to secure payment of potential cost/fee liabilities due to affected parties and the Planning Inspectorate.

1. <u>The Applicant's Failure to Provide and Explanation and Justification of the Works that comprise NSIP Development and Associated Development.</u>

In view of the Applicant's continued failure to furnish the examination with this important information and given the very short time left in the examination, SHP is concerned that this omission was not flagged to the Applicant in the second round of written questions issued on 5 April.

As set out in SHP's detailed submissions, there are many elements of development that the Applicant has listed as NSIP development that do not satisfy the required criteria under s23 of the Planning Act 2008 and there are many elements of the purported Associated Development that do not comply with the relevant guidance criteria.

In order to assess whether development satisfies the criteria for associated development set out in the relevant guidance, an assessment must first be made about development that comprises the principal (i.e. NSIP) development. This requires a clear explanation and justification of the NSIP development to be provided by the Applicant and for the evidence to be tested in the examination to ensure it satisfies the required tests under section 14 and section 23.

Under the guidance, associated development must be proportionate to the nature and scale of NSIP development, the purpose of associated development should not be to cross-

subsidise and associated development should be subordinate to principal development. Without having clarity over the applicability of the claimed NSIP development, no assessment of these tests can be made. There are also related questions, to which the Examining Authority alluded to in earlier hearings regarding the need for detailed business plan and forecasts to be provided by the Applicant to allow an assessment of the cross-subsidy test. Based on the information currently before the examination, no assessment can be made.

It is SHP's view that it is critically important that the categorisation of the Works are properly explained and justified, so that the evidence can be adequately and fairly tested. To date, the only substantive evidence before the examination on the Works that meet the relevant NSIP development and Associated Development criteria has been provided by SHP. The lists (without explanation or justification) provided by the Applicant are effectively unevidenced assertions, and the limited information provided on Works 15-17 falls well short of the requirements.

A summary of SHP's post application submissions on this point are summarised below;

- 8 October 2018: Submission of Relevant Representations. Please refer to paragraphs 3.11, 5.5, 5.6, 5.8, 7.6 – 7.12 and 9.8 of SHP's Relevant Representations [RR-1601]

- 19 January 2019: Deadline 1 Submission: Please refer to paragraphs 3.1 – 3.14 of the written summary of SHP's oral submissions at dDCO Hearing [REP1-023] which confirms the request that was made by the Examining Authority and the commitment provided by the Applicant. This can be checked via the recordings from the hearing.

- 15 February 2019: Deadline 3 Submissions: Please refer to sections 5 and 6 of Appendix 1: Rebuttal of NSIP Justification, which forms part of SHP's written representations [REP3-025]. As set out in the analysis, Works 1, 2 10, 11 and 13 would not qualify as NSIP works as they do not have the effect required by section 23 of the Planning Act 2008. Further detailed analysis is also provided on the non-compliance with the associated development criteria.

- 8 March 2019: Deadline 4 Submissions: Please refer to paragraphs 1.3, 3.8 and 3.9 of SHP's covering letter [REP4-064] and SHP's comments on the Applicant's Response to Written Question DCO.1.1 [see page 10 and 11 of REP4-067].

- 29 March 2019: Deadline 5 Submissions: Please refer to paragraphs 2.9.3, 2.9.16 and 2.9.17 of SHP's Comments on the Applicant's Comments on the Written Representations [Rep5 - reference to be provided] and paragraphs 3.1.2 – 3.1.5 and 9.1 of SHP's written summary of oral submissions put at the Compulsory Acquisition hearing on 20 March 2019 [REP5 reference to be provided].

In view of the Applicant's failure to submit the required evidence to the examination, we consider that the submissions provided by SHP provide the only detailed analysis on the applicability of the purported NSIP development and Associated Development that is before the examination. It is also highly revealing that the Applicant has chosen not to comment on, or challenge, the evidence provided in sections 5 and 6 of Appendix 1: Rebuttal of NSIP

Justification, which forms part of SHP's written representations [REP3-025].

Should the Examining Authority be able, we would respectfully request guidance on whether the Examining Authority intends to require the Applicant (in either its next round of written questions or via a procedural decision) to provide an explanation and justification of works that comprise both NSIP development and associated development to enable the application to be adequately and fairly tested. We are also conscious of the quantum of submissions that the Examining Authority are reviewing and would request guidance on whether we should continue to make reference to these issues in future submissions.

2. Cost Claims and Recovery of any Cost Claims

SHP has reviewed the relevant guidance *"Awards of costs: examinations of applications for development consent orders"* and considers that the criteria for a successful award of costs in its favour would be met as a result of the Applicant's unreasonable behaviour, which has caused SHP to incur unnecessary or wasted expense during the examination.

For example, the failure of the Applicant to provide the examination with information requested by the Examining Authority months previously, meant that the application was not capable of being properly tested at the Compulsory Acquisition (and other) hearings. SHP had invested significant sums in preparing diligently for the hearings with its advisory team yet many of the topic areas (e.g. Funding, scope of associated development etc) could not be adequately tested as the information was either not before the examination or the information provided was proven to be inaccurate. As a result of this, the Examining Authority has scheduled a further Compulsory Acquisition hearing in June, leading SHP and others to incur further unnecessary and wasted expense.

Similarly, the failure of the Applicant to provide any explanation or justification of the works that comprise NSIP development and associated development, meant that SHP was forced to incur significant costs in preparing necessary evidence for the examination. The obligation is on the Applicant to ensure that its Application is ready to be examined and it is wholly unreasonable for the onus to be placed on an affected party to explain why the criteria has not been satisfied. There are also many other examples where we consider the Applicant's unreasonable behaviour would result in a successful costs awards.

At this stage we are simply seeking confirmation as to when the Examining Authority would consider a costs claim. We have reviewed the guidance, which states that an application for an award of costs must be received by the Inspectorate within 28 days of either (i) the date of the notification that the examination has been completed (paragraph 31) or (ii) the date of the notification of the withdrawal of the application for development consent, or of the notification of the curtailment or cancellation in whole or in part of the examination (paragraph 32). There does not appear to be anything that prevents an application for an award of costs being made at any time (i.e. prior to notification being given that an examination has completed or has been brought to an end) but we would appreciate if the Planning Inspectorate or Examining Authority could confirm the position.

Our desire to submit an early costs claim has been further informed by the evidence

presented and tested at the Compulsory Acquisition hearing. It is clear that this is a very unusual Application and Applicant, being a special purpose vehicle ("SPV") with an opaque offshore ownership and funding structure, anonymous investors/funders and no previous experience of airport development. Whilst we recognise it is not unusual for an Applicant to be a SPV, in such circumstances the shareholding companies are generally large companies with relevant sectoral experience, strong balance sheets reputations to protect. In such circumstances, the Planning Inspectorate and the Examining Authority can take comfort that these shareholders would stand behind any cost claims made against the Applicant vehicle. No such comfort is available in this DCO.

As we heard at the hearings, the Applicant has no committed funding in place to meet any properly adjudicated award of costs made in favour of affected parties. Indeed, the Planning Inspectorate can take no comfort that any funding would be available to meet the remaining costs and fees that will be due to it as part of this examination. This risk is particularly enhanced should the Applicant decide to withdraw from the examination as the evidence (including the documentation submitted at Deadline 5) shows that decision to fund any material costs are at the discretion of MIO Investments Ltd.

As a result, no affected party can have any confidence that its rights are being properly protected during the examination. In view of the highly unusual circumstances, we would request guidance on whether it is within the powers of the Examining Authority to make a procedural decision requiring the Applicant to place such funds in escrow that would be sufficient to secure both the payment of any future successful costs claims and the remaining payments due to the Planning Inspectorate for the costs of the examination?

Best regards
Jamie

Jamie Macnamara
Stone Hill Park Limited

From: [redacted]
To: Manston Airport
Cc: Richard Price
Subject: Interim submission
Date: 10 May 2019 11:50:02

Dear Case Team,

We have undertaken an initial review of the Applicant's submissions regarding its "restructuring" and would like to bring an number of matters to the attention of the Examining Authority at the earliest opportunity

We will be providing a comprehensive submission at Deadline 7, which addresses the wider funding points and a number of other material matters regarding the veracity of the Applicant's Deadline 6 submissions, but thought it important to flag our concerns regarding the manner in which the Applicant has presented its restructure.

It is worth noting that in the Applicant's Response for Deadline 1: Enclosure 1 to Main Letter re. s51 Advice on Funding it stated that:

"The Applicant has recognised that the lack of transparency in relation to the Belize entity in particular has given rise to a number of questions."

-

It is therefore literally incredible that the Applicant considers the so-called restructuring to have improved the level of transparency. SHP has reviewed the information submitted by the Applicant at Deadline 6 and other publically available information. For the which shows;

1. The only change is that the 9,000 shares in the Applicant (each with a nominal value of £0.0001) that were previously held by MIO Investments Ltd have been transferred to, RiverOak Investments (UK) Ltd ,a new UK SPV incorporated on 23 April 2019. That UK company is now owned 60% by a BVI company, HLX Nominees Ltd, on which no information is available (although when undertaking a search on Google, the company is named in the Panama papers leaks).

2. The 9,000 shares that were transferred had a nominal value of **only £0.90.**

3. It is considered highly unlikely that the transfer price of these shares was anything other than £0.90, as the shares in the Applicant (which have a total nominal value of £1), have no intrinsic value.

4. The true value of the Applicant's shares is the cumulative sum of the value of the shares in each of its subsidiaries. However, as all the expenses, costs and investments of these entities have been fully funded by loans from MIO Investments Ltd (now claimed by the Applicant to exceed £15m), it is not possible to see how there could be any value in the shares of the Applicant's subsidiary companies.

5. As explained by Mr Rothwell at the CA hearing on 20 March 2019, the only "assets" held by the RiverOak companies is the Jentex land it acquired in 2018, which is owned by RiverOak Fuels Limited. MIO Investments Ltd, as providers of the loan to RiverOak Fuels

Ltd, would require to have its loan fully repaid (with interest, fees and costs), which significantly exceeds the £2.3m paid for the land, before any value would attach to its shares.

6. The same would be true of the other loans claimed to be provided to RiverOak Operations Limited. Based on the Applicant's recent submissions, these loans appear to be total c.£12.5m. As there are no assets in RiverOak Operations Ltd, the shares have no intrinsic value.

7. It is important to note that ALL the funding has been provided by the Belize based MIO Investments Ltd on which no relevant information has been provided. The Applicant intends that MIO will continue to provide funding but provides no evidence.

8. In our Deadline 6 Submissions in our comments on the Applicant's written summary of oral submissions put at the CA hearing, we set out a number of issues / concerns regarding the JV Agreement, why it does not say what the Applicant says it does and why the £15m "loan agreement" is essentially meaningless as any payments are completely at the discretion of MIO Investments under the terms of the wider documentation.

In summary, it is clear that the Applicant has done nothing meaningfully to improve transparency.

The majority beneficial ownership of the Applicant's shares has simply been transferred from MIO to another offshore company. The new UK SPV provides no more transparency. Furthermore, as the sum total of the equity investment by the shareholders of the Applicant appears to be £1, the information on the funders is of more relevance than the shareholders.

However, despite the power MIO Investments (who provide all the funding and hold all the economic value) wield over decision making of the Applicant (see JV Agreement), no relevant information has been disclosed on MIO Investments.

It is also clear that the "new investors" heralded by the Applicant have not materialised.

As we have clearly set out in our previous submissions, we are hugely frustrated by the wasted and unnecessary expense we and other parties (including statutory bodies) are being required to incur on a process where the Applicant is acting so unreasonably.

Best regards
Jamie

Jamie Macnamara
Stone Hill Park Ltd

Baldwins Wynyard Park House, Wynyard Avenue, Wynyard, TS22 5TB

Manston Airport Case Team
The Planning Inspectorate
Room 3/8 Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

Date 17 May 2019

For the attention of Mr Kelvin MacDonald

Dear Sir,

Manston Airport: Notification of Hearings

We refer to your letter of 3 May 2019 giving notice of issue specific and compulsory acquisition hearings in the week commencing 3 June. The compulsory acquisition hearing proposed for 4 June, of course, is a second compulsory acquisition hearing which has been made necessary by the failure of the Applicant to provide sufficient information to enable an effective hearing to be undertaken on 20 March.

As you will be aware, Stone Hill Park Limited (SHP) corresponded with you and your office in order to apply for and secure the right to cross examine RSP's witnesses on matters related to the compulsory acquisition of SHP's landholding in advance of the previous compulsory acquisition hearing. As we advised at the time, Leading Counsel was briefed and instructed.

In the event, however, SHP was only permitted to cross examine for 15 minutes. In our written summary of SHP's oral submissions made at the compulsory acquisition hearing on 20 March (submitted for Deadline 5) [REP5-029], we explained our serious concern that SHP was not given a fair chance to test the Applicant's representations or to fairly put our case. Having met the relevant tests under Section 94 to be permitted to put oral questions, we found it difficult to understand why our ability to do so should have been so curtailed or how that decision could have been considered fair or reasonable.

As SHP has made clear from the outset of the examination, we are being put to very considerable expense as a result of what we regard as a hostile and entirely unfounded DCO application. As the principal affected land owner, SHP is obliged to respond to the application but the scale of our response has necessarily been costly and particularly time consuming – especially in the light of the inability of the Applicant to provide the examination with the necessary information to support its case.

We wish again please to request the right for oral questioning of the Applicant's representatives in relation to compulsory acquisition on 4 June. However, we believe it is reasonable to ask the

Examining Authority in advance if it intends to limit our right to do so to 15 minutes, as was the case on 20 March? If that is the case, we would not consider it worthwhile to brief Leading Counsel or to have him attend on the day. A curtailment of our right to fairly test the Applicants' case to compulsorily acquire our land would add to the serious concerns which we have already expressed about the legitimacy, legality and fairness of the application and its examination.

We also wanted to advise you that it is not our intention to engage Altitude Aviation to attend the compulsory acquisition hearings on the basis that the Applicant has not adequately responded to our evidence, or your questions, in relation to the inadequacy of its business case, and that any attempt to do so orally during the hearings would be unfair.

We would be grateful if the Examining Authority could confirm whether we may be given a meaningful opportunity to orally question the Applicant's representatives at the compulsory acquisition hearing.

Yours faithfully,

Yours sincerely,

For and on behalf of
Stone Hill Park Ltd

Baldwins Wynyard Park House, Wynyard Avenue, Wynyard, TS22 5TB

Manston Airport Case Team
The Planning Inspectorate
Room 3/8 Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

Date 31 May 2019

For the attention of Mr Kelvin MacDonald

Dear Mr MacDonald,

Manston Airport: Compulsory Acquisition Hearings

Thank you for your letter of 22 May 2019 confirming that SHP's request to orally question the Applicant at the Compulsory Acquisition Hearing should be granted

We are concerned, particularly given our previous experience, that there is an inconsistency between the Examining Authority recognising that the nature of our interest meets the relevant tests for questioning but then so restricting our ability to exercise the right granted to us. However, given the obvious importance of the issues to SHP we would like to take up the opportunity to ask questions of the Applicant at the Compulsory Acquisition hearing and we have instructed leading counsel for that purpose.

In doing so we will, as before, seek to use the time effectively and we will be conscious of the legislation referred to in your letter and also of the matters set out at paragraphs 99 and 100 of the DCLG Guidance, 2015.

Yours sincerely,

[redacted]

For and on behalf of
Stone Hill Park Ltd

From:	[redacted]
To:	Manston Airport
Cc:	Richard Price
Subject:	Manston - Urgent submission
Date:	31 May 2019 11:31:25
Attachments:	100% Outbound Evidence.pdf

Dear Case Team,

In view of the late stage in the examination process, we would appreciate if the ExA would accept this interim submission, which comments on the Applicant's answer to written question ND.3.9.

We will be commenting on the Applicant's answers more fully in due course, however we consider that this submission will assist the ExA in testing the application at the hearings next week.

The ExA's Written Question ND.3.9

"Stone Hill Park state in their DL6 response [Answers to ExA's Second Written Questions, ND.2.12, reference not yet allocated] that there is a material error in the Azimuth report which contains tonnage on integrator flights as 100% outbound with return of 20%, contrary to that stated in the Issue Specific Hearing on Need and Operation (21/03/19) that the new integrators would fly in freight to stock fulfilment centres (and confirmed indirectly in answer to question ND.2.13). ***Comment on this view, providing further information specifically in relation to the effect on the forecasts and any effect on the assessment of effects in the ES."***

The Applicant's Response

"York Aviation is incorrect. The Azimuth forecast shows the primary leg as inbound. The 20% figure is applied to outbound tonnage. The Azimuth forecast has been used in the ES and as such there is no effect on the assessment of effects."

SHP Comments on the Applicant's Response

"SHP is concerned that when presented with incontrovertible evidence, the Applicant continues to refute what its own documents say.

Whilst we have full trust that the ExA is aware of what the documents state, for absolute clarity on this point, we have noted below 3 examples of where the Applicant's own documents clearly state that the main integrator movements are ***100% OUTBOUND*** *with return starting at 20%;*

- *the third bullet point of paragraph 3.2.3 of Volume III of the Azimuth Report [APP-085];*
- *paragraph 3 of Appendix to the Applicant's Written Summary of Oral Submissions put to the Need and Operations Hearing [REP5-024];*
- *paragraph 3.3.270 of Volume 1 of the ES [APP-033].*

For ease of reference, extracts from each of these documents are appended, with the relevant commentary highlighted in green.

In its answer (and other recent submissions), the Applicant has claimed that the integrator movements are 100% inbound, consistent with the e-commerce model. This completely contradicts what is set out in the Azimuth Report, the ES and its other submissions.

Notwithstanding the lack of credibility of the Applicant's forecast in general, if the Applicant is truly claiming what it has stated in its answer, then the split of imports and exports contained within the application documents is materially wrong (i.e. the split would be heavily weighted

towards imports rather than the roughly equal split shown in the application documents) and the ES will have assessed the wrong effects.

For example, we would refer the ExA to Section 6.4 of Volume 15 – Transport Assessment (Part 2) [APP-061], which sets out the forecast HGV movements. These are based on the import and export tonnages taken from the Azimuth report (see Table 6.3). Any change to the split of exports and imports would have a material impact on the Applicant's "efficient working" assumption contained in paragraph 6.4.8. There will also be numerous other consequential impacts from a material change in the import/export forecasts.

For completeness, SHP would note that it has raised the issue of the material error in the following submissions, yet the Applicant has not commented other than in its flawed response to question ND.3.9;

- *SHP's Written Summary of Oral Submissions put at the Need & Operations Hearing [REP6-055]: in Appendix 2.1 it was explained that this was an issue that SHP would have wished to explore through cross-examination and it was further explained in paragraphs 35-38 of Appendix NOPS 5.2;*
- *SHP's Answers to ExA's Second Written Questions [REP6-053] – please refer to answer to ND.2.12;*
- *SHP's Comments on the Applicant's Written Summary of Oral Submission put at the Need and Operations Hearing [REP6-055] – please refer to paragraphs 3.4 -3.4.2;*
- *SHP's Comments on the Applicant's Answers to ExA's Second Written Questions [REP7-014] – please refer to comments on ND.2.6 and ND.2.13."*

Best regards
Jamie

Jamie Macnamara
Stone Hill Park Limited

are not essential to the operation of the route since the cost has been covered by the main journey. All forecasts have been peer reviewed by RiverOak's consultants including Viscount Aviation.

Table 3 Export tonnage by year and ICAO design code

	Code C	Code D	Code E	Total outbound freight
Y1	0	0	0	**0**
Y2	2,474	23,312	30,901	**56,687**
Y3	3,961	24,453	32,804	**61,218**
Y4	4,340	50,268	36,157	**90,765**
Y5	4,543	50,268	37,475	**92,286**
Y6	5,056	46,339	44,209	**95,604**
Y7	6,206	29,903	64,442	**100,551**
Y8	6,544	31,044	66,106	**103,694**
Y9	6,882	31,044	66,734	**104,660**
Y10	7,936	32,185	69,621	**109,742**
Y11	8,254	33,472	73,059	**114,785**
Y12	8,584	34,811	77,078	**120,473**
Y13	8,927	35,472	81,600	**125,999**
Y14	9,284	36,891	84,864	**131,039**
Y15	9,656	38,367	89,492	**137,515**
Y16	10,042	39,902	93,071	**143,015**
Y17	10,444	41,498	98,128	**150,070**
Y18	10,861	43,157	102,055	**156,073**
Y19	11,296	44,884	106,136	**162,316**
Y20	11,748	46,679	110,382	**168,809**

3.2.3 In terms of imports/exports and backloads (i.e. on the return leg, which can be empty), the following conservative assumptions and calculations have been used:

- Dedicated freight airlines (US) – 80% import/20% export
- Dedicated freight airlines (Africa) – 100% import with a 5% backload from Year 3, rising to 10% in Years 5 and 6, with an additional 5% increase added every two years. The African market showed 24.8% growth in FTKs in 2017 (IATA, 2017).
- Integrator movements – 100% outbound with a backload (import) calculation of 20% included in Years 2 and 3, rising by an additional 5% every two years
- Integrator feeders – 100% inbound (import) traffic with 10% backload possibility added to Year 5, 15% to Year 9, and 20% thereafter
- Fresh fish and spider crabs – 100% export with a backload potential of 5% from Year 3 with an additional 5% added every two years thereafter
- Middle East airlines – both import and export with backload possibilities. The Middle East market showed 8.1% FTK growth in 2017 (IATA, 2017).
- Live animal operations – both in and outbound to show return journeys for most animals
- Pakistani airlines – export from Manston with backloads starting at 10% rising slowly to 30%
- Postal Services – export with a possibility of small backloads starting at 5% and rising gradually to 20%

APPENDIX 1: TO APPLICANT'S WRITTEN SUMMARY OF ORAL SUBMISSIONS TO NEED & OPERATIONS HEARING [REP5-024]

Azimuth Forecast Average Loads

1. The Azimuth Report details the calculation used to forecast inbound and outbound tonnage. Volume III at paragraph 3.2.2 explains how tonnage was calculated from the forecast number of aircraft movements. Tonnage figures were calculated from the maximum payload for each aircraft type multiplied by 65% for the main route (either import or export).

2. The assumptions used for the secondary (return) route are detailed in paragraph 3.2.3 of this report. For dedicated freight airlines to and from the US, an assumption of 80% import/20% export was used. For dedicated freight airlines to and from Africa, 100% import and a 5% return load was assumed from Year 3, rising to 10% in Years 5 and 6, with an additional 5% increase added every two years. The African market showed 24.8% growth in FTKs in 2017 (IATA, 2017).

3. E-commerce integrator aircraft types were assumed to be Code D initially swapping to Code E as volumes build. Feeder aircraft are modelled as Code C. For e-commerce integrator movements, tonnage was calculated as 100% outbound (being 65% of maximum payload) with a return (import) calculation of 20% included in Years 2 and 3, rising by an additional 5% every two years. Integrator feeders were assumed to carry 100% inbound traffic with 10% return loads added to Year 5, 15% to Year 9, and 20% thereafter.

4. Average loads, calculated simply by dividing tonnes by ATMs, half the total for inbound and half for outbound, shows around 10 tonnes inbound and 13 tonnes outbound. This figure takes account of the lower capacity of the feeder aircraft Feeder flights are non-based aircraft and are forecast to carry a small secondary leg (return flight) tonnage.

5. Types of aircraft for charter airlines are modelled as Cat E and Cat C. The average load computes at around 25 tonnes inbound and 33 tonnes outbound in Year 1. Due to the increase in smaller aircraft in the forecast by Year 10, the average load reduces to 19 tonnes.

6. Scheduled and combination carriers are modelled as Cat C and Cat E. Average loads work out at 24 tonnes inbound and 36 tonnes outbound in Year 1. By Year 10, average loads are 32 tonnes inbound and 34 tonnes outbound. This average is across both Cat C and Cat E aircraft.

7. Other types of service were calculated dependent on market information obtained. Some movements, such as military and humanitarian and medevac were expected to carry outbound only.

number of movements in any given year and therefore is not included in the indicative flight schedule used for modelling purposes.

Air Freight Forecast

3.3.266 The primary focus for the Proposed Development will be air freight operations, which are planned to resume in Year 2, Q4 2020.

3.3.267 The principal types of markets and goods that the airport is likely to service are:

- Global import and export for parcels and packages;
- African market, particularly for the import of flowers, fruit and vegetables;
- Chinese market, for the import of consumer goods and export of luxury items (included under niche freight operations, however, given the lack of firm evidence the forecast is extremely conservative);
- Middle East market, particularly for export markets including fish and shellfish;
- Pakistani market, including the import of clothing and the export of consumer goods;
- Russian market, for gas and oil equipment and the export of luxury items;
- South American market, for the import of perishable fresh produce; and
- US market, for a range of import and exports.

3.3.268 The primary focus of the Proposed Development will be to operate as a freight-focused airport to meet the specific need for additional capacity for air freight in the south east of England.

3.3.269 It has been forecast that a reopened airport could capture in the region of 300,000 – 350,000 tonnes of airfreight by 2040 and provide part of the solution to the problem of a shortfall in aviation capacity in the UK[5]. This would be from a combination of business returning to the airport, the capture of market share from other airports (either because of better facilities at Manston Airport, shorter haulage distances from airports outside the UK or pressure for slots at these other airports) and from general market growth.

3.3.270 The air freight forecast has been produced using the following assumptions/calculations (see **Appendix 3.1** for the Glossary):

- Dedicated freight airlines (US) – 80% import / 20% export;
- Dedicated freight airlines (Africa) – 100% import with a 5% backload from Year 3, rising to 10% in Years 5 and 6, with an additional 5% increase added every two years up to Year 20;
- Airfreight integrator movements – 100% outbound with a backload (import) calculation of 20% included in Years 2 and 3, rising by an additional 5% every two years;
- Airfreight integrator feeders – 100% inbound (import) traffic with 10% backload possibility added to Year 5, 15% to Year 9, and 20% thereafter;
- Fresh fish and spider crabs – 100% export with a backload potential of 5% from Year 3 with an additional 5% added every two years thereafter;
- Middle East airlines – both import and export with backload possibilities;
- Pakistani airlines – export from Manston with backloads starting at 10% rising slowly to 30%;
- Postal Services – export with a possibility of small backloads starting at 5% and rising gradually to 20%;
- Russian airlines – all export from Manston with strong backload possibilities starting at 50%, rising to 70%;

From:	[redacted]
To:	Manston Airport
Cc:	Richard Price
Subject:	Manston - Urgent submission
Date:	20 June 2019 12:34:42
Attachments:	SHP Comments on Appendix ISH6-21.pdf
Importance:	High

Dear Case Team,

On the basis the ExA is preparing to issue its Fourth Written Questions tomorrow, we would appreciate if the ExA would accept and consider this interim submission, which comments on Appendix ISH6-21 of the Applicant's Written Summary of Oral Representation put to ISH 6. This sought to respond to the ExA's request under Action 21.

As explained in the attached submission, the Applicant's response provides a wholly misleading perspective of the levels at which Noise Insulation provisions are set – SHP has provided verifiable evidence to demonstrate this.

The note suggests that - as a result of the Applicant's failures to furnish the examination with accurate, up to date and relevant information – it may assist the examination if a Fourth Written Question was directed at the Applicant along the following lines;

1. ***"Provide a detailed summary, with supporting evidence, of UK airports that use trigger levels for Noise Insulation provision that are below 63dB LAeq (or similar measure).***

2. ***Provide a detailed summary, with supporting evidence, of UK airports that are proposing to reduce trigger levels for Noise Insulation provision to a level that is below 63dB LAeq (or similar measure). For the avoidance of doubt, this should include airports that are consulting on proposed developments (e.g. Heathrow), or where planning applications have been submitted, or where planning approvals have been granted (e.g. London Stansted)."***

We would be grateful if you could confirm safe receipt.

Please note that I will send the Annex that forms part of Appendix B in a follow up email (due to size constraints).

Best regards
Jamie

Jamie Macnamara
Stone Hill Park Limited

SHP Comments on Appendix ISH6-21 of the Applicant's Written Summary of Oral Representation put to ISH 6

Background

1. This submission by Wood, on behalf of the Applicant, responded to a request from the ExA to provide details of those airports that have used 60dB as the trigger for their Noise Insulation provision.
2. There are two material issues with the information provided by the Applicant;
   2.1. Firstly, the information provided by the Applicant in Table 2.1 is materially inaccurate in places;
   2.2. Secondly, it fails to acknowledge the move to reduce these trigger levels further as a key mitigation measure as part of plans to extend/develop airports. In view of the Government's approach, as set out in the 2050 Green Paper, the Applicant's proposals must be compared against those that are currently being consulted upon (e.g. Heathrow) and those for which planning consent has recently been granted (e.g. London Stansted).
3. As a consequence, the document provides a wholly misleading perspective of the levels at which Noise Insulation provisions are set.
4. The Applicant is yet again failing to disclose factual information that would undermine its case.
5. Whilst SHP has only had a very short time since the information was published to review and check the Applicant's assertions, the Table below highlights a number of material inaccuracies / issues with the information submitted by the Applicant.

Airport	Commentary on Noise Insulation Scheme
Bristol Airport	The Applicant has asserted that the Noise Insulation trigger level for Bristol is 63dB LAeq. This is wrong. It is difficult to comprehend how Wood were not aware of this having prepared the Environmental Statement that accompanies Bristol Airport's December 2018 planning application to enable a throughput to 12 million passengers (planning reference: 18/P/5118/OUT). Paragraphs 7.8.7 – 7.8.8 of Chapter 7 of the ES accompanying the application (copy appended as **Appendix A**) notes the following; *"7.8.7: Air noise is currently limited by a condition which states that the area enclosed by the 57 dB LAeq,16h (07:00 to 23:00) summer noise contour shall not exceed 12.42km2 using the standardised average mode (Planning condition 30).*

Airport	Commentary on Noise Insulation Scheme
	"7.8.8: ***Residential properties located within this 57 dB LAeq,16h contour (which did not previously qualify for noise insulation in the A38 Diversion Scheme) are eligible for a grant under the noise insulation grant scheme (Planning condition 31).*** *This grant scheme is on the same basis as the previous A38 Diversion Scheme and is described in more detail in paragraph 7.8.25.* Paragraphs 7.8.25 – 7.8.26 of Chapter 7 of the ES accompanying the application, provides information on the Noise insulation grants (please also note the extension announced by the airport below); *"7.8.25 As part of the Bristol Airport Environmental Improvement Fund, grants are available from Bristol Airport to cover some or all of the costs of new glazing and ventilators for properties most closely overflown and impacted by noise from Bristol Airport flights. Depending on location a property could be eligible for a grant of 100% (up to a maximum of £5,000) or 50% (up to a maximum of £2,500).* *7.8.26 Eligible properties are within the 63 dB, 60 dB and 57 dB noise contours. If a property is within the 63 dB contour, the grant can cover 100% of new double glazed windows or ventilators up to a sum of £5,000. If a property is within the 60 dB and 57 dB contours, the grant can cover 50% of new double-glazed windows or ventilators up to a sum of £2,500.* *7.8.27 As there is a limit of annual funding grant applications are prioritised according to categories based on the contour the property is in, and whether it has had a grant before. Should the fund be oversubscribed in any one category, priority is given to those living closest to the extended centreline of the runway i.e. those closest to overflying aircraft."* It is noted that the Wood's ES, explains in paragraph 7.1.1 (see below) that it itself did not prepare the Noise Chapter, however, this raises further questions regarding the experience of Wood in undertaking such work. *7.1.1 This chapter of the Environmental Statement (ES) has been prepared by Bickerdike Allen Partners LLP and assesses the likely significant effects of the Proposed Development with reference to noise and vibration.* It should be noted that scheme has been further enhanced as evidenced by a press release from Bristol Airport dated 12 February 2019 (https://www.bristolairport.co.uk/about-us/news-and-media/news-and-media-centre/2019/2/noise-insulation-scheme), which states;

Airport	Commentary on Noise Insulation Scheme
	"Under the new proposals, grants will cover 100 per cent of costs up to £7,500 (in the 63dB LAeq 16hr contour) and £3,750 (in the 60dB and 57db contours). This is intended to encourage take up to ensure as many eligible properties as possible benefit from noise insulation."
London Gatwick	In Table 2.1, the trigger level given for Gatwick is 63dB. This is wrong. We would refer the ExA to page 65 of the Adopted 2019 Noise Action Plan, an extract of which is given below; ***"SECTION 15 – DETAILS OF CURRENT NOISE ASSISTANCE SCHEMES*** ***NOISE INSULATION SCHEME*** *The current Noise insulation Scheme was launched in 2014. This scheme was expanded significantly from the previous version covering 1,000 more properties in areas across Surrey, West Sussex and Kent.* *The major changes to the scheme are two-fold. First the noise boundary for the scheme has increased by using a lower level of noise from 66 Leq to 60 Leq as a baseline with the boundary line drawn flexibly to ensure entire roads and communities are included. Secondly, the noise contour boundary has been drawn along the flight paths by 15km to both the east and west of the airport."* A copy of the adopted 2019 Noise Action Plan is appended along with the relevant Annex as **Appendix B**. It is of note that the Noise Insulation Scheme boundary shown in Figure 29 of the Annex (Annex 7 – page 17), extends over a considerably longer distance than either the 57dB or 60dB contours shown in Figure 4 (Annex 7 – page 41).
London Stansted	In Table 2.1 of the Wood note, the noise trigger level is given as 63dB LAeq. This is misleading as explained in paragraph 2.18 of SHP's Written Summary of Oral Representations put at ISH6. This explained that the insulation scheme has been extended to 57dB contour as noted below;

Airport	Commentary on Noise Insulation Scheme
	*"Stansted Airport planning application UTT/18/0460/FUL, which Uttlesford District Council resolved to grant in November 2018, includes a requirement to extend the sound insulation grant scheme to include households in the **57 dB LAeq,16h noise contour**. Appended as Appendix 3 are (i) the draft s106 agreement (see schedule 3: Part 1) that secures this, and other obligations; (ii) a graphic from London Stansted Airport setting out the proposed scheme and the relevant noise contours and (iii) the Uttlesford DC planning committee report dated 30 November 2018."*
London Heathrow	Heathrow launched its statutory consultation for its proposed DCO on 18 June 2019. Included within the consultation documents was a Draft Noise Insulation Policy. Paragraph 3.2.1 notes; *"3.2.1 The Noise Insulation Schemes are designed to ensure a suitable internal acoustic amenity for habitable rooms as summarised in the table below."* The relevant tables providing details of the schemes and the trigger levels for each are Table 3.1 and Table 4.1, respectively. For example, these Tables show that all those in the full single mode easterly and westerly 60dB LAeq,16hr noise contour of an expanded airport would be entitled to Scheme 1 compensation as noted below; *"This includes a full package of noise insulation to habitable rooms, including bedrooms, living rooms, and dining rooms. This may include kitchens, toilets, bathrooms, but does not including porches, conservatories, out buildings and rooms solely for leisure activities.* *Windows may be upgraded to acoustic double glazing or by the addition of secondary glazing or both. External doors to habitable rooms may be upgraded. Ceilings or lofts may be over-boarded with additional lining. Acoustic thermal insulation batts (or equivalent) may be installed above ceilings in lofts. Suitable ventilation may be provided so that windows can be kept closed in warm weather."* The policy also explains that those in full single mode easterly and westerly **57dB $L_{Aeq,16hr}$ or the full 55dB L_{den}** noise contours of an expanded airport, (whichever is the bigger) would be entitled to financial support. A copy of the draft Noise Insulation Policy is attached as **Appendix C.**

Airport	Commentary on Noise Insulation Scheme
	The ExA will note that the matrix of protections proposed for residents surrounding Heathrow are far more extensive than the Applicant has proposed for residents of Ramsgate (and other parts of Thanet). SHP would also note that the ExA's proposal to reduce the trigger level to 60dB would still leave residents in a less favourable position. The information provided by the Applicant is inaccurate and understates the extent of the Noise Insulation Scheme proposed for Heathrow.

Suggested Action

6. As a result of the Applicant's failures to furnish the examination with accurate, up to date and relevant information, it is considered that it may be appropriate to direct a Fourth Written Question at the Applicant along the following lines;

   - *"Provide a detailed summary, with supporting evidence, of UK airports that use trigger levels for Noise Insulation provision that are below 63dB LAeq (or similar measure).*

   - *Provide a detailed summary, with supporting evidence, of UK airports that are proposing to reduce trigger levels for Noise Insulation provision to a level that is below 63dB LAeq (or similar measure). For the avoidance of doubt, this should include airports that are consulting on proposed developments (e.g. Heathrow), or where planning applications have been submitted or where planning approvals have been granted (e.g. London Stansted)."*

Conclusion

7. SHP consider it is totally unacceptable that the Applicant continues to submit erroneous information in an attempt to support its untenable position on this issue. It is highly concerning that the information provided in the Wood addendum fails to even take into account its own ES on Bristol Airport (as noted above).

8. SHP consider that it should not be for interested or affected parties to be forced to incur unnecessary and wasted expense in providing evidence to the Examination that rebuts unsubstantiated assertions by the Applicant. As demonstrated through this submission, the correct information is accessible,

provided a reasonable effort is undertaken to find it. Accordingly, the Applicant's submissions/assertions on this and other matters in its application cannot be accepted at face value.

9. There also remains the uncertainty over both the accuracy of the noise contours submitted by the Applicant and the fleet mix assessed by the Applicant.

10. The noise contours prepared by Wood (previously Amec Foster Wheeler) are contradicted by those submitted by Five10Twelve Ltd and No Night Flights, both of whom used the independent ERCD to prepare the contours. Wood's experience in this area is unknown, and as highlighted above, the preparation of the Noise Chapter in the Bristol Airport application was undertaken by a specialist company, and not Wood.

11. In SHP's Written Summary of Oral Representations put at the each of the dDCO and ISH6 hearings, SHP explained that the Applicant has assessed an erroneous fleet mix (dominated by small ATR-72), and as a consequence, the noise contours will not reflect the likely significant effects (if the forecast ATMs were achieved).

12. On a final matter, SHP would note that the level and accessibility of information on noise and its impacts provided by the Applicant is wholly unsatisfactory when compared to the information contained within the planning /consultation documents for schemes at Bristol, Heathrow and Stansted.

7. Noise and Vibration

7.1 Introduction

7.1.1 This chapter of the Environmental Statement (ES) has been prepared by Bickerdike Allen Partners LLP and assesses the likely significant effects of the Proposed Development with reference to noise and vibration. The chapter should be read in conjunction with **Chapter 2: Description of the Proposed Development**. The chapter considers the noise and vibration associated with the following activities at Bristol Airport:

- Flights into and out of Bristol Airport (air noise and vibration);
- Aircraft operations at Bristol Airport (ground noise);
- Bristol Airport related road traffic movements (road traffic noise); and
- Construction of the infrastructure associated with the Proposed Development (construction noise and vibration).

7.1.2 The operational noise and vibration is assessed for 2017 and for future years, both with and without the Proposed Development.

7.1.3 This chapter commences by describing the noise related planning context against which the Proposed Development will be considered. It goes on to present and discuss the baseline noise environment at Bristol Airport and then considers the likely significant effects of changes to air, ground, road traffic and construction noise and vibration in both the 'with' and 'without the Proposed Development' scenarios. Within these sections the assessment criteria and methodology are presented, the baseline noise conditions discussed where relevant, and assessments are made of any effects (beneficial and adverse) associated with the Proposed Development. Mitigation measures are also described, where appropriate, as are cumulative and residual effects.

7.1.4 The assessment of noise and vibration involves a significant amount of technical detailed work and to seek to maintain this chapter as concise and informative as possible, this chapter is supplemented by a series of appendices which provide further detail on each of the specific topics. These are referenced throughout this chapter to aid an understanding of the topic being described. The appendices supporting this noise chapter are as follows:

- **Appendix 7A** – Glossary;
- **Appendix 7B** – Relevant legislation, policy, technical guidelines and assessment criteria;
- **Appendix 7C** – Baseline Noise and Vibration;
- **Appendix 7D** – Air Noise and Vibration;
- **Appendix 7E** – Ground Noise;
- **Appendix 7F** – Road Traffic Noise; and
- **Appendix 7G** – Construction Noise and Vibration.

Noise indices

7.1.5 The $L_{Aeq,T}$ index is the average noise exposure level that occurs over a time period T. In the case of aircraft noise therefore, it accounts for the sound energy produced both by the number of aircraft

events and the noisiness of each aircraft event, over a defined time period. It is the primary metric for quantifying community effects of aircraft noise in the UK, specifically $L_{Aeq,16h}$ covering the daytime period from 07:00 to 23:00 and $L_{Aeq,8h}$ covering the night-time period from 23:00 to 07:00. The convention is to assess aircraft movements over three summer months, specifically a 92 day period from 16 June to 15 September inclusive. Summer in this chapter refers to this 92-day period unless stated otherwise.

7.1.6 The L_{den} is a unit that considers an average annual day of aircraft traffic (although it can be applied equally to either rail or road traffic) over a 24-hour period, providing greater emphasis, by way of adding noise penalties of 5 dB and 10 dB to noise levels arising from aircraft traffic in the evening (19:00 to 23:00) and night (23:00 to 07:00) periods respectively. For many airports, the L_{den} equates approximately to the $L_{Aeq,16h}$ index by the relationship $L_{den} = L_{Aeq,16h} + 2$ dB. The precise relationship however depends on the distribution of aircraft traffic over the 24-hour period.

7.1.7 The L_{night} equates approximately to the $L_{Aeq,8h}$ index commonly used to rate night noise in the UK with the exception that it is based on an average annual night of aircraft movements rather than an average summer night.

7.1.8 The L_{A90} is a unit that is often used to describe the background noise level at a location. It is defined as the noise level that is exceeded for 90% of the time.

7.1.9 Similarly, the L_{A10} is the noise level that is exceeded for 10% of the time. In the UK, the convention for assessing road traffic noise is in terms of $L_{A10,18h}$, This is the L_{A10} for the 18-hour period between 06:00 and midnight.

7.1.10 The Government, as set out in the Aviation Policy Framework (APF) [1] and supported by SoNA [2], confirms that the current convention in the UK is to assess the effect of daytime aircraft noise in terms of daytime $L_{Aeq,16h}$ noise contours determined from an average summer day of aircraft movements. As a result, emphasis on the assessment of daytime noise in this chapter is placed on the UK methodology and $L_{Aeq,16h}$ unit. This unit has been used historically within the UK over the past 30 years to assess the effects of aircraft noise.

7.1.11 For night-time, the recent publication of the Government's response[3] to the airspace change consultation[4] confirms the use of $L_{Aeq,8h}$ noise exposure contours determined from an average summer night of aircraft movements for assessing aircraft noise effects at night. These contours are also now prepared and published annually for the designated airports such as Heathrow, Stansted and Gatwick, along with daytime $L_{Aeq,16h}$ contours. The L_{night} index is also referenced, alongside the $L_{Aeq,8h}$ index, as both are very similar.

7.1.12 In Europe, noise indicators based on the L_{Aeq} unit, known as the L_{den} and L_{night}, are used to assess environmental noise effects and are used in the UK to prepare Strategic Noise Maps and Noise Action Plans. Noise contours, in terms of L_{den} and L_{night}, are therefore produced on a five-yearly basis for all major airports, including Bristol Airport. The development of criteria by which to judge this European index is in its relative infancy compared to the body of knowledge built around the $L_{Aeq,16h}$ unit, although guidance is continuing to emerge, particularly regarding noise exposure and potential health effects.

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[1] Department for Transport (2013). Aviation Policy Framework.
[2] Civil Aviation Authority (2017). Survey of noise attitudes 2014: Aircraft, CAP 1506.
[3] Department for Transport (2017). Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace. [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/653801/consultation-response-on-uk-airspace-policy-web-version.pdf [Checked 7/09/2018].
[4] Department for Transport (2017). UK Airspace Policy: A framework for balanced decisions on the design and use of airspace. [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/588186/uk-airspace-policy-a-framework-for-balanced-decisions-on-the-design-and-use-of-airspace-web-version.pdf

7.1.13 While average exposure noise contours of this type are well established and important at demonstrating trends in total noise around an airport, it is recognised in the APF that people do not always experience aircraft noise in an averaged manner and that the L_{Aeq} indicator does not necessarily reflect all aspects of the perception of aircraft noise. Supplementary indices are therefore considered as part of this air noise assessment which reflect how aircraft noise may be experienced in different localities. The purpose of this is to ensure a better understanding of noise effects and to inform the development of targeted noise mitigation measures.

7.1.14 Night-time aircraft noise can be evaluated in a number of different ways. The common method is to rate night noise in terms of noise exposure, using the $L_{Aeq,8h}$ index and the L_{night} index (for the period 23:00 to 07:00). It is also important however to consider the typical noise levels of individual aircraft, using noise indices such as the Single Event Level (SEL) and/or the L_{ASmax}.

7.1.15 The SEL is a measure of the noise energy produced during a noise event, such as an aircraft passby, averaged over a reference time of a single second. It therefore accounts for both the level and duration of the noise event. This is commonly used in the UK to describe noise produced by single aircraft (and rail) events, particularly at night.

7.1.16 The L_{ASmax} in contrast reflects what a person hears as the maximum noise level during an aircraft passby and is an index that is most understandable to people without the need for technical understanding. Like the SEL, it is used to rate the noise of an individual event, particularly at night.

7.1.17 L_{Amax} is commonly expressed in either "fast" or "slow" time weighting, denoted L_{AFmax} and L_{ASmax} respectively. For aircraft noise, the convention is to use L_{ASmax} whereas for other noise sources, L_{AFmax} is used.

7.1.18 The N index is becoming more commonly used to describe aircraft noise, often using the N70 parameter for daytime and N60 parameter for night-time aircraft noise assessment. This index describes the number of times in a defined period, such as the daytime or night-time, that a receptor will experience a given maximum noise level as a result of an aircraft passby. For example, an N70 of 20 means that a receptor will experience 20 aircraft events producing 70 dB L_{ASmax} or more during the defined period of time. This allows an understanding of how, for a given noise level and above, the number of flights during the daytime might alter when comparing two scenarios, such as with or without an airport development. There are no specific criteria for rating the acceptability of N70 or N60 contours although they further assist a comparison of two different operational scenarios.

7.1.19 Noise annoyance ratings are also a useful way of explaining how a given noise environment is likely to affect the local community, by identifying those likely to be 'highly annoyed' by aircraft noise. The measure considers the general population and it is accepted that some people would be more annoyed or less annoyed for a given daytime noise exposure level. This method of assessment offers some advantages over simply banding a population into "low", "moderate" and "high" annoyance categories since it recognises that even at relatively low levels of aircraft noise, some people can by highly annoyed. It can therefore be usefully used as a means of evaluating differences between scenarios. Similar ratings for sleep disturbance also exist for night-time activities.

7.1.20 While noise exposure contours take account of both the noisiness of aircraft events and the number of operations that occur during a day or night, they only provide an 'average' value. While this is required by Government for planning purposes, it does not reflect the change that occurs over a day. It is therefore also relevant to consider how the noise level might vary at a given receptor in a given day, particularly when comparing two scenarios. This is often represented by considering the following:

- Single mode contours produced assuming either 100% westerly operations or 100% easterly operations. There are no specific criteria available to rate noise levels associated with single mode contours. However, such contours show the noise exposure levels expected for a given day when operations occur from a single runway direction; and
- The variation in noise level at representative locations over a typical day, for example, on an hourly basis.

7.1.21 Consideration is given to both these methods within this noise chapter and accompanying appendices.

7.1.22 In undertaking an assessment for an ES, it is necessary to establish those effects that are considered to be adversely or beneficially significant. The thresholds to be adopted for this purpose are discussed later in the Assessment Criteria (**Section 7.3**) and Significance Criteria (**Section 7.9**) sections of this chapter.

Aircraft movements and scenarios

7.1.23 Three key scenarios have been considered in this chapter:

- Baseline (taken to be 2017);
- 10 million passengers per annum (mppa) Without Proposed Development in 2026. For air noise, a scenario of 10 mppa in 2021 has also been assessed since this is when this passenger capacity is expected to be reached; and
- 12 mppa With Proposed Development in 2026.

7.1.24 If the Proposed Development does not proceed, Bristol Airport would be constrained from 2021 onwards to a limit of 10 mppa. This would constrain Bristol Airport to operating no more aircraft movements in 2026 than occurred in 2021.

7.1.25 To reflect this, a sensitivity scenario for air noise has been included for 10 mppa in 2026 (Without Proposed Development) assuming that fleet modernisation occurs at the same rate as for growth to 12 mppa in 2026. In practice, the likelihood that more modern, quieter aircraft will be allocated to Bristol Airport will be reduced compared to the 12 mppa scenario since no potential for growth will be present for the airlines. Airlines are already securing flights to destinations and associated 'slots' at airports as far ahead as summer 2020 at the time of writing. If an airline can be assured growth at another airport it may seek to deliver a competitive advantage to secure capacity now. As airports are coming under increased pressure to reduce noise impacts, securing more modern aircraft fleets coupled with growth is a key way in which this can occur sustainably. Therefore, the 10 mppa 2026 scenario is a worst-case comparison for the 12 mppa scenario as the expectation of aircraft modernisation is similar.

7.1.26 As a result, in the case of air noise, the noise effects in the 10 mppa in 2021 scenario are likely to reflect the noisiest that will arise at Bristol Airport if it is constrained to 10 mppa. Moving forward in time would not alter the amount of aircraft movements or passenger throughput without additional development but noise levels would be likely to reduce as a result of gradual on-going fleet replacement with more modern and quieter aircraft.

7.1.27 The number of summer aircraft movements associated with each of the key scenarios for the daytime and night-time periods is given in **Table 7.1**, alongside the total number of annual movements.

Table 7.1 Annual aircraft movements for assessment scenarios

Scenario		Number of Aircraft Movements		
		92-day Summer Daytime (07:00-23:00)	92-day Summer Night-time (23:00-07:00)[1]	Annual Total
Key scenarios	**Baseline 2017**	18,924	2,735	73,562
	10 mppa 2021 (Without Proposed Development)	19,294	4,022	86,973
	12 mppa 2026 (With Proposed Development)	22,540	4,639	97,393
Air noise sensitivity scenario	**10 mppa 2026 (Without Proposed Development)**	19,294	4,022	86,973

Note: 1. This period is different to that which has a movement limit restriction, which is based on 23:30 to 06:00.

7.1.28 During the period 23:30 to 06:00, Bristol Airport is currently restricted to 3,000 aircraft movements in the summer season (approximately seven months, defined as the period from late March to late October when British Summer Time is in effect) and 1,000 aircraft movements in the winter season (when Greenwich Mean Time is in effect). The 12 mppa application seeks to keep the annual limit of 4,000 but remove the segregation of summer and winter periods. In this chapter, the assessment of the 12 mppa scenario is on the basis that this change is approved. Therefore the comparisons to the without development scenarios offer a worst case comparison.

7.1.29 The 12 mppa application does not seek any change to the Quota Count (QC) budgets for the summer and winter seasons. Such periods are also based on the same time criterion as the number of aircraft movements as explained above. The QC budgets are to remain at 1,260 in the summer and 900 in the winter.

7.2 Limitations of this assessment

7.2.1 Air noise and ground noise assessments in the future have been based on forecast aircraft movement data, while assessments for 2017 have been based on actual data. The forecasts used in this assessment have been prepared by Bristol Airport Limited (BAL) and verified by Mott McDonald, independent aviation consultants.

7.2.2 The road traffic noise assessment has been based on traffic counts undertaken in 2018 to determine current conditions as 2017 information is not available. It has been assumed that conditions in 2017 were identical. The baseline year has been referred to as 2017 throughout this chapter for consistency with other noise sources.

7.2.3 The assessment of construction noise is based on detailed construction plant schedules and programmes of works provided by BAL, supplemented with additional plant where relevant based on professional judgement.

7.3 Relevant legislation, planning policy and technical guidance

Legislative context

7.3.1 The following legislation is relevant to the assessment of the effects on noise and vibration receptors:

- *EU Regulation 598-2014*[5] sets out, for airports where a noise problem has been identified, the process to be followed for the introduction of noise-related operating restrictions in a consistent manner on an airport-by-airport basis, so as to help improve the noise climate and to limit or reduce the number of people significantly affected by potentially harmful effects of aircraft noise, in accordance with the Balanced Approach[6];
- *Environmental Noise Directive (END) 2002/49/EC 2002*[7] aims to define a common approach across the European Union with the intention of avoiding, preventing or reducing on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise including from aviation;
- *The Control of Pollution Act 1974*[8] provides a means for regulating construction noise and vibration;
- *The Aeroplane Noise Regulations 1999*[9] require that all civil propeller and jet aeroplanes registered in the UK shall have a noise certificate;
- *Aerodrome (Noise Restrictions) (Rules and Procedures) Regulations 2003*[10] apply to larger civil airports in the EU. Where it is proposed to introduce noise-related operating restrictions, the competent authority (currently BAL itself) is required to undertake a detailed assessment of the noise situation in the locality, and the full range of possible measures to address any noise problems identified. An EIA can be used under this legislation for introducing any noise-related changes that occur as a result of infrastructure or significant airport operational changes;
- *The Civil Aviation Act 2006*[11] includes a number of measures aimed at strengthening the powers available to control noise. These included provisions for airport operators to fix charges in respect of an aircraft or a class of aircraft based on the noise or amount of emissions produced by the aircraft. The Act also gave airport operators statutory powers to introduce noise control schemes for the purpose of avoiding, limiting or mitigating the effect of noise connected with the taking off or landing of aircraft;

[5] European Commission (2014). Regulation (EU) No 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC, [online]. Available at: https://publications.europa.eu/en/publication-detail/-/publication/b6947ca7-f1f6-11e3-8cd4-01aa75ed71a1/language-en [Checked 21/08/2018].

[6] 'Balanced Approach' as defined in EU Regulation 598-2014 is the process developed by the International Civil Aviation Organization under which the range of available measures, namely the reduction of aircraft noise at source, land-use planning and management, noise abatement operational procedures and operating restrictions, is considered in a consistent way with a view to addressing the noise problem in the most cost-effective way on an airport-by-airport basis;

[7] European Commission (2002). Directive 2002/49/EC Directive Of The European Parliament and of the Council of 25th June 2002 relating to the assessment and management of environmental noise, [online]. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0049&from=EN [Checked 21/08/2018].

[8] Control of Pollution Act (1974), c.40. [Online]. Available at: http://www.legislation.gov.uk/ukpga/1974/40/pdfs/ukpga_19740040_en.pdf [Checked 21/08/2018].

[9] The Aeroplane Noise Regulations (1999). No. 1452. [online]. Available at: http://www.legislation.gov.uk/uksi/1999/1452/contents/made [Checked 30/08/2018].

[10] The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations (2003) SI 1986/925. [Online]. Available at: http://www.legislation.gov.uk/uksi/2003/1742/made [Checked 25/09/2018].

[11] Civil Aviation Act (2006), c34. [online]. https://www.legislation.gov.uk/ukpga/2006/34/contents [Checked 30/08/2018].

- *The Civil Aviation Act 2012*[12] placed a new duty on the Civil Aviation Authority (CAA) to make information about the environmental performance of the aviation sector and measures taken to limit adverse environmental effects available to the general public, and;
- *Environmental Noise (England) Regulations 2006 (as amended)*[13] transpose the *European Environmental Noise Directive (Directive 2002/49/EC)*[2] into English law. They require operators of non-designated major civil airports, such as Bristol Airport, to make and submit strategic noise maps to the Secretary of State every five years starting in 2007 which reflect the noise situation in the preceding calendar year. Regulation 18 places a duty on the operators of major airports, as the competent authority, to draw up a Noise Action Plan for places near the airport and submit this to the Secretary of State. There is then a continuing obligation on airport operators to review (and revise, if necessary) the Noise Action Plan every five years or sooner where a major development occurs.
- *The Town and Country Planning (Environmental Impact Assessment) Regulations 2017*[14] set out the process of Environmental Impact Assessments to be carried out in England, in accordance with corresponding European *Directive 2014/52/EU*[15].

7.3.2 Further details of how this legislation relates to noise and vibration is given in **Appendix 7B**.

Planning policy context

7.3.3 There are several policies and guidance at the national and local level that will be relevant to the noise assessment contained in this ES. In addition to policy referenced in **Chapter 5: Legislative and Policy Overview**, policy directly applicable to this noise assessment is listed in **Table 7.2** below.

Table 7.2 Relevant policies and their implications for noise and vibration

Policy reference	Implications
Noise Policy Statement for England (NPSE) 2010[16]	
Paragraph 1.7	Provides the framework for noise management decisions to be made that ensure noise levels do not place an unacceptable burden on society.
Paragraph 2.20	Introduces the concepts of NOEL (No Observed Effect Level), LOAEL (Lowest Observed Adverse Effect Level) and SOAEL (Significant Observed Adverse Effect Level).
National Planning Policy Framework (NPPF) 2018[17]	
Paragraph 180	States that planners should seek to mitigate and minimise potential adverse noise impacts from a new development.

[12] Civil Aviation Act (2012), c19. [Online]. http://www.legislation.gov.uk/ukpga/2012/19/contents/enacted [Checked 30/08/2018].
[13] The Environmental Noise (England) Regulations (2006). No. 2238. [Online]. http://www.legislation.gov.uk/uksi/2006/2238/contents/made [Checked 30/08/2018].
[14] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. [Online]. Available at: http://www.legislation.gov.uk/uksi/2017/571/pdfs/uksi_20170571_en.pdf [Checked 23/11/2018].
[15] European Commission (2014). Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. [Online]. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0052&from=EN [Checked 23/11/2018].
[16] Defra (2010). Noise Policy Statement for England, [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69533/pb13750-noise-policy.pdf [Checked 10/04/2018].
[17] Ministry of Housing, Communities and Local Government (2018). National Planning Policy Framework, [Online]. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf [Checked 08/10/2018].

Policy reference	Implications
Aviation Policy Framework (APF) 2013[1]	
Paragraph 3.12	Defines the Government's objectives and policies on the impacts of aviation in the UK and states that the Government's overall objective on noise is to "Limit and where possible reduce the number of people in the UK significantly affected by aircraft noise".
Paragraph 3.13	Guidance provided on the noise metric used to rate airborne noise (summer $L_{Aeq,16h}$ and $L_{Aeq,8h}$).
Paragraph 3.17	Interpretation given of the 57 dB $L_{Aeq,16h}$ contour as an average level of summer daytime aircraft noise marking the approximate onset of significant community annoyance.
Paragraph 3.36 to 3.38	Government expectations and guidance with respect to noise levels where airport operators are to provide exposed households assistance with the cost of moving and acoustic insulation.
Paragraph 3.39 to 3.41	Government expectations and guidance where households are exposed to increased noise levels due to new developments.
UK Airspace Policy: A framework for balanced decisions on the design and use of airspace 2017 consultation[3]	
Paragraph 9	States that although the Government's current aviation policy is set out in the APF[1], the policies set out within this document provide an update to some of the policies on aviation noise contained within the APF, and should be viewed as the current government policy.
Paragraph 2.39	Removal of the 3 dB minimum change requirement for financial assistance towards acoustic insulation to residential properties in the 63 dB $L_{Aeq,16h}$ level or above.
Paragraph 2.70	A level of 54 dB $L_{Aeq,16h}$ is acknowledged to correspond to the onset of significant community annoyance and replaces the 57 dB $L_{Aeq,16h}$ level in the APF.
Paragraph 2.72	For assessing and comparing noise impacts of airspace changes, LOAEL is taken as 51 dB $L_{Aeq,16h}$ and 45 dB L_{night}, for daytime and night-time noise respectively. 45 dB $L_{Aeq,8h}$ is considered appropriate as the LOAEL for airspace change assessment.
Airports National Policy Statement (NPS)[18]	
Section 2	Sets out the Government's policy on the need for new airport capacity in the South East of England

Technical guidance

7.3.4 A summary of the technical guidance used to assess the likely significant effects of the Proposed Development with respect to noise and vibration is given in **Table 7.3**. Details of technical guidance are given in **Appendix 7B.**

Table 7.3 Technical guidance relevant to noise and vibration

Technical guidance	Relevance to this assessment
General	
WHO *Guidelines for Community Noise*[19]	Sets out noise targets which represent goals for minimising the adverse effects of noise on health.

[18] Department for Transport (2018). Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/714106/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-web-version.pdf [Checked 30/08/2018].

[19] Berglund, B. et al (1999). Guidelines for community noise. [Online]. Available at: http://apps.who.int/iris/bitstream/handle/10665/66217/a68672.pdf?sequence=1&isAllowed=y [Checked: 30/08/2018].

Technical guidance	Relevance to this assessment
WHO *Night Noise Guidelines*[20]	Effects on health and sleep from transportation sources.
WHO Environmental Noise Guidelines for the European Region: A Systematic Review on Environmental Noise and Effects on Sleep [21]	Reports the latest findings from the WHO concerning night noise from transportation sources and its effects on health and sleep.
BS8233:2014 *Sound insulation and noise reduction for buildings – Code of practice*[22]	Provides guidance on the control of external noise. The standard presents a number of design ranges for indoor noise levels for different types of space.
Department of Education *BB93*[23]	Gives upper limits for indoor ambient noise level for new and refurbished schools, and schools formed by a material change of use.
Department of Health *HTM 08-1*[24]	Guidance on recommended internal noise levels for healthcare facilities.
Air noise	
IEMA *Guidelines on Environmental Noise Impact Assessment*[25]	Significance rating for a change in air noise level.
Civil Aviation Authority *Survey of Noise Attitudes 2014*[26]	Methods to determine noise annoyance.
Report of a Field Study of Aircraft Noise and Sleep Disturbance[27]	Eligibility threshold for a sound insulation scheme due to night time aircraft noise.
Environmental Noise: Valuing impacts on: sleep disturbance, annoyance, hypertension, productivity and quiet[28]	Percentage of those people likely to be highly sleep disturbed.
Airborne aircraft vibration	

[20] World Health Organisation Europe (2009). Night Noise Guidelines for Europe, [Online]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0017/43316/E92845.pdf [Checked 7/09/ 2018].
[21] Basner, M. et al. (2018). WHO Environmental Noise Guidelines for the European Region: A Systematic Review on Environmental Noise and Effects on Sleep. Int. J. Environ. Res. Public Health 2018, 15, 519. [Online]. Available at: https://www.mdpi.com/1660-4601/15/3/519 [Checked 25/09/2018].
[22] British Standards Institution (2014). BS 8233:2014 Sound insulation and noise reduction for buildings – Code of practice. [Online]. Available at: https://shop.bsigroup.com/ProductDetail/?pid=000000000030241579&_ga=2.85437209.1462736480.1535108011-979344642.1535108011 [Checked: 24 /08/2018].
[23] Department of Education (2015). Acoustic design of schools: performance standards
Building bulletin 93, [Online]. Available at: https://www.gov.uk/government/publications/bb93-acoustic-design-of-schools-performance-standards [Checked 24/08/2018].
[24] Department of Health (2013). Specialist Services, Health Technical Memorandum 08-01: Acoustics, [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/144248/HTM_08-01.pdf [Checked 24/08/2018].
[25] Institute of Environmental Management and Assessment (2014). Guidelines on Environmental Noise Impact Assessment. London: IEMA.
[26] Civil Aviation Authority (2017). Survey of noise attitudes 2014: Aircraft, CAP 1506, [Online]. Available at: https://publicapps.caa.co.uk/docs/33/CAP%201506%20FEB17.pdf [Checked 30/08/2018].
[27] Ollerhead, J.B. et al (1992). Report of a Field Study of Aircraft Noise and Sleep Disturbance: A Study Commissioned by the Civil Aviation Policy Directorate of the Department of Transport from the Department of Safety, Environment and Engineering, Civil Aviation Authority. London: HMSO.
[28] Department for Environment Food and Rural Affairs (2014). Environmental Noise: Valuing impacts on: sleep disturbance, annoyance, hypertension, productivity and quiet. [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/380852/environmental-noise-valuing-imapcts-PB14227.pdf [Checked 26/09/2018].

Technical guidance	Relevance to this assessment
Aviation Noise Metric – Research on the Potential Noise Impacts on the Historic Environment by Proposals for Airport Expansion in England[29]	Summarises research into vibration effects from aircraft.
Airports and the Environment[30]	Description of potential vortex damage to buildings due to aircraft.
Ground noise	
National Noise Incidence Study[31]	Percentage of population exposed to noise levels which exceed the guideline for 'serious' community annoyance.
Road traffic noise	
Design Manual for Roads and Bridges[32]	Road traffic noise assessment criteria.
Construction noise and vibration	
BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites. Noise*[33]	Provides methods to predict, measure and assess the impact of construction and demolition noise.
BS 5228-2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites. Vibration*[34]	Recommends basic methods to control vibration on construction and open sites with significant vibration levels arising from work activities/operations.

7.4 Data gathering methodology

Study area

7.4.1 The study area is based on the largest extent of likely effects due to noise. This area is different for different noise and vibration sources considered.

7.4.2 The largest ZoI considered for the assessment is for air noise. This zone consists of a rectangle that extends 20km to the east, 25km to the west, 4km to the north and 4km to the south of the Bristol Airport runway and is shown in **Figure 7.7**.

7.4.3 The only properties likely to potentially experience significant levels of vibration from airborne aircraft are those closest to aircraft in flight, which are the dwellings bordering Felton Common.

7.4.4 For ground noise the ZoI considered consists of a 6km square centred on the Bristol Airport runway.

[29] Historic England (2014). Aviation Noise Metric – Research on the Potential Noise Impacts on the Historic Environment by Proposals for Airport Expansion in England, [Online]. Available at: https://research.historicengland.org.uk/Report.aspx?i=15740 [Checked 26/11/2018]
[30] Anne Paylor (1994). Airports and the Environment.
[31] BRE (2002). The National Noise Incidence Study 2000/2001 (United Kingdom): Volume 1 – Noise Levels, Client report number 206344f, [Online]. Available at: http://randd.defra.gov.uk/Document.aspx?Document=10280_NIS1206344f.pdf [Checked 7/09/2018].
[32] Highways England (2018). Design Manual for Roads and Bridges, [Online]. Available at: http://www.standardsforhighways.co.uk/ha/standards/dmrb/index.htm [Checked 24/04/ 2018].
[33] British Standards Institution (2008). BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Noise, [Online]. Available at: https://shop.bsigroup.com/ProductDetail?pid=000000000030258086 [Checked 24/08/2018].
[34] British Standards Institution (2008). BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Vibration, [Online]. Available at: https://shop.bsigroup.com/ProductDetail/?pid=000000000030258089 [Checked 2/10/2018].

7.4.5 For road traffic noise the ZoI considered consists of a rectangle that extends approximately 1km to the east, 2km to the west, 1km to the north and 2km to the south of the Bristol Airport runway. The receptors considered are shown in **Figure 7F.2**.

7.4.6 For construction noise and vibration, the ZoI considered consists of the immediate vicinity of the construction sites. The receptors considered are shown in **Figure 7.2**.

Desk study

7.4.7 An initial desk top study has been undertaken to review the existing airport including Google Earth™ imagery and Ordnance Survey (OS) mapping of the surrounding environment to determine the context of the proposal. The desk top study identified the main scope of the noise surveys undertaken to assess the existing environment and the location of the closest noise sensitive receptors to the proposed operations for the impact assessment. Dwelling data and data regarding noise sensitive community buildings has been acquired from the sources listed below. A summary of the organisations that have supplied data, together with the dates the data was supplied and the nature of that data is as follows:

- National Air Traffic Services – June 2018:
  - Geographical information about the location and height of the runway have been taken from the latest version of the UK Aeronautical Information Package (AIP) for Bristol Airport.
- OS – May 2018:
  - Local topography based on the OS Landform Panorama Digital Terrain Model (DTM) product processed for use in the air noise modelling software;
  - 1:50,000 base map; and
  - AddressBase Plus product to identify non-residential property types.
- BAL – May to October 2018:
  - Current and future aircraft types and movement information, arrival and departure flight tracks;
  - Current (2017) and forecast (2026) road traffic numbers; and
  - Construction noise information.
- CACI Ltd – October 2017:
  - Dwelling counts and populations.

Survey work

7.4.8 The noise climate around Bristol Airport includes noise from aircraft activity, as well as non-aircraft related activities. The baseline at any given location will depend on its proximity to Bristol Airport and aircraft flight paths as well as to major or minor roads and any other local noise sources. The A38 in particular is a major contributor to the baseline noise environment close to Bristol Airport, with the M5 and A370 also contributing significantly to the noise environment to the west of Bristol Airport. Some noise is also produced by traffic on minor roads, for example Downside Road, alongside departing and arriving aircraft at Bristol Airport and aircraft activity on the ground.

7.4.9 Noise monitoring locations have been selected to obtain representative ambient and background noise levels at those noise sensitive receptor locations close to Bristol Airport, that is, at receptors most at risk of being affected by aircraft operations from the development of Bristol Airport.

7.4.10 Details of the noise survey work is given in **Appendix 7C** and a summary is presented in this section.

Long-term noise monitoring

7.4.11 Day and night-time noise surveys were undertaken at four locations around Bristol Airport to establish the baseline noise environment. The locations are representative of the communities in closest proximity to Bristol Airport, which therefore are likely to experience the greatest noise effect from Bristol Airport operations.

7.4.12 The surveys were carried out during the period 13 March 2018 to 5 April 2018, where each survey lasted at least three weeks. Each noise survey comprised unattended, free-field and continuous monitoring of 5-minute periods. Observations were made at each monitoring location of the noise climate prevailing at the time that measurements were started.

7.4.13 Noise levels have been measured in terms of $L_{Aeq,T}$, which represents the average noise level, and L_{AF90}, which represents the background noise level, for the 16 hour day (07:00 to 23:00), 12 hour day (07:00 to 19:00) and 8 hour night (23:00 – 07:00) periods.

7.4.14 Details of the long-term noise monitoring locations are given in **Table 7.4** and are shown in **Figure 7C.1**.

Table 7.4 Long-term noise monitoring locations

Receptor	Location	Dates of noise survey
A	Cooks Bridle Path, Downside	14 March 2018 to 4 April 2018
B	Downside Road, Lulsgate Bottom	13 March 2018 to 5 April 2018
C	School Lane, Lulsgate Bottom	13 March 2018 to 3 April 2018
D	Red Hill (A38), Redhill	14 March 2018 to 5 April 2018

Ground noise monitoring

7.4.15 A daytime attended noise survey was undertaken at Bristol Airport on 26 July 2018 to measure the ground noise of taxiing arriving and departing aircraft.

7.4.16 Measurements were free-field, of 10 second duration and recorded in terms of $L_{Aeq,T}$, SEL and L_{AFmax}, with observations made of the aircraft type at each time.

7.4.17 The ground noise monitoring location was at the corner of Winters Lane to the north of the runway and is shown in **Figure 7C.2**.

Road traffic noise monitoring

7.4.18 A daytime attended noise survey was undertaken at Bristol Airport on 26 July 2018 to measure road traffic noise at four locations around Bristol Airport. The locations are representative of the communities in closest proximity to the roads affected by Bristol Airport, which therefore are likely to experience the greatest change in road traffic noise from Bristol Airport operations.

7.4.19 The principles of the Department of Transport's *Calculation of Road Traffic Noise*[35] (*CRTN*) shortened measurement method were used, with three measurements of 5-minute duration taken

[35] Department of Transport (1988). Calculation of Road Traffic Noise. Department of Transport Welsh Office. London: HMSO.

in three consecutive hours at each location. Values of $L_{A10,T}$ were obtained at each location, along with other environmental noise indices including $L_{Aeq,T}$, $L_{A90,T}$ and L_{AFmax}.

7.4.20 Details of the road traffic noise monitoring locations are given in **Table 7.5** and are shown in **Figure 7C.2**.

Table 7.5 Road traffic noise monitoring locations

Receptor	Location
R1	Downside Road
R2	A38 / Downside Road intersection
R3	A38 / North Side Road roundabout
R4	A38 / road to Old Barn Lane intersection

7.5 Overall baseline

Noise

7.5.1 The locations at which the baseline noise conditions have been assessed are shown in **Figure 7C.1** and **Figure 7C.2.** The results are summarised in **Table 7.6**, **Table 7.7** and **Table 7.8** for these locations in terms of the ambient noise level (L_{Aeq}), maximum noise level (L_{AFmax}) and background noise level (L_{A90}). Detailed results are given in **Appendix 7C.**

7.5.2 As well as airborne and ground-borne noise from Bristol Airport, the surrounding community is affected by noise from the local road network.

7.5.3 All noise sources affect the L_{Aeq} metric which, commonly used to denote the ambient noise level, signifies the single steady average noise exposure level which is equivalent in energy terms to that produced by the various fluctuating noise levels that occur in the given measurement period. The L_{AFmax} metric is the peak noise level recorded during the measurement period. The L_{A90} metric denotes the level of noise which is exceeded for 90% of the time and represents the prevailing background noise level in the absence of any noise from airborne aircraft.

Table 7.6 Current baseline noise measurements – long -term summary

Location	16-hour day (07:00 to 23:00)		8-hour night (23:00 to 07:00)		Dominant daytime noise source
	L_{Aeq} dB(A)	Average $L_{AF90,5m}$ dB(A)	L_{Aeq} dB(A)	Average $L_{AF90,5m}$ dB(A)	
A Cooks Bridle Path, Downside	53	38	49	37	Aircraft
B Downside Road, Lulsgate Bottom	58	49	54	47	Aircraft
C School Lane, Lulsgate Bottom	59	47	54	42	Aircraft
D Red Hill (A38), Redhill	50	42	47	37	Road traffic

Table 7.7 Current baseline noise measurements – ground noise summary

Location	Average $L_{Aeq,10s}$ dB(A)	Average SEL dB(A)	Average L_{AFmax} dB(A)	Dominant noise source
G1 Winter's Lane (corner N of Runway)	82	92	84	Aircraft taxiing

Table 7.8 Current baseline noise measurements – road traffic noise summary

Location	$L_{Aeq,15m}$ dB(A)	L_{A10} dB(A)	L_{A90} dB(A)	L_{AFmax} dB(A)	Dominant noise source
R1 Downside Road	69	71 – 73	42 – 47	87 – 92	Road traffic
R2 A38 / Downside Road intersection	75	78 – 79	63 – 65	86 – 89	Road traffic
R3 A38 / North Side Road roundabout	69	69 – 71	59 – 60	82 – 89	Road traffic
R4 A38 / road to Old Barn Lane intersection	72	75 – 77	47 – 52	83 – 86	Road traffic

7.5.4 **Table 7.6** indicates that the general ambient noise level around Bristol Airport is in the range of 50 to 59 dB L_{Aeq} during the daytime, with an underlying background noise level in the range 38 to 49 dB L_{A90}. During the night, ambient noise levels are lower and lie in the range 47 to 54 dB L_{Aeq}, with an underlying background noise level in the range 37 to 47 dB L_{A90}.

7.5.5 The noise environment at any given location in the immediate vicinity of Bristol Airport depends on its proximity to Bristol Airport and the A38. The A38 generates a consistent and steady noise around the area and is a contributor to the background noise level. Superimposed on this are departing and arriving aircraft at Bristol Airport, along with noise from aircraft activity on the ground.

Vibration

7.5.6 The baseline vibration conditions for most dwellings in the vicinity of Bristol Airport are generally dictated by local road traffic conditions. For dwellings along major roads, there is potential for perceptible vibration levels to be produced by passing heavy vehicles such as buses and Heavy Goods Vehicles (HGVs). For dwellings located away from busy roads, vibration levels will be low and the occupants are unlikely to be aware of any vibration within their premises from outside sources.

7.5.7 Dwellings that are situated close to Bristol Airport and are in line with the runway have the potential to experience perceptible vibration due to airborne aircraft. Some dwellings bordering Felton Common to the east of the runway fall into this category.

7.6 Consultation

7.6.1 North Somerset Council (NSC) have been consulted regarding the methodology of the assessment. BAL met with NSC on 11 October and 23 October 2018. **Table 7.9** provides a summary of the points raised by NSC and the responses given.

Table 7.9 Summary of issues raised during consultation regarding noise and vibration

Issue raised	Consultee(s)	Response and how considered in this chapter	Section Ref
NSC highlighted that while the scoping report referred to most relevant policies at both a local and national level, some were missing	NSC	Additional local and national policies referred to in final ES chapter.	**Section 7.3, Appendix 7B**
NSC noted that BAL 'do not intend to increase the number of 'night-time' flights per annum, which is limited to 4,000, but they do wish to include greater flexibility to their distribution, which is restricted to 3,000 in the summer time and 1,000 in the winter time. If this leads to a higher concentration of night-time flights in the summer season, which is when more residents may choose to sleep with windows open, the potential impacts on sleep disturbance and human health should be examined.'	NSC	The assessment of 12 mppa has assumed that the 3,000-summer restriction is lifted (but 4,000 annual remains). The comparisons to 12 mppa are therefore worst-case comparisons as the combined effect of both the increase in movements and relaxation of summer restriction is assessed.	**Section 7.10 and Section 7.11**
NSC requested a simplified version of the ES chapter on noise be prepared that can be used to engage with local communities	NSC	A summary version of the ES chapter on noise will be prepared following issue of the ES that can be used to engage with local communities. Bristol Airport has prepared a fact sheet for this purpose.	**n/a**
NSC wish to understand changes in aircraft fleet and modernisation between the 10 mppa and 12 mppa scenarios particularly with respect to past aircraft type adoption	NSC	Changes in aircraft fleet and modernisation between the 10 mppa and 12 mppa scenarios particularly with respect to past aircraft type adoption are given explicitly in **Appendix 7D**.	**Appendix 7D**
NSC requested an explanation for Significant Observed Adverse Effect Level (SOAEL) is provided	NSC	Request was based on summary report (Summary Findings of ES Air Noise Assessment 10.10.18) provided to NSC which did not include a definition of SOAEL. SOAEL is defined in this chapter and associated appendices.	**Section 7.9, Appendix 7B**
NSC raised a concern about noise due to car parking activities (such as doors slamming)	NSC	Assessment of noise due to car parking activities is included in **Appendix 7F**.	**Appendix 7F**

Issue raised	Consultee(s)	Response and how considered in this chapter	Section Ref
at unwelcome hours due to increased car parking capacity			
NSC requested that changes in road traffic noise levels at Defra-defined Noise Important Areas are presented	NSC	Changes in noise level at Noise Important Areas have been included in **Appendix 7F**.	**Appendix 7F**

7.7 Scope of the assessment

Assessment activities

Air noise and vibration

7.7.1 Air noise contours have been prepared in terms of the usual UK noise indicator for daytime airborne noise, the $L_{Aeq,16h}$ index, and for night-time airborne noise, the $L_{Aeq,8h}$ index, using the *Federal Aviation Administration (FAA) Aviation Environmental Design Tool (AEDT)*[36].

7.7.2 Consideration has been given to other sources of aircraft performance data, such as those available from the Civil Aviation Authority (CAA) on the performance of future aircraft types, as well as aircraft performance information relating to operations of relevant aircraft types. In this assessment, this has included the Airbus A320neo and A321neo, and also the Boeing B738MAX aircraft.

7.7.3 The likelihood of vibration effects due to airborne aircraft have been assessed for the dwellings bordering Felton Common.

Ground noise

7.7.4 A ground noise assessment has been undertaken for the area around Bristol Airport where aircraft ground operations, such as engine running on stands and at hold positions, taxiing, manoeuvring and the operation of auxiliary power units (APUs) while on stands, will give rise to the greatest potential noise effects.

7.7.5 Ground noise contours have been prepared in terms of the daytime $L_{Aeq,16h}$ index and the night-time $L_{Aeq,8h}$ index using Datakustik CadnaA[37] noise modelling software.

7.7.6 Consideration has been given to survey work of aircraft ground operations, both at Bristol Airport and at other airports where similar aircraft types operate.

Road traffic noise

7.7.7 Road traffic noise calculations at representative noise sensitive receptors have been undertaken using the UK recognised method of assessment set out in CRTN[35].

7.7.8 Road traffic noise contours have been prepared in terms of the $L_{A10,18h}$ index using Datakustik CadnaA[37] noise modelling software.

Construction noise and vibration

7.7.9 The construction plant noise emission details as set out in tables within BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites*[33] (BS 5228-1) along with the associated described methodologies have been used to assess and predict construction noise for different phases of the Proposed Development at key noise sensitive receptors.

7.7.10 For the vibration assessment, information from BS 5228-2:2009+A1:2014[34] (BS 5228-2) has been used where relevant to predict vibration levels at key noise and vibration sensitive receptors.

[36] Federal Aviation Administration (2017). Aviation Environmental Design Tool (AEDT) Version 2d, [Online]. Available at: https://aedt.faa.gov/2d_information.aspx [Checked 28/08/2018].
[37] DataKustik GmbH (2018). CadnaA - State-of-the-art Noise Prediction Software 2017 Version, [Online]. Available at: https://www.datakustik.com/en/products/cadnaa/ [Checked 1/10/2018].

Spatial scope

7.7.11 The spatial scope of the assessment application site together with the Zones of Influence (ZoI) that have formed the basis of the study area is described in **Section 7.4**.

7.7.12 The largest ZoI considered for the assessment is for air noise. This zone consists of a rectangle that extends 20km to the east, 25km to the west, 4km to the north and 4km to the south of the Bristol Airport runway and is shown in **Figure 7.7**.

Temporal scope

7.7.13 The temporal scope of the assessment is consistent with the period over which the Proposed Development would be carried out and therefore covers the construction (2019-2026) and operational periods (2017, 2021 and 2026). The air, ground and road traffic noise assessments consider the following scenarios:

- Baseline year (2017);
- 10 mppa in 2021 (air noise only). This aircraft mix and number of movements corresponds to Bristol Airport reaching its current passenger limit;
- 12 mppa. This aircraft mix and number of movements corresponds to implementation of the Proposed Development in 2026; and
- 10 mppa in 2026. This aircraft mix and number of movements corresponds to the 10 mppa in 2021 scenario but assumes that aircraft modernisation occurs at the same rate as under the 12 mppa scenario. For the air noise assessment this is regarded as a sensitivity case as there is significant uncertainty regarding how much additional aircraft modernisation would occur beyond 2021 in the event that the Proposed Development is not implemented (refer to paragraph 7.1.25). For ground and road traffic noise aircraft modernisation does not affect the assessment.

Potential receptors

7.7.14 Potential noise receptors considered include dwellings as well as non-residential receptors, as follows:

- Residential receptors;
- Schools;
- Hospitals or residential healthcare facilities;
- Places of worship, and;
- Amenity areas.

Residential receptors

7.7.15 For the purposes of dwelling and population counts for air noise, the residential receptors have been identified using a 2017 dataset supplied by CACI Ltd. This data consists of dwelling count and population by postcode. CACI derive this data from the latest available census information and adjust it to account for developments that have been built out since the latest census.

7.7.16 For the purposes of dwelling counts for ground noise, the residential receptors have been identified using the OS AddressBase Plus product, which provides details of individual dwellings.

7.7.17 For the purposes of dwelling counts for road traffic noise, representative residential receptors have been identified from details of the location and layout of buildings around Bristol Airport supplied by BAL, and from the inspection of maps of the area.

7.7.18 Specific residential receptors used for the air noise assessment are given in **Table 7.10**. Similarly, **Table 7.11** gives the specific residential receptors used for the ground noise and construction noise assessments. These are shown in **Figure 7.1** and **Figure 7.2**. These receptors have been chosen as representative of the local communities most sensitive to noise effects from the Proposed Development.

Table 7.10 Specific residential receptors – air noise

Number	Air noise residential receptor
1	Henley Park, Yatton
2	Bishops Road, Cleeve
3	Fountain Treeworks, Brockley
4	Cooks Bridle Path, Downside
5	Downside Road, Downside
6	School Lane, Lulsgate Bottom
7	Hillview Gardens, Felton
8	Market Place, Winford
9	Chew Magna, North Wick
10	Church Road, Norton Malreward
11	Lye Mead, Winford
12	Red Hill, Redhill
13	Wrington Hill, Wrington
14	Southlands Way, Congresbury

Table 7.11 Specific residential receptors – general

Designator	Ground and construction residential receptor
A	Cooks Bridle Path, Downside
B	Downside Road (West), Lulsgate Bottom
C	School Lane, Lulsgate Bottom
D	Red Hill (A38) (North), Redhill
E	Winters Lane (South), Redhill
F	Downside Road (South), Downside
G	Downside Road (North), Downside

Designator	Ground and construction residential receptor
H	Downside Road (East), Lulsgate Bottom
I	Bridgwater Road (A38), Lulsgate Bottom
J	Red Hill (A38) (South), Redhill
K	Winters Lane (North), Redhill

Non-residential receptors

7.7.19 Specific non-residential receptors used for the air noise and ground noise assessments are given in **Table 7.12**, **Table 7.13** and **Table 7.14** for schools, places of worship and amenity areas respectively. These are shown in **Figure 7.3**, **Figure 7.4**, and **Figure 7.5** respectively. No hospitals or residential healthcare facilities were identified within the study area.

Table 7.12 Specific non-residential receptors – schools

Designator	Non-residential receptor - school
S1	Winford Primary, Winford
S2	St. Andrew's Primary, Congresbury
S3	Yatton Junior, Yatton
S4	Marksbury Primary, Marksbury
S5	St. Anne's Primary, Hewish
S6	Chew Magna Primary, Chew Magna
S7	Wrington Primary, Wrington
S8	Court de Wyck Primary, Cleeve
S9	Pensford Primary, Pensford
S10	Dundry Primary, Dundry
S11	Stanton Drew Primary, Stanton Drew
S12	Woodspring School, Weston-Super-Mare

Table 7.13 Specific non-residential receptors – places of worship

Designator	Non-residential receptor place of worship
W1	St. Thomas A Becket's Church, Pensford
W2	Marksbury Methodist Church, Marksbury
W3	St. Barnabas Church, Claverham
W4	St. Dunstan And St Anthony Church, Claverham
W5	Chew Magna Baptist Church, Chew Magna

Designator	Non-residential receptor place of worship
W6	Sacred Heart Church, Chew Magna
W7	All Saints Church, Publow
W8	St. James Church, Regil
W9	Holy Trinity Church, Cleeve
W10	St. Margaret's Church, Queen Charlton
W11	St. Mary and St Peters Church, Winford
W12	St. Mary's Church, Compton Dando
W13	Congresbury Methodist Church, Congresbury
W14	Chewton Keynsham Church, Chewton Keynsham
W15	Dundry Baptist Church, Dundry
W16	St. Nicholas Church, Brockley
W17	St. Andrews Church of England, Hartcliffe
W18	Wrington United Reformed Church, Wrington
W19	Holy Saviour's Church, Hewish
W20	Yatton Methodist Church, Yatton
W21	St. Andrews Church, Congresbury
W22	Holy Trinity Church, Norton Malreward
W23	St. Katherine's Church, Felton
W24	All Saints Church, Wrington
W25	All Saints Church, Kingston Seymour
W26	Claverham Free Church, Claverham
W27	The Church of Saint Mary The Virgin, Yatton
W28	Christ Church, Redhill
W29	St. Michael, Dundry
W30	Gospel Hall - Pensford Gospel Church, Pensford
W31	St. Michael's Church, Burnett
W32	St. Mary's Church, Stanton Drew
W33	St. Andrew's Church, Chew Magna
W34	Winford Baptist Chapel, Winford
W35	Horsecastle Chapel, Yatton

Table 7.14 Specific non-residential receptors – amenity areas

Designator	Non-residential receptor amenity area
A1	The Glebe Field, Wrington
A2	Yatton Village Green, Yatton
A3	Glebelands Gardens, Yatton
A4	Bishport Avenue Open Space, Hartcliffe
A5	Streamcross Playing Field, Claverham
A6	Crosscombe Walk Open Space, Hartcliffe
A7	Court Farm Road Open Space, Whitchurch
A8	Cadbury Hill, Yatton
A9	Vee Lane Play Area, Felton
A10	Manor Road Playing Field, Keynsham
A11	Marksbury Playground, Marksbury
A12	Chew Magna Playing Field, Chew Magna
A13	Orchid Drive Play Area, Keynsham
A14	Publow Lane Recreation Ground, Publow
A15	The Mead Play Area, Keynsham
A16	Hamilton Way Play Area, Whitchurch
A17	Congresbury Millennium Green, Congresbury
A18	Hangstones Playing Field, Yatton
A19	Rock Road Playing Field, Yatton
A20	Land at Saxon Court, St. Georges
A21	Holmoak Road Playing Field, Keynsham
A22	Chalfield Close Play Area, Keynsham
A23	Whitchurch Playground, Whitchurch
A24	Felton Common, Felton

Likely significant effects

7.7.20 The noise and vibration receptors that have been taken forward for assessment are summarised in **Table 7.15,** along with the potential likely significant effects that might arise as a result of the Proposed Development.

Table 7.15 Noise receptors scoped in for further assessment

Receptor	Relevant assessment criteria	Likely significant effects
Air noise		
Residential	NPPF[17], NPSE[16], APF[1], SoNA201420[26], WHO[19 20 21]	People exposed to significant air noise could experience worsening conditions, or new people become similarly exposed.
Schools	BB93[23]	Communication and learning could be affected adversely by any increase in air noise.
Places of Worship	As Residential	Increased risk of disturbance to people and activities.
Amenity Areas	BS 8223[22], WHO[19]	Increased risk of disturbance to people and activities.
Airborne aircraft vibration		
Residential	Historic England[29]	Perceptible vibration e.g. windows rattling.
Ground noise		
Residential	WHO[19]	People exposed to significant ground noise could experience worsening conditions, or new people become similarly exposed.
Schools	BB93[23]	Communication and learning could be affected adversely by any increase in ground noise.
Places of Worship	n/a	Increased risk of disturbance to people and activities.
Amenity Areas	BS 8223[22], WHO[19]	Increased risk of disturbance to people and activities.
Road traffic noise		
All Receptors	*Noise Insulation Regulations*[38 39], BS 8233[22]	People exposed to significant road traffic noise could experience worsening conditions, or new people become similarly exposed.
Construction noise and vibration		
All Receptors	BS 5228[33 34]	People could become exposed to significant construction noise levels, over a relatively prolonged period.

7.8 Environmental measures embedded into the development proposals

7.8.1 A range of environmental measures have been embedded into the development proposals as outlined in **Section 2.3**. **Table 7.16** outlines how these embedded measures will influence the noise and vibration assessment. A detailed account of the embedded mitigation through existing noise controls and mitigation procedures in place at Bristol Airport is also described.

[38] The Noise Insulation Regulations (1975). No. 1736. [online]. Available at: http://www.legislation.gov.uk/uksi/1975/1763/contents/made [Checked 4/10/2018].
[39] The Noise Insulation (Amendment) Regulations (1988). No. 2000. [online]. Available at: https://www.legislation.gov.uk/uksi/1988/2000/contents/made [Checked 4/10/2018].

7.8.2 In general, these controls and procedures are in place and have therefore been accounted for in the assessment. The exception is the noise insulation grants. These grants allow homeowners to reduce the noise levels inside dwellings as they provide funds towards the cost of noise insulation works. However, as the convention for aircraft noise assessment is to assess it in terms of the external noise levels, this mitigation is not accounted for in the assessment.

Table 7.16 Summary of the embedded environmental measures

Receptor	Changes and effects	Embedded measures
Dwellings exposed to ground noise to the north of Bristol Airport	Aircraft movements will increase with potentially a consequential increase in ground noise exposure.	As part of the Proposed Development, a new walkway will be constructed to the north of the existing eastern apron. This will offer screening from ground noise for receptors to the north of this location, in particular those on Downside Road.

Bristol Airport – existing planning controls

7.8.3 Bristol Airport has operated for many years under a number of planning consents and as such is already subject to planning controls and voluntary agreements relating to those consents as well as its own sustainability and noise management policies.

7.8.4 Most recently planning permission was granted in February 2011 for expansion of Bristol Airport to handle 10 mppa[40]. The current Section 106 Agreement includes planning obligations relating to the management and control of air and ground noise through the implementation of a noise control scheme and adoption of operational procedures and practices aimed at achieving ongoing improvements.

7.8.5 These are each briefly described in the following section and are given in detail in Bristol Airport's current *Noise Action Plan*[41].

7.8.6 A planning obligation required the establishment of an Airport Environmental Improvement Fund[42], the purposes of which includes the funding of initiatives to mitigate the impact of aircraft and ground noise in the local community. Bristol Airport paid an initial sum of £100,000 into the fund in 2012 with further annual payments exceeding £100,000 and increasing in line with the annual percentage increase in passenger numbers.

Air noise

7.8.7 Air noise is currently limited by a condition which states that the area enclosed by the 57 dB $L_{Aeq,16h}$ (07:00 to 23:00) summer noise contour shall not exceed 12.42km^2 using the standardised average mode (Planning condition 30).

7.8.8 Residential properties located within this 57 dB $L_{Aeq,16h}$ contour (which did not previously qualify for noise insulation in the A38 Diversion Scheme) are eligible for a grant under the noise insulation grant scheme (Planning condition 31). This grant scheme is on the same basis as the previous A38 Diversion Scheme and is described in more detail in paragraph 7.8.25.

[40] North Somerset Council (2011). Planning permission 09/P/1020/OT2, [Online]. Available at: https://planning.n-somerset.gov.uk/online-applications/ [Checked 6/09/2018].
[41] Bristol Airport (2014). Noise Action Plan 2014 to 2018, [Online]. Available at https://www.bristolairport.co.uk/~/media/files/brs/about-us/nap-14_18.ashx?la=en [Checked 27/04/2018].
[42] Bristol Airport (2018). Airport Environmental Improvement Fund, Guidelines for applying for a grant for noise insulation, [Online]. Available at: https://www.bristolairport.co.uk/~/media/files/brs/about-us/community/guidelines-2018_final.ashx?la=en [Checked 5/10/2018].

Ground noise

7.8.9 Bristol Airport has procedures in place to limit the use of Auxiliary Power Units (APUs).

7.8.10 These include requirements for the installation and availability of Fixed Electrical Ground Power (FEGP) before the use of stands for live aircraft movements (Planning condition 32) and for FEGP to be used in preference to APUs (Planning condition 33) on areas cited in these conditions.

7.8.11 Mobile diesel ground power generators and aircraft APUs cannot be used on stands 38 and 39 (Planning condition 34). As part of the application, a variation to this condition is proposed so that it only applies between the hours of 23:00 and 06:00 as per stands 34 to 37.

7.8.12 APUs cannot be used on stands 34 to 37 between the hours of 23:00 and 06:00 (Planning condition 35).

7.8.13 Planning conditions 4, 5 and 69 require the erection of 3m to 5m high noise attenuation walls around the western and eastern apron extensions, and a timber fence around the northern boundary of the north side car park.

Night flying

7.8.14 A night noise Quota Count (QC) limit is used to restrict night flying (Planning condition 36). This assigns each aircraft operation a QC score based on how loud they are. The noise classification of an aircraft is set out in a formal notice published by NATS on a regular basis.

7.8.15 The current annual quota is 2,160 points, with 1,260 points allocated for the summer season (approximately seven months, defined as the period from late March to late October when British Summer Time is in effect) and 900 points allocated for the winter season.

7.8.16 Bristol Airport reports the use of the quota at the end of every season to the Airport Consultative Committee and publishes it on Bristol Airport's website.

7.8.17 The number of take-offs and landings between 23:30 and 06:00 are limited to 3,000 in the summer season and 1,000 in the winter season (Planning condition 38). As part of the application Bristol Airport is seeking to amend this condition to a limit of 4,000 for two adjoining seasons.

7.8.18 The total number of take-offs and landings between 06:00 and 07:00 and between 23:00 and 23:30 are limited to 10,500 in any calendar year (Planning condition 39).

Noise monitoring

7.8.19 Aircraft noise is continually measured using noise monitors located at each end of the runway, near Felton and Congresbury. These monitors are positioned in accordance with ICAO standards for monitoring noise from aircraft arriving and departing using runway 27.

7.8.20 The Felton monitor is therefore located 2,289m from the touchdown point for arriving aircraft using runway 27 and the Congresbury monitor is 6,500m from the start of roll point for departing aircraft using runway 27.

7.8.21 A further monitor is located at Littleton Hill, 6,500m from the start of roll point for departing aircraft using runway 09.

7.8.22 A portable noise monitor can be used to record noise at specific locations in response to queries from the local community. Mobile noise monitoring has occurred at over 12 sites during 2018 including Felton, Congresbury, Winford, Wrington and Cleeve at the time of writing.

7.8.23 The monitoring system, known as the Aircraft Noise Operation Management System (ANOMS) also takes radar data from air traffic control (ATC) enabling the aircraft track to be recorded and compared with the published routes.

7.8.24 Processed data from the noise monitors are published annually in Bristol Airport's *Operations Monitoring Report* [43] which provides a year by year comparison of noise results.

Noise insulation grants

7.8.25 As part of the Bristol Airport Environmental Improvement Fund, grants are available from Bristol Airport to cover some or all of the costs of new glazing and ventilators for properties most closely overflown and impacted by noise from Bristol Airport flights. Depending on location a property could be eligible for a grant of 100% (up to a maximum of £5,000) or 50% (up to a maximum of £2,500).

7.8.26 Eligible properties are within the 63 dB, 60 dB and 57 dB noise contours. If a property is within the 63 dB contour, the grant can cover 100% of new double glazed windows or ventilators up to a sum of £5,000. If a property is within the 60 dB and 57 dB contours, the grant can cover 50% of new double-glazed windows or ventilators up to a sum of £2,500.

7.8.27 As there is a limit of annual funding grant applications are prioritised according to categories based on the contour the property is in, and whether it has had a grant before. Should the fund be oversubscribed in any one category, priority is given to those living closest to the extended centreline of the runway i.e. those closest to overflying aircraft.

Bristol Airport – noise abatement procedures

7.8.28 Details of opening hours and noise abatement procedures are given in the latest version of the UK Aeronautical Information Package (AIP) for Bristol Airport[44].

7.8.29 Bristol Airport offers a continuous day and night service. Prior permission is required for take offs and landings between 23:00 and 07:00 (22:00 and 06:00 BST). A night surcharge applies to all landings between 22:00 and 07:00 (21:00 to 06:00 BST).

7.8.30 The following procedures are followed to minimise the noise impact of departing and arriving aircraft around Bristol Airport unless otherwise instructed by ATC:

- Operators of all aircraft using Bristol Airport are to ensure that their aircraft conform to the noise abatement techniques laid down for the type of aircraft and that operations are conducted in a manner calculated to cause the least disturbance practicable in areas surrounding Bristol Airport; and
- When operating Instrument Flight Rules (IFR), any aircraft carrying out a visual approach must not join the final approach track at an altitude of less than 2,200ft (QNH[45]).

[43] Bristol Airport (2017). 2017 Operations Monitoring Report, [online]. Available at https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwjb-r7GgZDdAhUEElAKHevOC5cQFjAAegQIABAC&url=https%3A%2F%2Fwww.bristolairport.co.uk%2F~%2Fmedia%2Ffiles%2Fbrs%2Fabout-us%2Fenvironment%2F2017-operations-monitoring-report.ashx%3Fla%3Den&usg=AOvVaw08RjZl1qAodXxwf_UpeuOC [Checked 28/08/2018]. (Use the airport website link please: https://www.bristolairport.co.uk/about-us/environment/sustainability

[44] National Air Traffic Services (2017). IAIP Bristol – EGGD Textual data and Charts related to the Airport, [Online]. Available at: http://www.nats-uk.ead-it.com/public/index.php%3Foption=com_content&task=blogcategory&id=36&Itemid=85.html [Checked 28/08/2018].

[45] QNH is a code indicating the atmospheric pressure adjusted to mean sea level. An altitude given in terms of QNH is the altitude above mean sea level, measured using atmospheric pressure.

7.8.31 Aircraft using the Instrument Landing System (ILS) in Instrument or Visual Meteorological Conditions (IMC or VMC) shall not descend below the altitude specified above before intercepting the glide path nor thereafter fly below it. Aircraft approaching without assistance from ILS or radar shall follow a descent path which will not result in its being at any time lower than the approach path which would be followed by an aircraft using the ILS glide path.

7.8.32 The Noise Preferential Routeings (NPR) given in **Table 7.17** are compatible with ATC requirements and shall apply in both VMC and IMC. The tracks are to be flown by all departing aircraft of more than 5,700kg maximum certified weight, unless otherwise instructed by ATC or unless deviations are required in the interests of safety.

7.8.33 The NPRs are incorporated in the ATC Standard Instrument Departure procedures (SIDs).

Table 7.17 Noise Preferential Routeings (NPRs)

Take-off runway	Details
09	Climb straight ahead to I-BON 4.7 nm DME to be no lower than 3000ft QNH at this point before commencing the turn
27	Climb straight ahead to I-BTS 4.5 nm DME to be no lower than 3000ft QNH at this point before commencing the turn.

7.8.34 The obligations of NPRs cease when an altitude of 4,000ft QNH or above has been reached.

7.8.35 Subject to ATC instructions, inbound aircraft are to maintain as high an altitude as practical and adopt a continuous descent profile, when appropriate.

7.8.36 Every aircraft using Bristol Airport shall, after take-off or 'go around' be operated in the quietest possible manner.

7.8.37 Pilots and engineers should restrict the use of Auxiliary Power Units (APU) to the minimum time necessary. Between 23:30 to 05:59 (22:30 to 04:59 BST) except when immediately prior to departure, APUs may only be run subject to approval from Airside Operations.

7.8.38 In order to avoid overflying Felton Village, when departing runway 09 and requiring to turn left, all aircraft shall climb ahead to 1nm DME before commencing the left turn.

7.8.39 Noise abatement procedures for light aircraft are given in

7.8.40 **Table** 7.18.

Table 7.18 Noise abatement procedures for light aircraft

Take-off runway	Details
09	(1) Practice engine failures after take-off by single-engine aircraft are not permitted. (2) Circuit direction is normally right hand only. However, ATC may require non-standard circuit direction for traffic integration.
27	(1) All pilots should arrange their flight so as to minimise noise nuisance. (2) Circuit direction is normally left hand.

7.9 Assessment methodology

7.9.1 The generic project-wide approach to the assessment methodology is set out in **Chapter 4**: **Approach to Preparing the Environmental Statement**, specifically in **Sections 4.5** to **4.7**. However, whilst this has informed the approach that has been used in this noise and vibration assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this assessment.

7.9.2 The general assessment methodology involves the following:

- Derivation of assessment criteria for each type of noise source;
- Computation of existing and future noise levels under the various scenarios;
- Assessment of magnitude of impacts (absolute) on residential and non-residential receptors, for each scenario;
- Determination of the change in noise levels, and associated impacts (relative) as a result of the introduction of the Proposed Development;
- Consideration of the likely significant effects of changes in noise levels from Without to With Proposed Development;
- Description of the potential effects (beneficial and adverse) associated with the Proposed Development; and
- Description of any mitigation measures, where appropriate, in relation to the Proposed Development and describe any residual effects.

7.9.3 While the technical assessment methodology adopted for a given source of noise is generally unique (each of which is described in the relevant section later in this chapter), there are some common concepts that apply across all noise topics based on Government guidance through the Noise Policy Statement for England (NPSE)[16].

7.9.4 The Government, through the NPSE, and the introduction of the Significant Observed Adverse Effect Level (SOAEL), has presented the concept of significance thresholds to rate health effects and quality of life. It is generally accepted that "significance" in this context differs from that used in an ES. This is because it refers to the significance of the absolute noise level, whereas an ES assesses the significance of the proposed change. For example, a receptor may be exposed to significant levels of noise regardless of any development, but if the noise level remains the same then the receptor would not be said to be significantly impacted by the development.

7.9.5 The thresholds for assessing health effects and quality of life are important, particularly when considering and comparing different scenarios as well as establishing the need for and extent of

noise mitigation. The NPSE introduces the concept of the NOEL (No Observed Adverse Effect Level), LOAEL (Lowest Observed Adverse Effect Level), and SOAEL. The National Planning Policy Guidance also introduces the concept of the UAEL (Unacceptable Adverse Effect Level). It is appropriate to consider what level of noise at Bristol Airport might be attributed to these levels, in light of emerging guidance on the effects of noise on health and also Government guidance.

7.9.6 The NOEL, LOAEL, SOAEL and UAEL can vary depending on the source, receptor, and time period (e.g. day or night), and in this way the sensitivity of the receptor is embedded into the criteria. For example, the SOAEL for a dwelling at night will be lower than during the day, to reflect the fact that dwellings are more sensitive to noise at night.

7.9.7 The technical guidance, summarised in **Table 7.3** and described in detail in **Appendix 7B**, has been used to develop noise and vibration assessment criteria and also used to derive values of LOAEL, SOAEL and UAEL as given in NPSE[16] and National Planning Practice Guidance (NPPG)[46], where appropriate. The definition of these is as follows:

- LOAEL – Lowest observed adverse effect level. This is the level above which adverse effects on health and quality of life can be detected; and
- SOAEL – Significant observed adverse effect level. This is the level above which significant adverse effects on health and quality of life occur.
- UAEL – Unacceptable adverse effect level. Noise above this level should be prevented.

7.9.8 Further guidance on how planning authorities should take account of the acoustic environment and the mitigation strategies which should be applied in relation to the above terms is provided in the NPPG[46] .

7.9.9 The advice is that noise above the SOAEL should be avoided using appropriate mitigation while taking into account the guiding principles of sustainable development.

7.9.10 Where noise is between LOAEL and SOAEL, the advice is to take all reasonable steps to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development. Noise in this category is described as an observed adverse effect which is noticeable and intrusive.

7.9.11 NPSE states that it is not possible to give a single objective noise-based measure that defines a SOAEL that is applicable to all sources of noise for all situations. It acknowledges that the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It also acknowledges that further research is required to increase understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, it states that not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.

7.9.12 Where any adverse noise effects are predicted, these are identified and if these cannot be avoided, mitigation measures are recommended to ensure no significant residual effects on health and quality of life arise. This approach is considered consistent with the principal aims of the NPSE. It is important to note that findings against the LOAEL and SOAEL are measures of the effect of noise on health and quality of life, and not environmental impact assessment findings.

7.9.13 During the course of this assessment (October 2018), the World Health Organization (WHO) published their updated *Environmental Noise Guidelines*[47]. These guidelines strongly recommend

[46] Defra (2014). National Planning Policy Guidance, Planning Practice Guidance, Noise, [Online] Available at: https://www.gov.uk/guidance/noise--2 [Checked 21/08/2018].
[47] World Health Organization Regional Office for Europe (2018). Environmental Noise Guidelines for the European Region. [Online]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/383921/noise-guidelines-eng.pdf [Checked: 25/10/2018].

that aircraft noise does not exceed 45 dB L_{den} or 40 dB L_{night} outside a dwelling. These recommendations are extremely stringent but can be considered in the context of the noise levels assessed and reported here as occurring now and in the future around Bristol Airport. They are aspirational targets and have not yet been adopted as policy. As a result, this assessment still relies on previous advice from the World Health Organisation as relevant to this assessment as this has informed Government policy that applies today.

7.9.14 The assessment criteria for different noise sources is given in the following sections. Full details of how this assessment criteria is developed is given in **Appendix 7B**.

Air noise and vibration assessment criteria

Air noise

7.9.15 Air noise encompasses that produced by aircraft during their departure and arrival at Bristol Airport. It is produced when an aircraft starts its departure, travels along the runway and climbs into the air as well as when an aircraft approaches Bristol Airport, touches down and slows to taxiing speed on the runway. It therefore includes reverse thrust noise when this takes place.

7.9.16 The assessment methodology for the calculation of air noise is set out in detail in **Appendix 7D**, along with the assumptions used to rate air noise and the results of the assessment.

Residential receptors – absolute levels

7.9.17 The Government, in the APF[1], acknowledges research in recent years which suggests that the balance of probability is that people are now relatively more sensitive to aircraft noise than in the past. At that time, the Government considered there was insufficient evidence to indicate a clear threshold noise level denoting the "onset of significant community annoyance". As a result, they retained within the APF the 57 dB $L_{Aeq,16h}$ contour as the average level of daytime aircraft noise marking the approximate onset of significant public annoyance.

7.9.18 In 2017, following the Government's response to the UK Airspace Change consultation, the Government set out policies that provide an update to some of the policies on aviation noise contained within the APF. They advised that these should be viewed as the current government policy. Specifically, it advised that a level of 54 dB $L_{Aeq,16h}$ is now acknowledged to correspond to the onset of significant community annoyance and replaces the 57 dB $L_{Aeq,16h}$ level in the APF.

7.9.19 The Government also advise that some adverse effects of annoyance can now be seen to occur down to 51 dB $L_{Aeq,16h}$ and that this should be used as the LOAEL when assessing and comparing noise impacts of airspace changes.

7.9.20 Based on Government guidance as described above, the following contour values are relevant in terms of assessing daytime airborne aircraft noise:

- 51 dB $L_{Aeq,16h}$ which provides a threshold below which there are no observed adverse effects from air noise. This represents the LOAEL; negligible effect;
- 54 dB $L_{Aeq,16h}$ which currently provides an indication of the onset of significant community annoyance; minor effect;
- 63 dB $L_{Aeq,16h}$ which denotes moderate levels of community annoyance, commonly used at airports and recommended by the Government as an eligibility criterion for sound insulation grant schemes. As a result, this value is commonly considered to represent the SOAEL; moderate effect; and

- 69 dB $L_{Aeq,16h}$ which denotes high levels of community annoyance where UK Government guidance is for consideration to be given by airports to assist in the costs of re-locating people from exposed dwellings, or, under certain circumstances, to offer to purchase such dwellings. This represents the UAEL; very substantial effect.

7.9.21 Night-time aircraft noise can be evaluated in a number of different ways. The common method is to rate night noise in terms of noise exposure, using the $L_{Aeq,8h}$ index (for the period 23:00 to 07:00). The $L_{Aeq,16h}$ and $L_{Aeq,8h}$ indices are the primary indicators used in this assessment, in line with those recommended by UK Government in the APF and the recent response to the air space change consultation.

7.9.22 Alongside the primary indicators, a number of supplementary indicators as recommended in the APF have been used to better describe the changes in the air noise environment between the different scenarios. These are as follows:

- L_{den}, which is an annual average 24-hour metric that penalises movements occurring in the evening (19:00 to 23:00) and night (23:00 to 07:00) periods by 5 dB and 10 dB respectively;
- L_{night}, which is an annual average 8-hour night (23:00 to 07:00) metric;
- Number of people likely to be highly annoyed;
- Number of people likely to be highly sleep disturbed;
- SEL and L_{ASmax} for the loudest typical (i.e. at least once per night) individual aircraft events in different scenarios;
- N70 (daytime) and N60 (night-time) contours, which demonstrate the areas exposed to a given number of events above the specified L_{ASmax} value;
- Single mode contours, which assume either 100% easterly or westerly operations and show the noise exposure levels expected for a given worst-case day with operations occurring in a single direction; and
- Variation in noise level at representative locations, both between scenarios and over the day.

7.9.23 These supplementary indicators have been provided for information and do not form the primary basis of the assessment of significance. They do however provide context to the significance, helping to show how the noise environment will change between one scenario and another. Further information on how these supplementary indicators can be interpreted is given in **Appendix 7B**.

7.9.24 The WHO[20] sets out night noise guidelines in terms of L_{night} which are commonly used in Europe to rate the acceptability of environmental noise at night. While the guideline value of 40 dB L_{night} is set out as an environmental goal to aspire towards, 55 dB L_{night} has been suggested as an interim target. The UK Government also recognise 45 dB L_{night} as representing the LOAEL while adopting the 45 dB $L_{Aeq,8h}$ index for this purpose for consistency with the $L_{Aeq,16h}$ daytime noise index.

7.9.25 The $L_{Aeq,8h}$ index differs only slightly from the L_{night} index in that it relates to an average summer day of aircraft activity, as opposed to an average annual day. As summer activity is generally higher than at other times of the year, the adoption of the $L_{Aeq,8h}$ unit, in place of the L_{night} unit represents a conservative approach. Similarly, on this basis, 55 dB $L_{Aeq,8h}$ is adopted as the SOAEL in this assessment.

7.9.26 It is also important however to consider the noise of individual aircraft, using noise indices such as the SEL and/or the L_{ASmax}.

7.9.27 The WHO guidelines provide advice that for a good sleep, indoor sound pressure levels should not exceed approximately 45 dB L_{Amax} more than 10-15 times per night. Accounting for sleeping with a

bedroom window slightly open (and a reduction from outside to inside of 15 dB), this translates to an outside sound pressure level of 60 dB L_{Amax}. (approx. 70 dB(A) SEL for aircraft noise).

7.9.28 In the UK, where night noise is considered sufficiently high, a value of 90 dB(A) SEL (approx. 80 dB L_{ASmax}) is commonly used as the eligibility threshold for a sound insulation scheme, often based on the noisiest or most common aircraft operation occurring once or more on average per night. This threshold was developed based on research published in 1992 by the Department of Transport[48].

7.9.29 On the basis of the above, the absolute noise values used to assess the impact magnitude of air noise at residential receptors are given in **Table 7.19**.

Table 7.19 Air noise impact assessment criteria (absolute) – residential, outdoors

Subjective description of Impact	Daytime criteria[1] $L_{Aeq,16h}$ dB	Night-time criteria[2] $L_{Aeq,8h}$ dB	L_{ASmax} dB	SEL dB(A)	Description
Negligible	51 (LOAEL)	45 (LOAEL)	60	70	More than 10-15 events per might
Very minor	54	48			
Minor	57	51			
Minor/Moderate	60	54			
Significant - Moderate	63 (SOAEL)	55 (SOAEL)	80	90	More than one event per night
Significant - Substantial	66	60			
Significant – Very Substantial	69 (UEL)	63 (UEL)	90	100	More than one event per night

Note: 1. Equivalent L_{den} criterion value, ≈ $L_{Aeq,16h}$ + 2 dB.
2. Approximately equivalent to L_{night} value.

Non-residential receptors – absolute levels

7.9.30 Absolute noise criteria for non-residential receptors are given in **Table 7.20** and their derivation is explained in **Appendix 7B**.

[48] Ollerhead, J.B. et al (1992). Report of a Field Study of Aircraft Noise and Sleep Disturbance: A Study Commissioned by the Civil Aviation Policy Directorate of the Department of Transport from the Department of Safety, Environment and Engineering, Civil Aviation Authority. London: HMSO.

Table 7.20 Air noise impact assessment criteria (absolute) – non-residential, outdoors

Receptor	External noise level threshold
Schools[23]	55 dB $L_{Aeq,30min}$ (daytime)
Places of worship[22]	As per daytime residential – see **Table 7.19**.
Amenity areas[22]	55 dB $L_{Aeq,T}$

Relative levels

7.9.31 In addition to the absolute noise level, the relative change in noise level between operational scenarios is used to assess air noise. A potential impact rating for a change in level is given in **Table 7.21**. A semantic scale of this type, based on the *Institute of Environmental Management and Assessment noise impact guidelines*[49], has been accepted in various airport Public Inquiries.

Table 7.21 Air noise impact ratings - change in noise level, outdoors

Change in noise level dB	Subjective impression	Potential Impact classification
0 to 2	Imperceptible change	Negligible
2 to 3	Barely perceptible change	Minor
3 to 6	Perceptible change	Moderate
6 to 9	Up to a halving or a doubling of loudness	Substantial
> 9	Equal to or more than a halving or doubling of loudness	Very substantial

Magnitude of effect and significance

7.9.32 The magnitude of an effect from changing from one scenario to another, such as from without to with the Proposed Development, is established from a consideration of both the absolute noise level after the change along with the magnitude of the change in noise level that occurs at a receptor.

7.9.33 The effect of a change in noise level tends to increase with the absolute level of noise experienced at a receptor. If, for example, the daytime noise level at a dwelling were to change from 45 dB to 50 dB $L_{Aeq,16h}$, (below the LOAEL) the overall effect for the occupants would be less than if the daytime noise level were to increase by the same amount from 63 dB to 68 dB $L_{Aeq,16h}$ (above the SOAEL).

7.9.34 There is no clearly accepted method of how to rate the magnitude of the effect of a change in the absolute air noise level and the associated change in noise level. Some guidance has however been provided in the NPPG[46] which states among "What factors influence whether noise could be a concern?" the following:

> *"In cases where existing noise sensitive locations already experience high noise levels, a development that is expected to cause even a small increase in the overall noise level may result in a significant adverse effect occurring even though little or no change in behaviour would be likely to occur."*

[49] Guidelines for Environmental Noise Impact Assessment, Institute of Environmental Management & Assessment, October 2014

7.9.35 **Table 7.22** shows how the primary air noise indicators are interpreted into magnitude of effect. This is based on the information presented in this chapter and professional judgement.

Table 7.22 Summary of magnitude of effect – air noise

Receptor Type	Outdoor noise level, dB	Magnitude of effect				
		Very low	Low	Medium	High	Very High
		Change in noise level, dB(A)				
Residential Day (07:00-23:00)	$51 \leq L_{Aeq,16h} < 63$	0-2	2-3	3-6	6-9	>9
	$L_{Aeq,16h} \geq 63$	0-1	1-2	2-4	4-7	>7
Residential Night (23:00-07:00)	$45 \leq L_{Aeq,8h} < 55$	0-2	2-3	3-6	6-9	>9
	$L_{Aeq,8h} \geq 55$	0-1	1-2	2-4	4-7	>7
Schools	$L_{Aeq,30min} \geq 55$	0-2	2-3	3-6	6-9	>9
Places of worship	$51 \leq L_{Aeq,16h} < 63$	0-2	2-3	3-6	6-9	>9
	$L_{Aeq,16h} \geq 63$	0-1	1-2	2-6	6-9	>9
Amenity Areas	$L_{Aeq,T} \geq 55$	0-2	2-3	3-6	6-9	>9

7.9.36 A potential significant effect (adverse or beneficial) is considered to arise if in **Table 7.22** the magnitude of the effect is rated as medium or higher. Additionally, a change in the number of dwellings exposed to 90 dB(A) or higher at least once per night is a potential significant effect. Whether a significant effect arises will depend on context, such as the number of noise sensitive receptors affected and how often it occurs.

Airborne aircraft vibration

7.9.37 Low frequency noise from airborne aircraft has the potential to cause perceptible vibration levels within dwellings. For this reason, the most appropriate noise metric to assess the likelihood of these effects is the maximum C-weighted noise level, denoted L_{Cmax}. C-weighting gives more weight to low frequency noise rather than the more commonly used A-weighting, which approximates the average human hearing response to different frequencies of noise.

7.9.38 This vibration effect is most obviously characterised by effects such as windows rattling. As discussed in the Historic England report[29], aircraft passbys that produce a maximum noise level above 97 dB L_{Cmax} are likely to produce an audible rattle of windows. While it is appreciated that low frequency noise from aircraft can induce perceptible vibration levels in lightweight structures and loose-fitting components, the levels are below those at which even minor cosmetic damage would be likely to occur.

7.9.39 Vibration effects due to airborne aircraft can vary depending on the specific details of the building, for example, the room dimensions which can cause resonance effects at certain frequencies. Resonances increase the sound level in parts of the room and decrease it in others which can influence the any consequential vibration.

7.9.40 The noise level of 97 dB L_{Cmax} has been taken as a threshold for potential significance of vibration effects due to airborne aircraft events. Whether a significant effect occurs between scenarios will depend on the number of dwellings affects and the frequency of the events.

7.9.41 The other potential effect from airborne aircraft vibration is vortex damage to buildings. This is best explained by an extract from the *Airports and the Environment*[30] report:

"Less of an environmental problem, but one that affects community relations, is that of vortex damage to properties within neighbouring communities. Vortices, which are circulating currents of air created by the passage of aircraft, are generally dispersed by wind and air turbulence before they reach the ground. However, in certain weather conditions they can reach ground level and can dislodge unsecured roofing tiles."

7.9.42 This effect is both rare and unpredictable as specific conditions are required for it to occur. It has been known to occur recently at a property in the vicinity of Bristol Airport. In this case the damage was rectified by Bristol Airport. As the strength of vortices is influenced by the size of aircraft, and the Proposed Development does not affect which aircraft are able to use Bristol Airport, it is not expected that there will be any significant effect on the occurrence of vortex damage.

Ground noise assessment criteria

7.9.43 Ground noise encompasses that produced by aircraft activities on the ground, such as during taxiing, manoeuvring, holding on the runway prior to departure, and running engines on the stand. Noise from engine running for test and maintenance purposes is also considered as ground noise.

7.9.44 The assessment methodology for ground noise is set out in detail in **Appendix 7E**, along with the assumptions used to rate ground noise and the results of the assessment.

7.9.45 There is no definitive agreement on the method of assessment of aircraft ground noise. Various methods have been adopted in the past, and these have led to the assessment of ground noise in terms of the equivalent continuous sound level, $L_{Aeq,T}$, for various time periods. As is convention, consideration is given in this assessment to the $L_{Aeq,16h}$ metric for the daytime period of 07:00 to 23:00 and the $L_{Aeq,8h}$ metric for the night-time period of 23:00 to 07:00.

7.9.46 The ground noise level assessed at various receptors can be compared to the existing ambient environmental noise and published guidelines for the assessment of environmental noise. The WHO have previously recommended a guideline value of 50 dB $L_{Aeq,16h}$ to prevent 'moderate' community annoyance and 55 dB $L_{Aeq,16h}$ for 'serious' community annoyance[19].

7.9.47 To put these guidance criteria into context over half of the population is exposed to levels which exceed the 55 dB L_{Aeq} guideline for 'serious' community annoyance. This was confirmed by the results of the Defra funded 2000/2001 National Noise Incidence Study[50].

7.9.48 The ambient noise levels in the area around Bristol Airport have been measured to lie in the range 50 dB(A) to 60 dB(A) $L_{Aeq,16h}$ during the daytime with an underlying background noise level in the range 35 dB(A) to 50 dB(A) L_{AF90} (refer to **Section 7.5**). During the night-time, ambient noise levels

[50] BRE (2002). The National Noise Incidence Study 2000/2001 (United Kingdom): Volume 1 – Noise Levels, Client report number 206344f, [online]. Available at: http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwi-t-mQ16jdAhVJUIAKHTMiD-kQFjAAegQIABAC&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3D10280_NIS1206344f.pdf&usg=AOvVaw2R14Uu8gQF3HgMnuM0z5ui [Checked 7/09/2018].

have been measured to lie in the range 45 dB(A) to 55 dB(A) with underlying background noise levels in the range 35 dB(A) to 45 dB(A) L_{AF90}. The background noise levels better reflect the noise environment in the absence of aircraft noise and other intermittent environmental noise sources.

7.9.49 Based on the standards in BS 8233 for dwellings, the WHO levels would ensure that the recommended indoor noise levels of 35 dB $L_{Aeq,16h}$ within living rooms and 30 dB $L_{Aeq,8h}$ within bedrooms, would be achieved with windows partly open.

7.9.50 If windows are closed, an additional protection of around 10 dB can be expected. If ground noise were to rise above these levels, some form of additional mitigation, such as sound insulation treatment to the dwelling, would be required to protect people inside dwellings from the effects of ground noise.

7.9.51 Sound insulation can only provide so much protection to a dwelling, typically around 35 dB, and once the noise level outside a dwelling rises beyond a certain value, mitigation in itself will not provide sufficient protection.

Residential receptors – absolute levels

7.9.52 The absolute noise values used to assess ground noise at residential receptors are given in **Table 7.23**. These $L_{Aeq,T}$ levels are based on the BS8233 and WHO guidance and professional judgement.

Table 7.23 Ground noise assessment criteria – absolute, daytime and night-time

Action	Effect Level	Daytime external noise level, dB $L_{Aeq,16h}$	Night-time external noise level, dB $L_{Aeq,8h}$
Mitigate and reduce to a minimum	Lowest Observed Adverse Effect Level (LOAEL)	50	45
Avoid	Significant Observed Adverse Effect Level (SOAEL)	60	55
Prevent	Unacceptable Adverse Effect Level (UAEL)	70	65

Non-residential receptors – absolute levels

7.9.53 Absolute noise criteria for non-residential receptors are given in **Table 7.24**.

Table 7.24 Ground noise assessment criteria – non-residential – absolute

Receptor	External noise level threshold
Schools[23]	55 dB $L_{Aeq,30min}$ (daytime)
Places of worship[22]	As per daytime residential – see **Table 7.23**
Amenity areas[22]	55 dB $L_{Aeq,T}$

Relative levels

7.9.54 In addition to the absolute noise level, the relative change in noise level between operational scenarios is used to assess air noise. A potential impact rating for a change in level is given in

Table 7.25. A semantic scale of this type, based on the *Institute of Environmental Management and Assessment noise impact guidelines*[51], has been accepted in various airport Public Inquiries.

Table 7.25 Ground noise impact ratings - change in noise level, outdoors

Change in noise level dB	Subjective impression	Potential Impact classification
0 to 2	Imperceptible change	Negligible
2 to 3	Barely perceptible change	Minor
3 to 6	Perceptible change	Moderate
6 to 9	Up to a halving or a doubling of loudness	Substantial
> 9	Equal to or more than a halving or doubling of loudness	Very substantial

Magnitude of effect and significance

7.9.55 **Table 7.26** shows how this is interpreted into magnitude of effect. This is based on the IEMA *Guidelines on Environmental Noise Impact Assessment*[25] and professional judgement.

Table 7.26 Summary of magnitude of effect – ground noise

Receptor Type	Outdoor noise level, dB	Magnitude of effect				
		Very low	Low	Medium	High	Very High
		Change in noise level, dB(A)				
Residential Day (07:00-23:00)	$50 \leq L_{Aeq,16h} < 60$	0-2	2-3	3-6	6-9	>9
	$L_{Aeq,16h} \geq 60$	0-1	1-2	2-4	4-7	>7
Residential Night (23:00-07:00)	$45 \leq L_{Aeq,8h} < 55$	0-2	2-3	3-6	6-9	>9
	$L_{Aeq,8h} \geq 55$	0-1	1-2	2-4	4-7	>7
Schools	$L_{Aeq,30min} \geq 55$	0-2	2-3	3-6	6-9	>9
Places of worship	$50 \leq L_{Aeq,16h} < 60$	0-2	2-3	3-6	6-9	>9
	$L_{Aeq,16h} \geq 60$	0-1	1-2	2-6	6-9	>9
Amenity Areas	$L_{Aeq,T} \geq 55$	0-2	2-3	3-6	6-9	>9

[51] Guidelines for Environmental Noise Impact Assessment, Institute of Environmental Management & Assessment, October 2014

7.9.56 A potential significant effect (adverse or beneficial) is considered to arise in the above table if the magnitude of the effect is rated as medium or higher. Whether a significant effect arises will depend on context, such as the number of noise sensitive receptors affected and the how often it occurs.

Road traffic noise assessment criteria

7.9.57 Road traffic noise includes noise from road vehicles accessing Bristol Airport as well as that from other road vehicles, not related to Bristol Airport, using the surrounding roads.

7.9.58 The assessment methodology for road traffic noise is set out in detail in **Appendix 7F**, along with the assumptions used to rate road traffic noise and the results of the assessment.

7.9.59 The criteria used in the road traffic noise assessment considers the noise criteria within the *Noise Insulation Regulations 1975 (as amended 1988)* and the *Design Manual for Roads and Bridges* (DMRB)[32].

7.9.60 Road traffic noise is commonly measured and assessed in the UK in terms of the L_{A10} index over the 18-hour period from 06:00 to 24:00. This index, known as $L_{A10,18h}$, is used to rate the potential impacts of road traffic noise arising for example from a change in a highway. Legislation exists in the form of the Noise Insulation Regulations to offer sound insulation to people who are significantly affected by the introduction of a new highway or changes to a highways scheme where the noise level rises above a certain value as a result of the change in traffic flow. Under this legislation, the trigger level for introducing a noise insulation scheme is expressed as a façade level of 68 dB $L_{A10,18h}$. This can be approximately converted back to an $L_{Aeq,16h}$ index by applying a correction of -3 dB(A) to convert from the façade level to a free-field level, and by applying a further correction of -2 dB(A) to convert from $L_{A10,18h}$ to $L_{Aeq,16h}$ for road traffic noise. The resulting trigger level in this case is 63 dB $L_{Aeq,16h}$. This is 5 dB lower than the equivalent $L_{A10,18h}$ value.

7.9.61 The absolute values for impact assessment, and for establishing the LOAEL, SOAEL and UAEL can therefore be determined based on the same principles as described for ground noise above, using the guideline standards for noise levels within dwellings recommended in BS 8233.

Absolute levels

7.9.62 The absolute noise values used to assess road traffic noise between operational scenarios at all receptors are given in **Table 7.27**.

Table 7.27 Road traffic noise assessment criteria – absolute, daytime and night-time

Action	Effect Level	Daytime facade noise level, dB $L_{A10,18h}$
Mitigate and reduce to a minimum	Lowest Observed Adverse Effect Level (LOAEL)	55
Avoid	Significant Observed Adverse Effect Level (SOAEL)	68
Prevent	Unacceptable Adverse Effect Level (UAEL)	75

Relative levels

7.9.63 The subjective importance of changes in road traffic noise level on people relates to the magnitude of the change and, to some extent, when it occurs. A significance rating for a change in level is taken from the DMRB[32].

7.9.64 DMRB provides objective assessment criteria in terms of changes in noise for both the 'short-term' and the 'long-term'. Evidence suggests that residents are much more likely to perceive very small changes in average daytime noise level (1 to 3 dB(A)) following the opening of a major road infrastructure project. Over time, people become accustomed to the change and respond to any changes in traffic flow and associated change in noise conditions with reduced sensitivity.

7.9.65 The only new roads being built as part of the Proposed Development are within Bristol Airport. The receptors affected by these roads will be affected to a greater extent by road traffic on Downside Road. Therefore, the long-term changes in noise level are the only changes relevant to this assessment. These are indicative as the impact of a relative change in level also depends on the absolute level associated with it and the noise conditions prior to the change.

Magnitude of effect and significance

7.9.66 **Table 7.28** shows how this is interpreted into magnitude of effect. This is based on DMRB.

Table 7.28 Summary of magnitude of effect – road traffic noise

Receptor Type	Outdoor noise level, dB	Magnitude of effect				
		Very low	Low	Medium	High	Very High
		Change in noise level, dB(A)				
Residential	$L_{A10,18h} \geq 55$	0-2	2-3	3-5	5-10	>10

7.9.67 A potential significant effect (adverse or beneficial) is considered to arise in **Table 7.28** if the magnitude of the effect is rated as medium or higher. Whether a significant effect arises will depend on context, such as the number of noise sensitive receptors affected and the how often it occurs.

Construction noise and vibration assessment criteria

7.9.68 Construction noise and vibration relates to that produced by construction traffic accessing and departing from the construction sites as well as that produced by demolition, piling and

construction plant operating at the construction sites during each phase of the construction project. The effects of construction noise and vibration have been assessed taking account of their magnitude and also the likely sequence period and daily duration over which they will occur for the affected receptors.

7.9.69 The assessment methodology for construction noise and vibration is set out in detail in **Appendix 7G**, along with the assumptions used to rate construction noise and vibration and the results of the assessment.

7.9.70 In the UK, BS 5228-1[33] is the current guidance and approved code of practice document for the control of construction noise. This provides guidance on methods of controlling noise and provides methods to predict, measure and assess the impact of construction and demolition noise. The guidance in the document can be considered to present recommendations for best practical means to control noise on site.

7.9.71 An informative Annex is included in BS 5228-1 that provides guidance on objectively assessing the significance of construction noise. It advises that a pragmatic approach needs to be taken when assessing the noise effects of any construction project and suggests the guidance provided in the annex would generally only apply to projects of significant size, and lesser projects might not need to be assessed or might only require general consideration of noise effects and mitigation. For large infrastructure projects for example, it highlights historically the procedure that has developed in the UK based on the use of fixed noise limits and also additionally introduces alternative methods used to rate the potential significance of construction noise, based on prevailing ambient noise conditions.

7.9.72 There are no universally recognised or mandatory UK standards or guidelines that set out limits for construction noise. The historical use of fixed noise limits for projects of significant size is described in BS 5228-1 which sets out a subjective principle as follows:

"Noise from construction and demolition sites should not exceed the level at which conversation in the nearest building would be difficult with the windows shut."

7.9.73 It also goes on to describe external noise limits as:

"Noise levels, between say 07:00 and 19:00 hours, outside the nearest window of the occupied room closest to the site boundary should not exceed:

- *70 decibels (dBA) in rural, suburban and urban areas away from main road traffic and industrial noise;*
- *75 decibels (dBA) in urban areas near main roads in heavy industrial areas."*

7.9.74 BS 5228-1 also provides details of alternative methods of assessment to determine the potential for a significant noise effect, reproduced in **Table 7.29**, by testing the construction noise level against the prevailing baseline noise level (that is, the noise level in the absence of construction noise). If the site noise level exceeds the appropriate category value, then a potential significant effect is indicated. The assessor then needs to consider other project-specific factors, such as the number of receptors affected and the duration and character of the impact, to determine if there is a significant effect.

Table 7.29 Example threshold of potential significant effect at dwelling

Assessment category and threshold value period	$L_{Aeq,T}$ Threshold value dB(A)		
	Category A[1]	Category B[2]	Category C[3]
Daytime (07:00–19:00) and Saturdays (07:00–13:00)	65	70	75
Night-time (23:00 – 07:00)	45	50	55

1. Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.
2. Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.
3. Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

7.9.75 A further alternative method is available where noise levels generated by site activities are deemed to be potentially significant if the total noise (pre-construction ambient plus site noise) exceeds the pre-construction ambient noise by 5 dB or more, subject to lower cut-off values of 65 dB, 55 dB and 45 dB $L_{Aeq,T}$ from site noise alone, for the daytime, evening and night-time periods, respectively; and a duration of one month or more, unless works of a shorter duration are likely to result in a significant effect.

7.9.76 BS 5228-1 also provides examples of noise thresholds used for the introduction of both sound insulation treatment (or the reasonable costs thereof) and temporary re-location. It is stated in BS 5228-1 that:

"If the contractor has applied best practicable means to the provision of mitigation, i.e. all reasonable measures have been taken to reduce the noise levels, but levels are still such that widespread community disturbance or interference with activities or sleep is likely to occur, there are two further provisions that can be made if the construction activities are likely to continue for a significant period of time either continuously or sporadically."

7.9.77 The first provision is noise insulation. For eligibility for sound insulation the daytime Monday to Friday (08:00-18:00) and Saturday morning (08:00-13:00) threshold is 75 dB $L_{Aeq,10h/5h}$ at 1 metre outside the most exposed window or door of the façade of any eligible dwelling. This level also needs to be exceeded for a period of 10 or more days of working in any 15 consecutive days or for a total number of days exceeding 40 in any six consecutive months.

7.9.78 The second provision is temporary or permanent re-housing. For eligibility for temporary rehousing the daytime Monday to Friday (08:00-18:00) and Saturday morning (08:00-13:00) threshold is at least 85 dB $L_{Aeq,10h/5h}$. This level also needs to be exceeded for a period of 10 or more days of working in any 15 consecutive days or for a total number of days exceeding 40 in any six consecutive months.

7.9.79 Typical daytime ambient noise levels around Bristol Airport lie between 50 dB $L_{Aeq,16h}$ and 60 dB $L_{Aeq,16h}$ during the daytime and 45 dB $L_{Aeq,8h}$ and 55 dB $L_{Aeq,8h}$ during the night-time (see **Appendix 7C**). On this basis, based on the ABC method in BS 5228-1, a value of 65 dB $L_{Aeq,12h}$ would be appropriate as a threshold for potentially significant effects to be indicated for the Proposed Development construction works during the daytime and 55 dB $L_{Aeq,8h}$ during the night-time. These criteria should be considered a target not normally to be exceeded at 1m from the façade of any noise sensitive residential or business receptors.

7.9.80 Based on the above and taking account of the ambient noise levels around Bristol Airport, the criteria adopted to assess the impact of construction noise are given in **Table 7.30**.

Table 7.30 Construction noise assessment criteria – absolute

Action	Effect Level	Daytime outdoor noise level, dB $L_{Aeq,12h}$	Night-time outdoor noise level, dB $L_{Aeq,8h}$
Mitigate and reduce to a minimum	Lowest Observed Adverse Effect Level (LOAEL)	55	45
Avoid	Significant Observed Adverse Effect Level (SOAEL)	65	55
Prevent	Unacceptable Adverse Effect Level (UAEL)	85	75

7.9.81 In summary, the threshold for a potentially significant effect from construction noise adopted in this assessment is 65 dB $L_{Aeq,12h}$ for the daytime (07:00-19:00) and 55 dB $L_{Aeq,8h}$ for the night-time (23:00-07:00).

Construction vibration

7.9.82 Vibration levels due to construction works associated with the Proposed Development have been assessed using the significance criteria given in BS5228-2[34] in terms of peak particle velocity (PPV).

7.9.83 Vibration criteria are given for both human and building response, where human response criteria are more stringent. **Table 7.31** contains the assessment criteria used, which are based on the absolute values given in BS 5228-2.

Table 7.31 Vibration limits for human response and building damage

Vibration limit, PPV mms^{-1}	Effect	Effect
< 0.14	Vibration unlikely to be perceptible.	None
0.14	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.	Negligible
0.3	Vibration might be just perceptible in residential environments.	Minor
1.0	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.	Moderate
7.5	Guide value for cosmetic damage of residential buildings where dynamic loading may lead to resonance.	Significant
10.0	Vibration is likely to be intolerable for any more than a very brief exposure to this level in most building environments.	Very Significant

7.9.84 On the basis of the above table, the threshold for a potentially significant effect from construction vibration adopted in this assessment is 1.0 mms^{-1} PPV during the daytime (07:00-23:00) and 0.3 mms^{-1} during the night-time.

7.10 Assessment of effects – air noise and vibration

7.10.1 **Section 7D.5** of **Appendix 7D** provides the detailed results of the air noise and vibration assessment. Air noise contours are presented for the primary and secondary or supplementary parameters, along with contour areas, dwelling and population counts within each contour band for residential receptors. Noise exposure values are also presented for noise sensitive non-residential receptors. The likelihood of vibration effects is also assessed. Key results are presented in this section. Note that the significance ratings arising from the effects described here are described in the section titled "Predicted air noise effects and their significance" at the end of **Section 7.10**.

7.10.2 For all tables in this section, areas are rounded to the nearest 0.1km^2. Dwelling and population counts are rounded to the nearest 50 above 100 and to the nearest 10 below 100. Below 10, the actual number is given. Where percentage changes are given, these are based on unrounded values. The counts include all those dwellings or people within a specified contour band and any higher value bands so, for example, any dwellings within a 63 dB contour would also be counted as being within a 63 dB contour as well.

Residential receptors – primary indicators

$L_{Aeq,16h}$ daytime

7.10.3 The dwelling counts within key daytime air noise contours are presented in **Table 7.32.** These contours are presented in **Figure 7D.1** to **Figure 7D.3** and **Figure 7D.26**.

Table 7.32 Air noise dwelling counts, $L_{Aeq,16h}$ average mode summer day

Contour $L_{Aeq,16h}$ dB(A)	**Number of Dwellings**			
	Baseline 2017	**10 mppa 2021**	**12 mppa 2026**	**10 mppa 2026**
51	3,250	3,150	3,100	2,200
63	20	10	10	10

7.10.4 **Table 7.32** shows that in 2017, around 3,250 dwellings are adversely affected by air noise as a result of daytime aircraft operations at Bristol Airport. This total is expected to remain much the same, although marginally reduce going forward to the 10 mppa in 2021 and the 12 mppa scenarios. The sensitivity scenario (first discussed in paragraph 7.1.25) of 10 mppa in 2026 shows a reduction of 30% compared to the 12 mppa scenario. This is due to the conservative assumption that from 2021 onwards, there is no growth in passenger numbers from 10 mppa but fleet replacement occurs as per the 12 mppa 2026 forecast.

7.10.5 Currently and in the future under any scenario, the number of residential receptors experiencing air noise at or above the SOAEL of 63 dB is very small, around 20 now reducing to around 10 in the future.

$L_{Aeq,8h}$ night-time

7.10.6 Turning to the night-time effects, **Table 7.33** shows the dwelling counts within key night-time air noise contours. These contours are presented in **Figure 7D.4** to **Figure 7D.6** and **Figure 7D.27**.

Table 7.33 Air noise dwelling counts, $L_{Aeq,8h}$ average mode summer night

Contour $L_{Aeq,8h}$ dB(A)	Number of Dwellings			
	Baseline 2017	10 mppa 2021	12 mppa 2026	10 mppa 2026
45	3,750	5,150	5,050	4,150
55	150	300	350	250

7.10.7 **Table 7.33** shows that in 2017, around 3,750 dwellings are adversely affected by air noise as a result of night-time aircraft operations at Bristol Airport. This total is expected to increase by 38% going forward to the 10 mppa in 2021 scenario. The 12 mppa scenario gives rise to a similar, albeit slightly lower, number of dwellings compared to the 10 mppa in 2021 scenario. The sensitivity scenario of 10 mppa in 2026 shows a reduction of 18% compared to the 12 mppa scenario. This is due to the conservative assumption that from 2021 onwards, there is no growth in passenger numbers from 10 mppa but fleet replacement occurs as per the 12 mppa 2026 forecast.

7.10.8 Currently, there are around 150 properties exposed to the SOAEL of 55 dB $L_{Aeq,8h}$ or more. This is predicted to increase to around 300 under the 10 mppa in 2021 scenario, with a 5% increase to around 350 under the 12 mppa scenario. The sensitivity scenario of 10 mppa in 2026 shows a reduction of 21% compared to the 12 mppa scenario. This is due to the conservative assumption that from 2021 onwards, there is no growth in passenger numbers from 10 mppa but fleet replacement occurs as per the 12 mppa 2026 forecast.

Residential receptors – supplementary indicators

L_{den} and L_{night}

7.10.9 These parameters show broadly similar results to the $L_{Aeq,16h}$ and $L_{Aeq,8h}$ metrics. The results are given in detail in **Appendix 7D**.

Annoyance

7.10.10 **Table 7.34** shows the number of people likely to be highly annoyed by air noise around Bristol Airport. This does not take account of any improved insulation for dwellings which have benefitted from the noise insulation grant scheme.

Table 7.34 Highly annoyed population count, $L_{Aeq,16h}$ average mode summer day

Metric	Baseline 2017	10 mppa 2021	12 mppa 2026	10 mppa 2026
Population Highly Annoyed	750	750	750	550

7.10.11 This shows that in the future, levels of annoyance will remain as now under the 10 mppa 2021 scenario and 12 mppa 2026 scenarios, reducing only under the sensitivity case of 10 mppa 2026.

Sleep Disturbance

7.10.12 **Table 7.35** shows the number of people likely to be highly sleep disturbed by air noise around Bristol Airport. This does not take account of any improved insulation for dwellings which have benefitted from the noise insulation grant scheme.

Table 7.35 Highly sleep disturbed population count, L_{night} average mode annual night

Metric	Baseline 2017	10 mppa 2021	12 mppa 2026	10 mppa 2026
Population Highly Sleep Disturbed	450	850	800	650

7.10.13 This shows that the number of people highly sleep disturbed will rise by around 90% from 2017 to the 10 mppa in 2021 scenario before reducing slightly, by around 5% under the 12 mppa in 2026 scenario and by around 25% under the 10 mppa in 2026 scenario. Further information on the methodology can be located in **Appendix 7B**, specifically paragraph 7B.1.139, with the detailed results presented in **Appendix 7D**, in Table 7D.28.

N70 and N60

7.10.14 These parameters help to provide context to how the aircraft noise environment might alter between scenarios. People experience aircraft noise as a series of individual events over a day, rather than as a single average noise exposure level. The N70 parameter helps to illustrate how this might change between scenarios. Further explanation on these metrics is given in paragraph 7.1.18. There are no specific criteria for rating the acceptability of N70 or N60 contours.

7.10.15 The number of dwellings exposed to various N70 and N60 contours do not vary in a consistent manner between scenarios, for example comparing the 10 mppa 2021 scenario with 12 mppa 2026 scenario shows that for both N70 and N60 the number of dwellings increase for some contour values and decrease for others. The results and further explanation of these contours are presented in detail in **Appendix 7D**.

SEL and L_{ASmax}

7.10.16 The number of dwellings exposed to individual events of at least 90 dB SEL or 80 dB L_{ASmax} at least once per night is given in **Table 7.36** for each scenario.

Table 7.36 Air noise dwelling counts, $L_{Aeq,16h}$ average mode summer day

Contour, dB(A)	Number of Dwellings			
	Baseline 2017	10 mppa 2021	12 mppa 2026	10 mppa 2026
90 SEL	250	600	100	100
80 L_{ASmax}	250	650	100	100

7.10.17 **Table 7.36** demonstrates that from 2017 to the 10 mppa 2021 scenario, the number of dwellings exposed to potentially significant noise levels of individual aircraft at least once per night will increase from around 250 to around 650. Going forward to 2026, under both the 12 mppa scenario and the sensitivity scenario, this will reduce to around 100.

Single mode

7.10.18 Single mode L_{Aeq} noise contours have been produced which show how, under westerly and easterly conditions, noise exposure levels will vary during the day and night between scenarios. These represent a worst-case day for each scenario.

7.10.19 The number of dwellings exposed between scenarios varies in a similar manner to the average mode L_{Aeq} contours. The results are presented in detail in **Appendix 7D**.

Variation in noise level over the day

7.10.20 The air noise received at a receptor over a single day will vary according to the scenario being considered and also the mode of operations at Bristol Airport. In addition, the noise level will vary by the hour as a result of variations in the hourly timetabling of aircraft over a 24-hour period. **Appendix 7D** provides this detailed information, in terms of $L_{Aeq,1h}$ over the day for 14 representative residential receptors. The receptors assessed are shown in **Figure 7.1** and details are given in **Table 7.10**.

7.10.21 This analysis shows how the noise levels at a given receptor are vary over a typical day, and how this might change under the future scenarios. A description of this is given in **Appendix 7D**.

Non-residential receptors

7.10.22 **Appendix 7D** sets out the $L_{Aeq,16h}$ and, where relevant, the $L_{Aeq,8h}$ noise exposure levels for schools, places of worship and amenity areas within the zone of influence of air noise around Bristol Airport.

Schools

7.10.23 **Appendix 7D** identifies only one school, Winford Primary School, as being exposed to 55 dB $L_{Aeq,16h}$ or more, under all scenarios.

7.10.24 Strictly, the criteria relating to schools is required to be met over a 30-minute period, not over 16 hours. For a reasonable approximation, a one hourly value is appropriate to use for this purpose. It can be deduced that during the school hours, a one hourly L_{Aeq} value could be around 3 dB higher than the 16-hour average. Even however allowing for this fact, only this one school is exposed to noise levels above 55 dB $L_{Aeq,1h}$ under the 2017 baseline and in the future. The noise level over the day at Winford Primary School in 2017 is 58 dB $L_{Aeq,16h}$ and will remain so in 2021 and under the 12 mppa 2026 scenario as well as the sensitivity test.

Places of worship

7.10.25 There are 35 places of worship identified within the zone of influence of air noise around Bristol Airport. Nine of these are currently exposed to air noise at or above 51 dB $L_{Aeq,16h}$. The situation will remain broadly unchanged in both future scenarios, including the sensitivity test. None are currently exposed to a level of 63 dB $L_{Aeq,16h}$, either now or in the future.

Amenity areas

7.10.26 There are 23 amenity areas identified within the ZoI of air noise around Bristol Airport. These vary in nature from playgrounds and parks, to open spaces. Eight of these are currently exposed to a daytime noise exposure level of 50 dB $L_{Aeq,16h}$ or more. Only three amenity areas are exposed to a significant level of 55 dB $L_{Aeq,16h}$ or more currently, these being Cadbury Hill in Yatton, Vee Lane Play Area in Felton, and Felton Common.

7.10.27 This situation will remain broadly the same under the 10 mppa 2021 scenario and also the 12 mppa 2026 scenario. A reduction in the number of those exposed to 50 dB and 55 dB occurs under the sensitivity test, reducing to six and two (Vee Lane Play Area and Felton Common) respectively.

Airborne aircraft vibration

7.10.28 The assessment finds that in 2017, six dwellings which border Felton Common are exposed to maximum noise levels of 97 dB L_{Cmax} or greater. This reduces to two dwellings in all future scenarios due to the introduction of more modern, quieter aircraft types. The maximum noise level instances occur less than once per day on average in all scenarios.

7.10.29 In practice, it is appreciated that there is some variation depending on the specific characteristics of individual dwellings, and therefore it is possible that lower levels of noise may induce perceptible vibration effects. The typical aircraft operations which produce the highest L_{Cmax} noise levels currently at dwellings bordering Felton Common are departures by the Airbus A321 and Boeing 737-800 using runway 09. These two aircraft types combined carried out four runway 09 departures on an average day in 2017. Under the 10 mppa in 2021 scenario, this increases to seven, before reducing to four under the 12 mppa in 2026 scenario and three under the sensitivity scenario of 10 mppa in 2026.

7.10.30 Therefore, vibration due to airborne aircraft is expected to currently affect a small number of dwellings and this is not expected to vary significantly in the future scenarios.

Predicted air noise and vibration effects and their significance

7.10.31 This section sets out the air noise effects arising from operations at Bristol Airport by comparing the following key scenarios:

- Baseline year (2017) vs future (10 mppa in 2021);
- Future (10 mppa in 2021) vs future (12 mppa in 2026) with Proposed Development; and
- Future (10 mppa in 2026) vs future (12 mppa in 2026) with Proposed Development.

7.10.32 This section concentrates primarily on a comparison of the change from without to with the Proposed Development since this is the key comparison required as part of the ES. A subjective account of how noise conditions will change between the baseline year and 2021 has however been included to provide context, should Bristol Airport reaches its permissible capacity and the Proposed Development not proceed.

7.10.33 This section commences by presenting, for key receptors, an account of how noise levels will change under each scenario during the daytime and night-time. It then compares and discusses specific pairs of scenarios separately.

7.10.34 The assessments have all been carried out on the basis of external noise levels, as this is what the main criteria relate to. Therefore, mitigation in the form of improved sound insulation is not accounted for. This will reduce the internal noise levels for dwellings where works have been carried out, and therefore the absolute effects will be lower than assessed for those properties.

Variation in noise levels at representative residential receptors

7.10.35 To explore by how much noise exposure levels over the day and night are expected to change between different scenarios, noise predictions have been undertaken comparing various scenarios and the change expected at a series of representative residential receptors around Bristol Airport. The receptors assessed are shown in **Figure 7.1** and details are given in **Table 7.10**.

7.10.36 **Table 7.37** shows the daytime air noise exposure levels for 10 mppa 2021 (in brackets) and the relative change in noise level for the baseline (2017) and the 12 mppa 2026 scenario, at representative residential receptors. The sensitivity scenario of 10 mppa 2026 without the Proposed Development is also included.

Table 7.37 10 mppa in 2021 air noise exposure levels, $L_{Aeq,16h}$ average mode summer day, and relative change

	Residential receptor	Absolute level ($L_{Aeq,16h}$) dB(A) or change re: 10 mppa 2021			
		Baseline 2017	10 mppa 2021	12 mppa 2026	10 mppa 2026
1	Henley Park, Yatton	0	(53)	0	-1
2	Bishops Road, Cleeve	+1	(53)	0	-1
3	Fountain Treeworks, Brockley	0	(62)	-1	-2
4	Cooks Bridle Path, Downside	+1	(60)	0	-1
5	Downside Road, Downside	0	(60)	-1	-2
6	School Lane, Lulsgate Bottom	0	(62)	-1	-2
7	Hillview Gardens, Felton	0	(55)	0	-1
8	Market Place, Winford	0	(59)	+1	0
9	Chew Magna, North Wick	0	(54)	+1	0
10	Church Road, Norton Malreward	0	(50)	0	-1
11	Lye Mead, Winford	-1	(54)	0	-1
12	Red Hill, Redhill	0	(51)	0	-2
13	Wrington Hill, Wrington	+1	(53)	0	-1
14	Southlands Way, Congresbury	0	(53)	0	-2

7.10.37 For all 14 locations, the absolute noise levels for 10 mppa 2021 lie below the SOAEL of 63 dB. This is the case now and will remain the case for 12 mppa in 2026 with the Proposed Development.

7.10.38 The results show that the change in daytime noise level between the baseline (2017) conditions and those likely to arise for the 10 mppa in 2021 scenario is negligible at all locations. Three locations are 1 dB louder in 2017, one location is 1 dB quieter, and 10 locations have the same noise level, when compared to 10 mppa in 2021.

7.10.39 Considering the 12 mppa scenario, there is also a negligible change in noise levels from those expected for the 10 mppa in 2021 scenario. Two locations are 1 dB louder in the 12 mppa scenario, three locations are 1 dB quieter, and nine locations have the same noise level, when compared to 10 mppa in 2021.

7.10.40 For the sensitivity scenario of 10 mppa in 2026, this shows a negligible reduction in noise against 10 mppa in 2021, with 12 locations being 1-2 dB quieter under the 10 mppa in 2026 scenario, and two locations having the same noise level, when compared to 10 mppa in 2021.

7.10.41 The differences in daytime air noise between the 12 mppa 2026 and 10 mppa 2026 scenarios are also small, with increases in the range 0 to 1 dB generally occurring with the Proposed Development.

7.10.42 **Table 7.38** shows the night-time air noise exposure levels for 10 mppa 2021 (in brackets) and the relative change in noise level against the baseline (2017) and the 12 mppa 2026 scenarios, at

representative residential receptors. The sensitivity scenario of 10 mppa 2026 without the Proposed Development is also included.

Table 7.38 10 mppa in 2021 air noise exposure levels, $L_{Aeq,8h}$ average mode summer night, and relative change

	Residential receptor	Absolute level ($L_{Aeq,8h}$) dB(A) or change re: 10 mppa 2021			
		Baseline 2017	10 mppa 2021	12 mppa 2026	10 mppa 2026
1	Henley Park, Yatton	-2	(50)	0	-1
2	Bishops Road, Cleeve	-2	(50)	0	-1
3	Fountain Treeworks, Brockley	-1	(58)	0	-1
4	Cooks Bridle Path, Downside	-1	(57)	0	-1
5	Downside Road, Downside	-2	(56)	0	-1
6	School Lane, Lulsgate Bottom	-1	(58)	0	-1
7	Hillview Gardens, Felton	-2	(52)	0	-1
8	Market Place, Winford	-1	(56)	+1	0
9	Chew Magna, North Wick	-1	(51)	+1	0
10	Church Road, Norton Malreward	-1	(47)	0	0
11	Lye Mead, Winford	-2	(51)	0	-1
12	Red Hill, Redhill	-2	(48)	0	-2
13	Wrington Hill, Wrington	-2	(55)	0	-1
14	Southlands Way, Congresbury	-2	(49)	0	-1

7.10.43 For six of the fourteen locations, the absolute noise levels for 10 mppa 2021 all lie at or just above the SOAEL of 55 dB, with the remainder lying below. This is also the case for the 12 mppa 2026 scenario. This is similar to the case now with four of the fourteen receptors experiencing night noise at or above the SOAEL.

7.10.44 The results show negligible increases in noise of 1 to 2 dB at all locations, from the baseline (2017) conditions during the night and those likely to arise for 10 mppa 2021, as currently permitted.

7.10.45 Noise levels during the night will also see little variation under 12 mppa 2026 from those expected for 10 mppa 2021, with two locations experiencing a negligible increase of 1 dB and 12 locations where the noise level remains the same.

7.10.46 For the sensitivity case, this shows a reduction in noise against 10 mppa 2021, with 11 locations experiencing a negligible decrease in noise level of 1 to 2 dB and three locations where the noise level remains the same.

7.10.47 The differences in night-time air noise between the 12 mppa 2026 and 10 mppa 2026 scenarios are similar, with the majority of locations experiencing a negligible increase of 1 dB in the 12 mppa scenario.

Baseline year (2017) vs Future (10 mppa in 2021)

7.10.48 Bristol Airport is forecast to grow to its permitted passenger limit of 10 mppa by 2021, irrespective of whether the Proposed Development is permitted. This section summarises the noise effects expected (compared to 2017) as a result of this growth to Bristol Airport's permitted passenger throughput of 10 mppa and the resulting effects on the local community.

7.10.49 Annual aircraft movements are forecast to increase from 73,562 in 2017 to 86,973 in 2021. This increase will be accompanied by the replacement of some of the most common aircraft at Bristol Airport with their more modern equivalents.

7.10.50 Under the 10 mppa in 2021 scenario, while aircraft movements will increase, noise exposure levels during the day are predicted to reduce slightly due to the modernisation of the aircraft fleet, leading to a slight reduction in the number of people adversely affected by air noise. For example, the number of dwellings exposed to noise levels at or above the LOAEL reduces slightly from 3,250 to 3,150. The associated change in noise level at these receptors is negligible, with most experiencing a decrease of less than 1 dB, with some experiencing an increase of less than 1 dB. This is considered to be a very low effect. The small number of dwellings exposed to noise levels at or above the SOAEL, around 20 dwellings in 2017 falling to around 10 in 2021, experience similar changes in noise level and therefore also a very low effect.

7.10.51 As air traffic increases in the future at night, the number of dwellings that are exposed to noise levels at or above the LOAEL will rise, from 3,750 in 2017 to 5,150 in 2021. The number of dwellings exposed to noise levels at or above the SOAEL increases from 150 in 2017 to 300 in 2021. Of these dwellings, 15 will experience an increase in noise level of 2 to 3 dB and an absolute level above the SOAEL. This constitutes a moderate adverse effect for these dwellings. The remaining dwellings experience either lower absolute noise levels or lower changes in noise level, which constitutes a low or very low adverse effect.

7.10.52 In summary, the air noise effects during the day are not expected to materially change between the 2017 and 10 mppa in 2021 scenarios. Approximately 150 dwellings are exposed to significant levels of night-time air noise under the 2017 scenario. This number will increase to around 300 by 2021. Most of these dwellings, however, will experience only a low or very low effect due to negligible changes in noise level. 15 dwellings will experience a moderate adverse effect, located in the Lulsgate Bottom area close to the eastern end of the runway. All of the dwellings exposed to significant levels of external air noise, both now and in 2021, are eligible under Bristol Airport's current sound insulation scheme and therefore have the option to improve the sound insulation to reduce the internal noise levels. To date, the number of properties that have been insulated are as follows:

- 2000 – 2001: circa 261 properties;
- 2015: 14 properties;
- 2016: 40 properties;
- 2017: 8 properties; and
- 2018: 5 properties.

7.10.53 The number of dwellings exposed to a significant level of noise due to individual aircraft events at least once per night increases from 250 in 2017 to 650 under the 10 mppa in 2021 scenario. This is a potentially significant adverse effect.

Future (10 mppa in 2021) to Future (12 mppa in 2026) With Development

7.10.54 This section summarises the noise effects expected (compared to those currently permitted) as a result of growth from 10 mppa to 12 mppa by 2026. It describes and compares the effects of the two key scenarios assessed in this ES.

7.10.55 Annual aircraft movements are forecast to increase from the 86,973 in 2021, based on the permitted passenger throughput of 10 mppa, to 97,393 in 2026, relating to 12 mppa. This increase will be accompanied by a further replacement of some of the most common aircraft types at Bristol Airport with their more modern equivalents.

7.10.56 **Table 7.39** and **Table 7.40** summarise for the daytime and night-time how this change will affect residential dwellings based on the absolute levels arising under the 12 mppa in 2026 scenario and the change in noise level from the 10 mppa in 2021 scenario that is experienced. The beneficial change category includes the small number of dwellings experiencing no change in noise level.

7.10.57 Based on the criteria set out in **Table 7.22**, the number of residential and non-residential receptors experiencing a given air noise effect due to the change between the 10 mppa in 2021 and 12 mppa in 2026 scenarios is then set out in **Table 7.41**.

7.10.58 A potential significant effect (adverse or beneficial) is considered to arise in **Table 7.39** if the magnitude of the effect is rated as medium or higher. Whether a significant effect arises will depend on context, such as the number of noise sensitive receptors affected and how often it occurs.

Table 7.39 Dwellings exposed to absolute air noise and change in air noise, 10 mppa 2021 to 12 mppa 2026, daytime

Subjective description of impact	Contour band, dB $L_{Aeq,16h}$	Number of dwellings in band, 12 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible	Minor	Moderate	Substantial	Very Substantial
				0 – 2 dB	2 – 3 dB	3 – 6 dB	6 – 9 dB	>9 dB
Negligible	**51 (LOAEL)**	1,550	Beneficial	1,550	0	0	0	0
		650	Adverse	650	0	0	0	0
Very minor	**54**	250	Beneficial	250	0	0	0	0
		200	Adverse	200	0	0	0	0
Minor	**57**	90	Beneficial	90	0	0	0	0
		250	Adverse	250	0	0	0	0
Minor/ Moderate	**60**	40	Beneficial	40	0	0	0	0
		80	Adverse	80	0	0	0	0
Significant Moderate	**63 (SOAEL)**	0	Beneficial	0	0	0	0	0
		10	Adverse	10	0	0	0	0

Subjective description of impact	Contour band, dB $L_{Aeq,16h}$	Number of dwellings in band, 12 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible	Minor	Moderate	Substantial	Very Substantial
				0 – 2 dB	2 – 3 dB	3 – 6 dB	6 – 9 dB	>9 dB
Significant Substantial	**66**	1	Beneficial	1	0	0	0	0
		0	Adverse	0	0	0	0	0
Significant Very Substantial	**69 (UAEL)**	0	Beneficial	0	0	0	0	0
		0	Adverse	0	0	0	0	0
Total		1,950	Beneficial	1,950	0	0	0	0
		1,150	Adverse	1,150	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

Table 7.40 Dwellings exposed to absolute air noise and change in air noise, 10 mppa 2021 to 12 mppa 2026, night-time

Subjective description of impact	Contour band, dB $L_{Aeq,8h}$	Number of dwellings in band, 12 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible	Minor	Moderate	Substantial	Very Substantial
				0 – 2 dB	2 – 3 dB	3 – 6 dB	6 – 9 dB	>9 dB
Negligible	**45 (LOAEL)**	1,700	Beneficial	1,700	0	0	0	0
		350	Adverse	350	0	0	0	0
Very minor	**48**	600	Beneficial	600	0	0	0	0
		1,500	Adverse	1,500	0	0	0	0
Minor	**51**	200	Beneficial	200	0	0	0	0
		250	Adverse	250	0	0	0	0
Minor/ Moderate	**54**	30	Beneficial	30	0	0	0	0
		90	Adverse	90	0	0	0	0
Significant Moderate	**SOAEL (55)**	80	Beneficial	80	0	0	0	0
		250	Adverse	250	0	0	0	0

Subjective description of impact	Contour band, dB $L_{Aeq,8h}$	Number of dwellings in band, 12 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible	Minor	Moderate	Substantial	Very Substantial
				0 – 2 dB	2 – 3 dB	3 – 6 dB	6 – 9 dB	>9 dB
Significant Substantial	**60**	0	Beneficial	0	0	0	0	0
		10	Adverse	10	0	0	0	0
Significant Very Substantial	**63**	1	Beneficial	1	0	0	0	0
		0	Adverse	0	0	0	0	0
Total		2,600	Beneficial	2,600	0	0	0	0
		2,450	Adverse	2,450	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

Table 7.41 Air noise effect on number of dwellings and non-residential receptors – 10 mppa 2021 to 12 mppa 2026

Receptor Type	12 mppa outdoor noise level, dB	Beneficial[1] or adverse change	Magnitude of effect				
			Very low	Low	Medium	High	Very High
			Change in noise level, dB(A)				
Residential Day (07:00-23:00)	$51 \leq L_{Aeq,16h} < 63$	Beneficial	1,950	0	0	0	0
		Adverse	1,150	0	0	0	0
	$L_{Aeq,16h} \geq 63$	Beneficial	1	0	0	0	0
		Adverse	10	0	0	0	0
Residential Night (23:00-07:00)	$45 \leq L_{Aeq,8h} < 55$	Beneficial	2,500	0	0	0	0
		Adverse	2,200	0	0	0	0
	$L_{Aeq,8h} \geq 55$	Beneficial	80	0	0	0	0
		Adverse	250	0	0	0	0
Schools	$L_{Aeq,30min} \geq 55$	Beneficial	1	0	0	0	0

Receptor Type	12 mppa outdoor noise level, dB	Beneficial[1] or adverse change	Magnitude of effect				
			Very low	Low	Medium	High	Very High
			Change in noise level, dB(A)				
		Adverse	1	0	0	0	0
Places of worship	$51 \leq L_{Aeq,16h} < 63$	Beneficial	1	0	0	0	0
		Adverse	5	0	0	0	0
	$L_{Aeq,16h} \geq 63$	Beneficial	0	0	0	0	0
		Adverse	0	0	0	0	0
Amenity Areas	$L_{Aeq,T} \geq 55$	Beneficial	0	0	0	0	0
		Adverse	3	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

7.10.59 While aircraft movements will increase under the 12 mppa 2026 scenario, this is largely offset by the predicted modernisation of the aircraft fleet. Therefore, noise exposure levels are predicted to remain broadly the same, leading to no material change in the number of those people adversely affected by air noise.

7.10.60 The number of dwellings exposed to daytime noise levels at or above the LOAEL reduces slightly from 3,150 to 3,100. The associated change in noise level at these receptors is negligible, with most experiencing a decrease of less than 1 dB, and some experiencing an increase of less than 1 dB. This constitutes a very low effect. The small number of dwellings exposed to noise levels at or above the SOAEL, around 10 dwellings in both scenarios, experience similar changes in noise level and therefore also a very low effect.

7.10.61 The number of dwellings that are exposed to night-time noise levels at or above the LOAEL will decrease slightly under the 12 mppa scenario, reducing from 5,150 to 5,050. Around 2,600 will experience either no change or a negligible reduction in night noise exposure of 0 to 1 dB, and around 2,450 will experience a negligible increase of 0 to 2 dB in 2026 as compared to 2021. This constitutes a low or very low effect for these dwellings.

7.10.62 In summary, the air noise effects are not expected to materially change between the 10 mppa in 2021 and 12 mppa in 2026 scenarios. Approximately 300 dwellings are exposed to significant levels of night-time air noise under the 10 mppa 2021 scenario. This number will increase to around 350 under the 12mppa 2026 scenario. All of these dwellings, however, will experience only a low or very low effect due to negligible changes in noise level. All of the dwellings exposed to significant levels of external air noise, both in 2021 and 2026, are eligible under Bristol Airport's current sound insulation scheme and therefore have the option to improve the sound insulation to reduce the internal noise levels. All properties can also benefit from the Enhanced Sound Insulation Scheme as well.

7.10.63 The number of dwellings exposed to a significant level of noise due to individual aircraft events at least once per night decreases from 650 under the 10 mppa in 2021 scenario to 100 under the 12 mppa in 2026 scenario. This is a potentially significant adverse effect.

7.10.64 A summary of these noise effects with an overall significance finding is set out in **Table 7.42**.

Table 7.42 Summary of air noise effects, 10 mppa 2021 to 12 mppa 2026

Receptor type	$L_{Aeq,T}$ noise criterion	No Change/Beneficial or Adverse[1]	Receptor Nos. in $L_{Aeq,T}$[2]	Change in noise level	% Change in Highly Annoyed/ Sleep Disturbed[3]	Change in dwellings SEL/L_{ASmax} (night)	Significance of Effect
Residential – Day					-1% A.		**Negligible beneficial, not significant**
LOAEL	51 dB $L_{Aeq,16h}$	No change/Benef.	1,950	Negligible			
		Adverse	650	Negligible			
SOAEL	63 dB $L_{Aeq,16h}$	No change/Benef.	1	Negligible			
		Adverse	10	Negligible			
Residential – Night					-6% S.D.		**Negligible adverse, not significant**
LOAEL	45 dB $L_{Aeq,8h}$	No change/Benef.	2,500	Negligible		70 SEL/60 L_{ASmax} (min 10 events) +1,200 (+23%)	
		Adverse	2,200	Negligible			
SOAEL	55 dB $L_{Aeq,8h}$	No change/Benef.	80	Negligible		90 SEL/80 L_{ASmax} (min 1 event) -550 (-85%)	
		Adverse	250	Negligible			
Schools	55 dB $L_{Aeq,30m}$	No change/Benef.	1	Negligible			**Negligible adverse, not significant**
		Adverse	1	Negligible			
Places of Worship	As residential, day	No change/Benef.	1	Negligible			**Negligible adverse, not significant**
		Adverse	5	Negligible			
Amenity Areas	55 dB $L_{Aeq,T}$	No change/Benef.	0	Negligible			**Negligible adverse,**

Receptor type	$L_{Aeq,T}$ noise criterion	No Change/Beneficial or Adverse[1]	Receptor Nos. in $L_{Aeq,T}$[2]	Change in noise level	% Change in Highly Annoyed/ Sleep Disturbed[3]	Change in dwellings SEL/L_{ASmax} (night)	Significance of Effect
							not significant
		Adverse	3	Negligible			

1. States whether noise change is zero or a reduction (No change/beneficial) or an increase (adverse) moving from scenario A to scenario B.
2. The receptor numbers for LOAEL are those exposed to a noise level equal to or greater than LOAEL (assessed in terms of $L_{Aeq,16h}$ daytime, $L_{Aeq,8h}$ night-time) but less than SOAEL, following a move from scenario A to scenario B. Those for SOAEL, relate to receptors exposed to a noise level equal to or greater than SOAEL. For non-residential receptors, it shows the change in the number of those exposed to the specified criterion level.
3. Percentage changes based on unrounded data.

Future (10 mppa in 2026) to Future (12 mppa in 2026) With Development

7.10.65 The effect of air noise on residential receptors in 2026 without the Proposed Development has been assessed assuming that Bristol Airport is limited to a throughput of 10 mppa in 2026. This is compared in this section to the 12 mppa 2026 scenario with the Proposed Development.

7.10.66 If the Proposed Development does not proceed, Bristol Airport would be constrained from 2021 onwards to 10 mppa. The number of aircraft movements in the 10 mppa in 2026 scenario is assumed to therefore remain at 86,973, as would occur in the 10 mppa in 2021 scenario. If the Proposed Development does proceed, annual aircraft movements are forecast to increase to 97,393 in the 12 mppa in 2026 scenario.

7.10.67 It has been assumed that the same proportion of the aircraft fleet has been modernised in both 2026 scenarios. In practice it is likely that modernisation would occur at a slower rate if passenger throughput were constrained to 10 mppa. This is because the likelihood that more modern, quieter aircraft will be allocated to Bristol Airport is reduced since no potential of growth for the airline will be present. Airlines are already securing flights to destinations and associated 'slots' at airports as far ahead as summer 2020 at the time of writing. If an airline can be assured growth at another airport it may seek to deliver a competitive advantage to secure capacity now. As airports are coming under increased pressure to reduce noise impacts, securing more modern aircraft fleets coupled with growth is a key way in which this can occur sustainably. Therefore, the 10 mppa 2026 scenario is a worst-case comparison for the 12 mppa scenario as the expectation of aircraft modernisation is similar.

7.10.68 **Table 7.43** and **Table 7.44** summarise for the daytime and night-time how this change will affect residential dwellings based on the absolute levels arising under 12 mppa in 2026 scenario and the change in noise level from the 10 mppa in 2026 scenario that is experienced. The beneficial change category includes those dwellings experiencing no change in noise level.

7.10.69 Based on the criteria set out in **Table 7.22**, the number of residential and non-residential receptors experiencing a given air noise effect due to the change between the 10 mppa in 2026 and 12 mppa in 2026 scenarios is then set out in **Table 7.45**.

7.10.70 A potential significant effect (adverse or beneficial) is considered to arise in **Table 7.43** if the magnitude of the effect is rated as medium or higher. Whether a significant effect arises will depend on context, such as the number of noise sensitive receptors affected and how often it occurs.

Table 7.43 Dwellings exposed to absolute air noise and change in air noise, 10 mppa 2026 to 12 mppa 2026, daytime

Subjective description of impact	Contour band, dB $L_{Aeq,16h}$	Number of dwellings in band, 12 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible	Minor	Moderate	Substantial	Very Substantial
				0 – 2 dB	2 – 3 dB	3 – 6 dB	6 – 9 dB	>9 dB
Negligible	**51 (LOAEL)**	0	Beneficial	0	0	0	0	0
		2,200	Adverse	2,200	0	0	0	0
Very minor	**54**	0	Beneficial	0	0	0	0	0
		400	Adverse	400	0	0	0	0
Minor	**57**	0	Beneficial	0	0	0	0	0
		350	Adverse	350	0	0	0	0
Minor/ Moderate	**60**	0	Beneficial	0	0	0	0	0
		100	Adverse	100	0	0	0	0
Significant Moderate	**63 (SOAEL)**	0	Beneficial	0	0	0	0	0
		10	Adverse	10	0	0	0	0
Significant Substantial	**66**	0	Beneficial	0	0	0	0	0
		1	Adverse	1	0	0	0	0
Significant Very Substantial	**69 (UAEL)**	0	Beneficial	0	0	0	0	0
		0	Adverse	0	0	0	0	0
Total		0	Beneficial	0	0	0	0	0
		3,100	Adverse	3,100	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

Table 7.44 Dwellings exposed to absolute air noise and change in air noise, 10 mppa 2026 to 12 mppa 2026, night-time

Subjective description of impact	Contour band, dB $L_{Aeq,8h}$	Number of dwellings in band, 12 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible	Minor	Moderate	Substantial	Very Substantial
				0 – 2 dB	2 – 3 dB	3 – 6 dB	6 – 9 dB	>9 dB
Negligible	**45 (LOAEL)**	0	Beneficial	0	0	0	0	0
		2,050	Adverse	2,050	0	0	0	0
Very minor	**48**	0	Beneficial	0	0	0	0	0
		2,100	Adverse	2,100	0	0	0	0
Minor	**51**	0	Beneficial	0	0	0	0	0
		450	Adverse	450	0	0	0	0
Minor/ Moderate	**54**	0	Beneficial	0	0	0	0	0
		100	Adverse	100	0	0	0	0
Significant Moderate	**SOAEL (55)**	0	Beneficial	0	0	0	0	0
		300	Adverse	300	0	0	0	0
Significant Substantial	**60**	0	Beneficial	0	0	0	0	0
		10	Adverse	10	0	0	0	0
Significant Very Substantial	**63**	0	Beneficial	0	0	0	0	0
		1	Adverse	1	0	0	0	0
Total		0	Beneficial	0	0	0	0	0
		5,050	Adverse	5,050	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

Table 7.45 Air noise effect on number of dwellings and non-residential receptors – 10 mppa 2026 to 12 mppa 2026

Receptor Type	12 mppa outdoor noise level, dB	Beneficial[1] or adverse change	Magnitude of effect				
			Very low	Low	Medium	High	Very High
				Change in noise level, dB(A)			
Residential Day (07:00-23:00)	$51 \leq L_{Aeq,16h} < 63$	Beneficial	0	0	0	0	0
		Adverse	3,100	0	0	0	0
	$L_{Aeq,16h} \geq 63$	Beneficial	0	0	0	0	0
		Adverse	10	1	0	0	0
Residential Night (23:00-07:00)	$45 \leq L_{Aeq,8h} < 55$	Beneficial	0	0	0	0	0
		Adverse	4,700	0	0	0	0
	$L_{Aeq,8h} \geq 55$	Beneficial	0	0	0	0	0
		Adverse	250	70	0	0	0
Schools	$L_{Aeq,30min} \geq 55$	Beneficial	0	0	0	0	0
		Adverse	2	0	0	0	0
Places of worship	$51 \leq L_{Aeq,16h} < 63$	Beneficial	0	0	0	0	0
		Adverse	6	0	0	0	0
	$L_{Aeq,16h} \geq 63$	Beneficial	0	0	0	0	0
		Adverse	0	0	0	0	0
Amenity Areas	$L_{Aeq,T} \geq 55$	Beneficial	0	0	0	0	0
		Adverse	3	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

7.10.71 As aircraft movements will increase under the 12 mppa 2026 scenario, as compared to the 10 mppa 2026 scenario, with little difference in fleet mix, noise exposure levels are predicted to rise slightly.

7.10.72 The differences in daytime air noise between the 12 mppa 2026 and 10 mppa 2026 scenarios are small, with increases in the range 0 to 2 dB occurring with the Proposed Development.

7.10.73 The number of dwellings that are exposed to daytime noise levels at or above the LOAEL will rise from 2,200 to 3,100, from 10 mppa to 12 mppa, with these receptors experiencing a negligible increase of generally around 1 dB, a very low effect.

7.10.74 There are very few dwellings exposed to the SOAEL or above during the daytime, around 10 dwellings both under the 10 mppa and 12 mppa scenarios. Under the 12 mppa scenario, these properties, in the Lulsgate Bottom area, would experience a negligible increase in noise exposure level giving rise to a low or very low effect of no significance.

7.10.75 Around 4,150 dwellings are exposed to night-time air noise at or above the LOAEL under 10 mppa in 2026 and this will increase to 5,050 under 12 mppa with the Proposed Development. The change in noise for these receptors under 12 mppa would be negligible, around 1 dB, a very low effect.

7.10.76 Around 250 dwellings are exposed to night-time air noise at or above the SOAEL under 10 mppa in 2026, increasing to around 350 under 12 mppa. Again, the change in noise for these receptors under 12 mppa would be negligible, around 1 dB, a low or very low effect.

7.10.77 In summary, the air noise effects are expected to increase by a low or very low amount under the 12 mppa in 2026 scenario when compared to the 10 mppa in 2026 scenario. Around 10 dwellings are exposed to significant levels of daytime air noise under both scenarios. At night, the number exposed to significant levels of air noise increases from 250 under the 10 mppa in 2026 scenario to 350 under the 12 mppa in 2026 scenario.

7.10.78 A summary of these noise effects with an overall significance finding is set out in **Table 7.46**.

Table 7.46 Summary of air noise effects, 10 mppa 2026 to 12 mppa 2026

Receptor type	$L_{Aeq,T}$ noise criterion	No Change/Beneficial or Adverse[1]	Receptor Nos. in $L_{Aeq,T}$[2]	Change in noise exposure	% Change in Highly Annoyed/ Sleep Disturbed[3]	Change in dwellings SEL/L_{ASmax} (night)	Significance of Effect
Residential – Day					+37% A.		**Negligible adverse, not significant**
LOAEL	51 dB $L_{Aeq,16h}$	No change/Benef.	0	Negligible			
		Adverse	3,100	Negligible			
SOAEL	63 dB $L_{Aeq,16h}$	No change/Benef.	0	Negligible			
		Adverse	10	Negligible			
Residential – Night					+18% S.D.		**Negligible adverse, not significant**
LOAEL	45 dB $L_{Aeq,8h}$	No change/Benef.	0	Negligible		70 SEL/60 L_{ASmax} (min 10 events) +1,950 (+44%)	

Receptor type	$L_{Aeq,T}$ noise criterion	No Change/Beneficial or Adverse[1]	Receptor Nos. in $L_{Aeq,T}$[2]	Change in noise exposure	% Change in Highly Annoyed/ Sleep Disturbed[3]	Change in dwellings SEL/L_{ASmax} (night)	Significance of Effect
		Adverse	4,700	Negligible			
SOAEL	55 dB $L_{Aeq,8h}$	No change/Benef.	0	Negligible		90 SEL/80 L_{ASmax} (min 1 event) No change	
		Adverse	350	Negligible			
Schools	55 dB $L_{Aeq,30m}$	No change/Benef.	0	Negligible			**Negligible adverse, not significant**
		Adverse	2	Negligible			
Places of Worship	As residential, day	No change/Benef.	0	Negligible			**Negligible adverse, not significant**
		Adverse	6	Negligible			
Amenity Areas	55 dB $L_{Aeq,T}$	No change/Benef.	0	Negligible			**Negligible adverse, not significant**
		Adverse	3	Negligible			

1. States whether noise change is zero or a reduction (No change/beneficial) or an increase (adverse) moving from scenario A to scenario B.
2. The receptor numbers for LOAEL are those exposed to a noise level equal to or greater than LOAEL (assessed in terms of $L_{Aeq,16h}$ daytime, $L_{Aeq,8h}$ night-time) but less than SOAEL, following a move from scenario A to scenario B. Those for SOAEL, relate to receptors exposed to a noise level equal to or greater than SOAEL. For non-residential receptors, it shows the change in the number of those exposed to the specified criterion level.
3. Percentage changes based on unrounded data.

7.10.79 In summary, when considering the noise impacts likely to arise as a result of moving from a 10 mppa scenario under 2021 or 2026 to a 12 mppa scenario with the Proposed Development, these are predicted to be low or very low with no significant effects.

7.11 Assessment of effects – ground noise

7.11.1 **Section 7E.5** of **Appendix 7E** provides the detailed results of the ground noise assessment. Ground noise contours are presented, along with contour areas and dwelling counts within each contour band for residential receptors. Noise exposure values are also presented for noise sensitive non-residential receptors. Key results are presented in this section. Note that the significance ratings arising from the effects described here are described in the next section titled "Predicted ground noise effects and their significance". Where percentage changes are given, these are based on unrounded values.

7.11.2 For all tables in this section, areas are rounded to the nearest 0.1km^2. Dwelling and population counts are rounded to the nearest 50 above 100 and to the nearest 10 below 100. Below 10, the

actual number is given. The counts include all those dwellings or people within a specified contour band and any higher value bands so, for example, any dwellings within a 60 dB contour would also be counted as being within a 50 dB contour as well.

Residential receptors

$L_{Aeq,16h}$ daytime

7.11.3 The dwelling counts within key daytime ground noise contours are presented in **Table 7.47**. These contours are presented in **Figure 7E.3** to **Figure 7E.5**.

Table 7.47 Ground noise dwelling counts, $L_{Aeq,16h}$ average summer day

Contour $L_{Aeq,16h}$ dB(A)	Number of Dwellings		
	Baseline 2017	10 mppa 2026	12 mppa 2026
50	70	80	70
60	1	1	1
70	0	0	0

7.11.4 **Table 7.47** shows that in 2017, around 70 dwellings are adversely affected by ground noise as a result of daytime aircraft operations at Bristol Airport. This total is expected to remain much the same, although marginally increase to around 80 in the 10 mppa scenario.

7.11.5 Currently, and in the future under any scenario, only one residential receptor is predicted to experience ground noise above the SOAEL of 65 dB $L_{Aeq,16h}$, which is Core Hill, on Cooks Bridle Path to the north-west of the western stands at Bristol Airport. Core Hill was previously provided a grant of almost £9,000 as part of the 2000-2001 insulation scheme.

7.11.6 No residential receptors are exposed to unacceptable levels of daytime ground noise currently, nor will they be in the future.

$L_{Aeq,8h}$ night-time

7.11.7 Turning to the night-time effects, **Table 7.48** show the dwelling counts within key night-time ground noise contours. These contours are presented in **Figure 7E.6** to **Figure 7E.8**.

Table 7.48 Ground noise dwelling counts, $L_{Aeq,8h}$ average summer night

Contour $L_{Aeq,8h}$ dB(A)	Number of Dwellings		
	Baseline 2017	10 mppa 2026	12 mppa 2026
45	70	100	100
55	1	2	3
65	0	0	0

7.11.8 **Table 7.48** shows that in 2017, around 70 dwellings are adversely affected by ground noise as a result of night-time aircraft operations at Bristol Airport. This total is expected to increase to around 100 under both future scenarios.

7.11.9 Currently, only one residential receptor is predicted to experience ground noise above the SOAEL of 60 dB $L_{Aeq,8h}$, which is the same property as is exposed to the SOAEL in the daytime. This is predicted to increase to two dwellings under the 10 mppa scenario and increase to three dwellings under the 12 mppa scenario. The additional dwellings are The Lodge in the 10 mppa scenario and North Hill House in the 12 mppa scenario. Both of these are also on Cooks Bridle Path.

7.11.10 No residential receptors are exposed to unacceptable levels of night-time ground noise currently, nor will they be in the future.

Variation in noise levels at representative residential receptors

7.11.11 To explore by how much noise exposure levels in the day and night periods are expected to change between different scenarios, noise predictions have been undertaken comparing various scenarios and the change expected for all residential receptors, considered in different noise exposure bands. These tables depict, for each noise exposure band, the number of receptors that will experience either no change/a beneficial change in noise or an adverse change in noise. These tables are presented in **Appendix 7E**. To further demonstrate these effects, an assessment of the expected noise change between various scenarios is also provided at a series of representative residential receptors around Bristol Airport. The receptors assessed are shown in **Figure 7.2**.

7.11.12 **Table 7.49** shows the daytime and night-time ground noise exposure levels for 10 mppa 2026 (in brackets) and the relative change in noise level for the baseline (2017) and the 12 mppa 2026 scenario, at representative residential receptors.

Table 7.49 10 mppa 2026 air noise exposure levels, average summer day and night, and relative change

Receptor	Location	Daytime $L_{Aeq,16h}$ (dB)			Night-time $L_{Aeq,8h}$ (dB)		
		2017	10 mppa 2026	12 mppa 2026	2017	10 mppa 2026	12 mppa 2026
A	Cooks Bridle Path, Downside	0	(61)	+2	-3	(59)	+2
B	Downside Road, Lulsgate Bottom	0	(58)	-6	-2	(54)	-7
C	School Lane, Lulsgate Bottom	0	(52)	0	-4	(50)	-1
D	Red Hill (A38), Redhill	0	(45)	+1	-2	(41)	0
E	Winters Lane, Redhill	0	(47)	+1	-2	(44)	0
F	Downside Road, Downside	0	(53)	+1	-1	(50)	+1
G	Downside Road, Downside	0	(50)	-1	-2	(47)	-1
H	Downside Road, Lulsgate Bottom	+2	(56)	-5	-3	(53)	-6
I	Bridgwater Road (A38), Lulsgate Bottom	0	(50)	-1	-3	(47)	-1
J	Red Hill (A38), Redhill	0	(43)	0	-2	(39)	0
K	Winters Lane, Redhill	0	(50)	+1	-2	(46)	+1

7.11.13 In both the daytime and night-time periods for the 10 mppa scenario, one of the 11 locations lies at or above the SOAEL, which is Cooks Bridle Path. This is also the situation both in 2017 and under the 12 mppa scenario.

7.11.14 **Table 7.49** shows that in the daytime period, there is in general little change between the 2017 and 10 mppa scenarios, with no change for 10 of the 11 locations, and a negligible decrease of 2 dB for the 10 mppa scenario at one location. In the night-time period, there are increases from 2017 to the 10 mppa scenario. For eight of these locations this is a negligible increase of 2 dB, but for four locations this is a moderate increase of 3 to 4 dB.

7.11.15 Considering the 12 mppa scenario, in the daytime there are generally negligible changes from the 10 mppa scenario; five locations experience an increase of 1 to 2 dB, two locations experience no change, and two locations experience a decrease of 1 dB. Some locations, in particular those in Lulsgate Bottom, benefit from the additional screening resulting from the Proposed Development being built out and therefore two locations experience moderate reductions in noise level of 5-6 dB under the 12 mppa 2026 scenario. This situation is similar in the night-time period, with one location experiencing a negligible increase of 1 dB, five locations experiencing no change, and three locations experiencing a negligible decrease of 1 dB. The same two locations benefit from the additional screening, experiencing moderate or substantial decreases of 6 or 7 dB under the 12 mppa scenario.

Non-residential receptors

7.11.16 **Appendix 7E** sets out the $L_{Aeq,16h}$ and $L_{Aeq,8h}$ noise exposure levels for schools, places of worship and amenity areas within the ZoI of ground noise around Bristol Airport.

Schools

7.11.17 **Appendix 7E** identifies no schools, as being within the ZoI of ground noise around Bristol Airport.

Places of worship

7.11.18 There are two places of worship identified within the ZoI of air noise around Bristol Airport, which are St. Katharine's Church, Felton, and Christ Church, Redhill. Neither of these are exposed to ground noise at or above the LOAEL under any of the three scenarios.

Amenity areas

7.11.19 There are two amenity areas identified within the ZoI of ground noise around Bristol Airport. These are Vee Lane Play Area in Felton and Felton Common. Neither of these areas are exposed to ground noise levels at or above the threshold level of 55 dB $L_{Aeq,16h}$ under any of the three scenarios.

Predicted ground noise effects and their significance

7.11.20 This section sets out the ground noise effects arising from operations at Bristol Airport by comparing the following key scenarios:

- Baseline year (2017) vs future (10 mppa in 2026); and
- Future (10 mppa in 2026) vs future (12 mppa in 2026) With Proposed Development

7.11.21 Note that in the future, as the modernisation of the fleet will have little influence on the ground noise levels produced by aircraft, it is not necessary to consider a future 10 mppa 2021 scenario as this would be expected to give rise to the same noise effects as those under 10 mppa in 2026.

Baseline year (2017) vs Future (10 mppa in 2026)

7.11.22 Bristol Airport is forecast to grow irrespective of whether the Proposed Development proceeds. This section summarises the noise effects expected (compared to 2017) as a result of this growth to Bristol Airport's permitted passenger throughput of 10 mppa and the resulting effects on the local community.

7.11.23 Annual aircraft movements are forecast to increase from 73,562 in 2017 to 86,973 in the 10 mppa scenario.

7.11.24 Under the 10 mppa scenario, aircraft movements will remain similar in the daytime, increasing by 2% compared to 2017. Additionally, there is a reduction in the proportion of movements by propeller aircraft, which are the loudest aircraft category for ground noise. Therefore, daytime ground noise exposure levels are predicted to remain similar to now.

7.11.25 The number of dwellings exposed to noise levels at or above the LOAEL in the daytime increases slightly from 70 to 80. The associated change in noise level at these 80 receptors is negligible, with around half experiencing an increase of 1 dB or less, and the other half experiencing no change or a decrease of 1 dB or less. This is considered to be a very low effect. The one dwelling exposed to noise levels at or above the SOAEL experiences similar changes in noise level and therefore is also a very low effect.

7.11.26 At night, aircraft movements increase by around 50% compared to 2017, and are primarily made up of medium size jets both now and under the 10 mppa 2026 scenario. This results in around 100 dwellings exposed to the LOAEL or above under the 10 mppa 2026 scenario, compared to around 70 in 2017. Of these dwellings, 25 will experience a moderate increase in noise level of 3 to 4 dB. This constitutes a moderate adverse effect for these dwellings. The remainder experience an increase of 1 to 3 dB, which is considered to be a low or very low effect. One dwelling is exposed to the SOAEL under the 2017 scenario, which is Core Hill, on Cooks Bridle Path. A second dwelling becomes exposed to the SOAEL under the 10 mppa scenario, which is The Lodge, also on Cooks Bridle Path. These dwellings experience a change in noise level of 2 to 4 dB which constitutes a medium effect.

7.11.27 In summary, only one dwelling is currently experiencing significant levels of ground noise, which is expected to increase to two in the 10 mppa scenario. These dwellings also experience a minor or moderate increase in noise level, constituting a medium effect of moving from 2017 to the 10 mppa in 2026 scenario which is rated as probably significant. In practice, these dwellings are eligible under Bristol Airport's current sound insulation scheme (which is based on the air noise effect).

Future (10 mppa in 2026) to Future (12 mppa in 2026) With Development

7.11.28 This section summarises the noise effects expected (compared to that currently permitted) as a result of growth to 12 mppa in 2026. It describes and compares the effects of the two key scenarios assessed in this ES.

7.11.29 Annual aircraft movements are forecast to increase from 86,973 in the 10 mppa scenario to 97,393 in the 12 mppa scenario.

7.11.30 **Table 7.50** and **"Beneficial"** rows include a small number of dwellings with zero change.

7.11.31 **Table 7.51** summarise for the daytime and night-time how this change will affect residential dwellings based on the absolute levels arising under 12 mppa in 2026 scenario and the change in noise level from the 10 mppa in 2026 scenario that is experienced. The beneficial change category includes those dwellings experiencing no change in noise level.

7.11.32 Based on the criteria set out in **Table 7.26**, the number of residential and non-residential receptors experiencing a given air noise effect due to the change between the 10 mppa in 2026 and 12 mppa in 2026 scenarios is set out in **Table 7.52**.

7.11.33 A potential significant effect (adverse or beneficial) is considered to arise in **Table 7.52** if the magnitude of the effect is rated as medium or higher. Whether a significant effect arises will depend on context, such as the number of noise sensitive receptors affected and how often it occurs.

Table 7.50 Dwellings exposed to absolute ground noise and change in ground noise, 10 mppa 2026 to 12 mppa 2026, daytime

Subjective description of impact	Contour band, dB $L_{Aeq,16h}$	Number of dwellings in band, 12 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible 0 – 2 dB	Minor 2 – 3 dB	Significant Moderate 3 – 6 dB	Significant Substantial 6 – 9 dB	Significant Very Substantial >9 dB
Negligible	**50 (LOAEL)**	60	Beneficial	20	5	30	4	0
		10	Adverse	10	0	0	0	0
Minor	**55**	0	Beneficial	0	0	0	0	0
		3	Adverse	3	0	0	0	0
Significant Moderate	**60 (SOAEL)**	0	Beneficial	0	0	0	0	0
		1	Adverse	1	0	0	0	0
Significant Substantial	**65**	0	Beneficial	0	0	0	0	0
		0	Adverse	0	0	0	0	0
Significant Very Substantial	**70 (UAEL)**	0	Beneficial	0	0	0	0	0
		0	Adverse	0	0	0	0	0
Total		60	Beneficial	20	5	30	4	0
		10	Adverse	10	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

Table 7.51 Dwellings exposed to absolute ground noise and change in ground noise, 10 mppa 2026 to 12 mppa 2026, night-time

Subjective description of impact	Contour band dB $L_{Aeq,8h}$	Number of dwellings in band, 10 mppa (2026)	Beneficial[1] or adverse change	Change in Noise Level, dB Potential Impact Classification				
				Negligible	Minor	Significant Moderate	Significant Substantial	Significant Very Substantial
				0 – 2 dB	2 – 3 dB	3 – 6 dB	6 – 9 dB	>9 dB
Negligible	**45 (LOAEL)**	80	Beneficial	40	9	30	4	0
		30	Adverse	30	0	0	0	0
Minor	**50**	0	Beneficial	0	0	0	0	0
		2	Adverse	2	0	0	0	0
Significant Moderate	**55 (SOAEL)**	0	Beneficial	0	0	0	0	0
		2	Adverse	2	0	0	0	0
Significant Substantial	**60**	0	Beneficial	0	0	0	0	0
		1	Adverse	1	0	0	0	0
Significant Very Substantial	**65 (UAEL)**	0	Beneficial	0	0	0	0	0
		0	Adverse	0	0	0	0	0
Total		80	Beneficial	40	9	30	4	0
		30	Adverse	30	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

Table 7.52 Ground noise effect on number of dwellings and non-residential receptors – 10 mppa 2026 to 12 mppa 2026

Receptor Type	12 mppa outdoor noise level, dB	Beneficial[1] or adverse change	Magnitude of effect				
			Very low	Low	Medium	High	Very High
			Change in noise level, dB(A)				
Residential Day (07:00-23:00)	$50 \leq L_{Aeq,16h} < 60$	Beneficial	20	5	30	4	0
		Adverse	10	0	0	0	0
	$L_{Aeq,16h} \geq 60$	Beneficial	0	0	0	0	0

Receptor Type	12 mppa outdoor noise level, dB	Beneficial[1] or adverse change	Magnitude of effect				
			Very low	Low	Medium	High	Very High
			Change in noise level, dB(A)				
		Adverse	0	1	0	0	0
Residential Night (23:00-07:00)	$45 \leq L_{Aeq,8h} < 55$	Beneficial	40	9	30	4	0
		Adverse	30	0	0	0	0
	$L_{Aeq,8h} \geq 55$	Beneficial	0	0	0	0	0
		Adverse	3	0	0	0	0
Schools	$L_{Aeq,30min} \geq 55$	Beneficial	1	0	0	0	0
		Adverse	0	0	0	0	0
Places of worship	$50 \leq L_{Aeq,16h} < 60$	Beneficial	0	0	0	0	0
		Adverse	0	0	0	0	0
	$L_{Aeq,16h} \geq 60$	Beneficial	0	0	0	0	0
		Adverse	0	0	0	0	0
Amenity Areas	$L_{Aeq,T} \geq 55$	Beneficial	0	0	0	0	0
		Adverse	0	0	0	0	0

1. "Beneficial" rows include a small number of dwellings with zero change.

7.11.34 Under the 12 mppa scenario, aircraft movements will increase by 17% in the daytime compared to the 10 mppa scenario. The aircraft mix is forecast to remain broadly similar, with a small shift from small to medium sized jets. Therefore, with no change in infrastructure, the noise levels would be expected to increase by a negligible amount, around 1 dB, at most locations. However, the Proposed Development includes some buildings which will provide additional screening to certain receptors, in particular those in the Lulsgate Bottom area, which leads to decreased ground noise levels.

7.11.35 The number of dwellings exposed to the LOAEL in the daytime decreases slightly from 80 under the 10 mppa scenario to 70 under the 12 mppa scenario. 25 of these dwellings experience a negligible or minor reduction in absolute noise level and 10 experience a negligible increase in noise level, which constitutes a low or very low effect of no significance. 30 dwellings experience a moderate

decrease in noise level, and 4 dwellings experience a substantial decrease in noise level. These constitute medium and high beneficial effects respectively for these dwellings. One dwelling is exposed to the SOAEL under both scenarios, which is Core Hill, on Cooks Bridle Path. This dwelling experiences a negligible increase in noise level.

7.11.36 At night the situation is broadly similar, with aircraft movements increasing by around 15% compared to the 10 mppa scenario and similar small changes in fleet mix. Therefore, negligible increases would be normally expected other than where the additional screening provided by the Proposed Development has a beneficial effect.

7.11.37 The other factor at night is the variation in the restriction of night-time APU usage on stands 38 and 39. This results in slight increases for the dwellings closest to these stands, although the increases are still less than 2 dB and therefore of negligible magnitude.

7.11.38 This results in around 100 dwellings exposed to the LOAEL or above at night under both future scenarios. Of these, around 50 experience a negligible or minor reduction in absolute noise level and 10 experience a negligible increase in noise level, which constitutes a low or very low effect of no significance. 30 dwellings experience a moderate decrease in noise level, and 4 dwellings experience a substantial decrease in noise level. These constitute medium and high beneficial effects respectively for these dwellings. Two dwellings are exposed to the SOAEL under the 10 mppa scenario, which increases to three under the 12 mppa scenario. This additional dwelling is located on Cooks Bridle Path, to the north-west of the western stands at Bristol Airport. These dwellings experience a negligible increase in noise level of 1 to 2 dB and therefore a low effect.

7.11.39 In summary, only one dwelling is exposed to significant levels of ground noise under the 10 mppa scenario in the daytime period, which is expected to remain the case under the 12 mppa scenario. Two dwellings are exposed to significant levels of ground noise in the night-time period, which is expected to increase to three under the 12 mppa scenario. These dwellings experience a negligible increase in noise level of 1 to 2 dB, constituting a low effect of moving from the 10 mppa to the 12 mppa scenario which is rated as not significant. In practice, these three dwellings are all eligible under Bristol Airport's current sound insulation scheme (which is based on the air noise effect).

7.11.40 30 dwellings experience a medium decrease in noise level as a result of moving from the 10 mppa to the 12 mppa scenario which is rated as probably significant (beneficial). 4 dwellings experience a high decrease in noise level as a result of moving from the 10 mppa to the 12 mppa scenario which is rated as significant (beneficial).

7.11.41 A summary of these noise effects is set out in **Table 7.53**.

Table 7.53 Summary of ground noise effects, 10 mppa 2026 to 12 mppa 2026

Receptor type	$L_{Aeq,T}$ noise criterion	No change/Beneficial or Adverse[1]	Receptor Nos. in $L_{Aeq,T}$[2]	Change in noise exposure	Significance of Effect
Residential - Day					**Moderate beneficial, probably significant**
LOAEL	50 dB $L_{Aeq,16h}$	No change/Beneficial	20	Negligible	
			5	Minor	
			30	Moderate	
			4	Substantial	

Receptor type	$L_{Aeq,T}$ noise criterion	No change/Beneficial or Adverse[1]	Receptor Nos. in $L_{Aeq,T}$[2]	Change in noise exposure	Significance of Effect
		Adverse	10	Negligible	
			3	Minor	
SOAEL	60 dB $L_{Aeq,16h}$	No change/Beneficial.	0	N/A	
		Adverse	1	Negligible	
Residential - Night					**Moderate beneficial, probably significant**
LOAEL	45 dB $L_{Aeq,8h}$	No change/Beneficial.	40	Negligible	
			9	Minor	
			30	Moderate	
			4	Substantial	
		Adverse	30	Negligible	
			2	Minor	
SOAEL	55 dB $L_{Aeq,8h}$	No change/Beneficial.	0	N/A	
		Adverse	3	Negligible	
Schools	55 dB $L_{Aeq,30m}$	No change/Beneficial	1	Negligible	**Negligible beneficial, probably significant**
Places of Worship	As residential, day		0	N/A	None
Amenity Areas	55 dB $L_{Aeq,T}$		0	N/A	None

1. States whether noise change is zero or a reduction (No change/beneficial) or an increase (adverse) moving from scenario A to scenario B.
2. The receptor numbers for LOAEL are those exposed to a noise level equal to or greater than LOAEL (assessed in terms of $L_{Aeq,16h}$ daytime, $L_{Aeq,8h}$ night-time) but less than SOAEL, following a move from scenario A to scenario B. Those for SOAEL, relate to receptors exposed to a noise level equal to or greater than SOAEL. For non-residential receptors, it shows the change in the number of those exposed to the specified criterion level.

7.12 Assessment of effects – road traffic noise

7.12.1 **Section 7F.5** of **Appendix 7F** provides the detailed results of the road traffic noise assessment. Noise has been assessed due to road traffic using roads in the vicinity of Bristol Airport, specifically the A38, Downside Road, West Lane, and North Side Road. Road traffic noise contours are presented, along with receptor counts within each contour band. Key results are presented in this section.

7.12.2 For all tables in this section, receptor counts are rounded to the nearest 50 above 100 and to the nearest 10 below 100. Below 10, the actual number is given. Where percentage changes are given, these are based on unrounded values.

7.12.3 **Table 7.54** shows the number of receptors exposed to the LOAEL, SOAEL and UAEL values.

Table 7.54 Number of receptors, $L_{A10,18h}$

Contour $L_{A10,18h}$ dB(A)	Number of Receptors		
	Baseline 2017	10 mppa 2026	12 mppa 2026
55	100	100	100
68	20	30	30
75	2	4	4

7.12.4 **Table 7.54** shows that currently, around 100 of the assessed receptors are adversely affected by road traffic noise in the vicinity of Bristol Airport. This total is expected to remain much the same going forward to 2026 under both scenarios.

7.12.5 Currently, around 20 of the assessed residential receptors are predicted to experience road traffic noise above the SOAEL of 68 dB $L_{A10,18h}$. This is predicted to increase to around 30 in 2026 under both scenarios.

7.12.6 Two of the assessed receptors are currently exposed to road traffic levels above the UAEL. In 2026, four receptors are exposed to this level under both scenarios. These are all located very close to the A38 and are comprised of the Forge Motel and surrounding buildings. The Forge Motel and Hathaway House have unlikely benefitted from previous noise insulation since these are commercial businesses. Other residential properties in the vicinity that have benefitted from the 2000-2001 noise insulation scheme are as follows:

- 1 School Lane, Felton;
- 2 School Lane, Felton;
- 1 Church View, School Lane, Felton;
- 2 Church View, School Lane, Felton;
- Clyde House, School Lane, Felton;
- The Cottage, School Lane, Felton; and
- End House, School Lane, Felton.

Predicted road traffic noise effects and their significance

7.12.7 This section sets out the road traffic noise effects arising from operations at Bristol Airport by comparing the following key scenarios:

- Baseline year (2017) vs future (10 mppa in 2026); and
- Future (10 mppa in 2026) vs future (12 mppa in 2026) With Proposed Development.

Baseline year (2017) vs Future (10 mppa in 2026)

7.12.8 Road traffic on roads in the vicinity of Bristol Airport is forecast to increase by around 30% from the baseline (2017) scenario to the 10 mppa 2026 scenario. This results in a negligible increase in noise exposure for the dwellings affected by road traffic noise of 1 to 2 dB for all assessed dwellings, constituting a very low effect. The number of receptors exposed to the LOAEL is around 100 in 2017

and remains similar under the 10 mppa 2026 scenario. The corresponding number of receptors exposed to the SOAEL increases from around 20 to around 30.

Future (10 mppa in 2026) to Future (12 mppa in 2026) With Development

7.12.9 This section summarises the noise effects expected (compared to those currently permitted) as a result of growth from 10 mppa to 12 mppa and the resulting effects on the local community. It describes and compares the effects of the two key scenarios assessed in this ES.

7.12.10 Road traffic on the roads in the vicinity of Bristol Airport is forecast to increase by around 15% from the baseline (2017) scenario to the 10 mppa 2026 scenario. This results in a negligible increase in noise exposure for the dwellings affected by road traffic noise of less than 1 dB for all assessed dwellings, constituting a very low effect. There are also negligible beneficial changes for a small number of dwellings as a result of infrastructure changes related to the Proposed Development. The number of receptors exposed to the LOAEL, SOAEL, and UAEL are around 100, 30, and 4 respectively under both scenarios.

7.12.11 A summary of these noise effects is set out in **Table 7.55.**

Table 7.55 Summary of road traffic noise effects, 10 mppa 2026 to 12 mppa 2026

Receptor type	$L_{Aeq,T}$ noise criterion	No change/Beneficial or Adverse[1]	Receptor Nos. in $L_{Aeq,T}$[2]	Change in noise exposure	Significance of Effect
Residential - Day					**Negligible adverse, not significant**
LOAEL	55 dB $L_{A10,18h}$	No change/Benef.	4	Negligible	
		Adverse	80	Negligible	
SOAEL	68 dB $L_{A10,18h}$	No change/Benef.	0	N/A	
		Adverse	30	Negligible	
UAEL	75 dB $L_{A10,18h}$	No change/Benef.	0	N/A	
		Adverse	4	Negligible	

1. States whether noise change is zero or a reduction (No change/beneficial) or an increase (adverse) moving from scenario A to scenario B.

2. The receptor numbers for LOAEL are those exposed to a noise level equal to or greater than LOAEL (assessed in terms of $L_{A10,18h}$) but less than SOAEL, following a move from scenario A to scenario B. Those for SOAEL, relate to receptors exposed to a noise level equal to or greater than SOAEL.

7.13 Assessment of Effects – construction noise and vibration

7.13.1 A detailed assessment of construction noise and vibration is presented in **Appendix 7G**. A summary of the key findings is presented here to describe the effects and significance of noise and vibration arising from the Proposed Development.

7.13.2 Construction will take place at different times over a period of up to seven years. Some works will occur in isolation while others will occur in phases, some of which might overlap in time. This raises the possibility of a noise sensitive receptor being affected simultaneously by different types of operations at a given site. In addition, works at multiple sites might take place at the same time. To

assess this risk, consideration has been given to the current programme of works (refer to **Chapter 2: Description of the Proposed Development**). Construction noise levels likely to arise at a series of representative noise sensitive receptors have been determined based on a single phase of works, for overlapping phases of works (where relevant) as well as in conjunction with any works packages programmed to occur at a similar time.

7.13.1 Predictions of construction noise values have been made using the methods described in BS 5228-1. Assumptions used for these calculations are described in **Appendix 7G**.

7.13.2 Noise has been predicted at representative noise sensitive receptors for each construction site of the Proposed Development and for each phase of construction activity. Where phases of construction activity at a site are expected to be concurrent, a worst-case value has been predicted alongside noise estimates for each phase. Worst-case values have also been predicted where work is provisionally scheduled to occur concurrently at different construction sites.

7.13.3 Construction sites where piling and vibratory compaction will take place have been identified. The vibration impact on the identified noise sensitive receptors has been considered with reference to guidance given in BS5228-2.

7.13.4 The Proposed Development includes a number of buildings, structures and surface works, which are summarised in

7.13.5 **Table** 7.56. Most construction works will take place during the daytime during the hours of 07:30 to 18:00 Monday to Friday and Saturday 08:00 to 13:00. There is no planned working on Sundays or Bank Holidays. Some work will need to be undertaken at night, specifically for the east taxiway link and taxiway widening fillets. These works are scheduled to occur between 23:00 and 06:00 over a 6-month period. This is the only night-time construction work scheduled.

Table 7.56 Construction sites of the Proposed Development

Development	Access route	Provisional dates	Notes
New arrivals area	North Side Road	11/2019 – 04/2020	
South terminal extension	North Side Road	11/2019 – 03/2021	
West terminal extension (Phase 2A)	North Side Road	09/2020 – 06/2021	
West terminal extension (Phase 2B)	North Side Road	11/2024 – 03/2026	
New service yard	North Side Road	11/2025 – 03/2026	
Walkway and east pier	North Side Road	09/2025 – 06/2026	
New canopy to front of existing terminal	North Side Road	09/2022 – 05/2023	
Multi-storey car park	North Side Road	09/2024 – 07/2025	
Gyratory road with internal surface car parking	North Side Road	10/2020 – 06/2021	
East taxiway link	North Side Road	01/2024 – 06/2024	Night-time
Silver Zone Car Park Extension (Phase 2	Silver Zone Car Park	04/2019 – 07/2019	
Highway improvements (A38)	A38	10/2025 – 04/2026	
Taxiway widening and fillets	North Side Road	01/2024 – 06/2024	Night-time
Silver Zone Car Park Extension (Phase 1)	Silver Zone Car Park	10/2019 – 11/2019	

7.13.6 Construction noise and vibration impacts likely to arise as a result of the Proposed Development have been assessed having regard to representative sensitive receptors in the vicinity of the proposed works. These 11 receptors, A to K, can be seen in **Figure 7.2** and are described in **Appendix 7G**.

7.13.7 Baseline noise levels for receptors A to D, used in determining the noise assessment criteria, have been taken from the baseline measurements carried out at these locations, as described in **Appendix 7C**. Typical daytime ambient noise levels around Bristol Airport lie between 50 dB $L_{Aeq,12h}$ and 60 dB $L_{Aeq,12h}$ during the daytime (refer to **Appendix 7C**) and 45 dB $L_{Aeq,8h}$ and 55 dB $L_{Aeq,8h}$ during the night-time.

7.13.8 On this basis, based on the ABC method in BS 5288-1, the threshold for a potentially significant effect from construction noise adopted in this assessment is 65 dB $L_{Aeq,12h}$ for the daytime (07:00-19:00) and 55 dB $L_{Aeq,8h}$ for the night-time (23:00-07:00).

7.13.9 The threshold adopted for a potentially significant effect from construction vibration in this assessment is 1.0 mms^{-1} PPV during the daytime (07:00-23:00) and 0.3 mms^{-1} during the night-time (23:00-07:00).

7.13.10 The construction noise levels associated with the Proposed Development have been assessed at each of the eleven representative receptors for each construction site, for each phase of work. These are tabulated in in **Appendix 7G.**

Predicted construction noise and vibration effects and their significance

7.13.11 **Section 7G.6** of **Appendix 7G** provides the detailed results of the construction noise assessment. Construction noise and vibration predictions are presented, along with receptor counts within each relevant noise band. Key results are presented in this section. This section sets out the noise and vibration effects arising due to construction related to the Proposed Development.

Daytime noise

7.13.12 On an individual site and phase basis, no significant effects from daytime construction noise are expected, with one exception.

7.13.13 Noise sensitive receptors adjacent to the A38 are predicted to be exposed to construction noise levels above the adopted daytime SOAEL and threshold for a potentially significant effect from the A38 highway improvements due to their close proximity to the construction site. The predictions indicate that this threshold is likely to be exceeded for all phases of work associated with the A38 highway improvements throughout the six-month duration of these works, with daytime noise levels lying in the range 68 to 72 dB $L_{Aeq,12h}$. As a result, a significant effect is predicted in the absence of any mitigation.

7.13.14 Certain phases of daytime construction activity are scheduled to occur concurrently at the various components of the Proposed Development. For these cases, a worst-case value has been predicted for each site, assuming all construction activities for concurrent phases are to be carried out simultaneously. These are presented **in Appendix 7G**.

7.13.15 On this worst-case basis, residential receptors at the east end of Downside Road are predicted to experience construction noise levels at the daytime threshold level of 65 dB from the construction works on the gyratory road. A potentially significant effect is therefore predicted from concurrent activity on the gyratory road in the absence of any mitigation.

7.13.16 For the case of the A38 highway improvements, residential receptors in the vicinity of the A38 are already expected to be exposed to construction noise levels greater than 65 dB from individual phases of works. These receptors are predicted to experience construction noise levels of up to 75 dB from concurrent activity on the A38 roadworks site.

7.13.17 Consideration has also been given to the cumulative effects of daytime noise from multiple construction sites where the schedule of works is expected to overlap. Worst-case values have been predicted for these periods, where all construction activities for concurrent phases have been assumed to be carried out simultaneously in a given month. These are presented in in **Appendix 7G**. As resulting levels lie below 65 dB $L_{Aeq,12h}$, no significant effects are predicted due to cumulative noise from multiple construction sites, aside from at those receptors already identified to be close to the A38 roadworks and those close to the new gyratory roadworks.

7.13.18 Where significant effects have been identified, mitigation measures are required to be deployed and these are discussed in **Section 7.16**.

Night-time noise

7.13.19 On an individual site and phase basis, no significant effects from night-time construction noise are expected.

7.13.20 Due to the sequential phasing of activity of the runway construction works, no concurrent activity at individual sites is expected during the night. However, work on the east taxiway link and taxiway widening and fillets sites is provisionally scheduled to be concurrent. In this scenario, if the noisiest phase of activity (earthworks) is assumed to take place at both sites simultaneously in a given hour

then construction levels will remain below the threshold above which any potential significant effects could arise. This is shown in in **Appendix 7G**.

Vibration

7.13.21 Vibration from piling would be expected to attenuate below the criteria for a potential significant effect over the distances (≥170m) to the nearest receptors and therefore **no significant effects** are predicted from piling vibration.

7.13.22 In practice, piling is planned to involve use of a rotary bored piling rig along with the insertion of steel casings using a vibratory technique. These methods produce less vibration than that arising from driven piles which have been assessed above.

7.13.23 In **Appendix 7G** at a distance of 20m, the closest distance between site and receptor for this activity (receptor I during the A38 works), a vibration level of 0.4mms^{-1} PPV would be expected with 50% probability of this value being exceeded. This is equivalent to a vibration level of 0.8mms^{-1} PPV with 33% chance of exceedance or 1.6mms^{-1} PPV with 5% chance of exceedance.

7.13.24 Based on the results for vibratory compaction during the daytime, vibration is most likely to remain below the limit for a possible significant effect to be indicated (1mms^{-1} PPV), although there is a slim chance of levels rising to a potential moderate significant effect but remaining below a potential substantial significant effect. Considering the low probability and context that only a few residential receptors could be affected for a short duration and assuming that Best Practicable Means, including forewarning the few receptors that could be affected, are followed it is not expected that a significant effect would occur due to vibratory compaction during the A38 works.

7.13.25 Vibratory compaction during the night-time, during the east taxiway works and taxiway widening and fillets works, will take place at large distances from the nearest noise sensitive residential receptors. As a result, vibration levels at these receptors are predicted to lie well below the threshold at which any potential significant effects might be expected.

7.14 Assessment of Effects – All noise and vibration sources

Predicted effects and their significance

7.14.1 The assessment of the effects of noise considers each type of source in isolation, such as aircraft air and ground noise, road traffic and construction noise, rather than in combination. The reason for this is that the primary research undertaken into community response and noise considers each noise source separately, not in combination. A summary of the results of the assessment of the noise and vibration from various sources is provided in **Table 7.57**. These are taken from the assessment results in **Section 7.10**, **Section 7.11**, **Section 7.12** and **Section 7.13** and relate to the change from Without to With Proposed Development in 2026. In the case of air noise, the table describes noise effects likely to occur accounting for how conditions might change under 10 mppa between 2021 and 2026.

Table 7.57 Summary of significance of adverse effects

Source	Receptor type and assessment period	Magnitude of change[2]	Significance[3]	Summary rationale
Air Noise	Residential – Day	Negligible	Not significant	A small number of dwellings are exposed to a significant air noise level. Changes due to the development are negligible and therefore not significant.
	Residential – Night	Negligible	Not significant	Although some dwellings are exposed to a significant air noise level, changes due to the development are negligible and therefore not significant.
	Schools	Negligible	Not significant	One school is exposed to a significant air noise level. Changes due to the development are negligible and therefore not significant.
	Places of Worship	Negligible	Not significant	A small number of places of worship are exposed to a significant air noise level. Changes due to the development are negligible and therefore not significant.
	Amenity Areas	Negligible	Not significant	A small number of amenity areas are exposed to a significant air noise level. Changes due to the development are negligible and therefore not significant.
Airborne Aircraft Vibration	Residential	Negligible	Not significant	A very small number of dwellings are exposed to a significant vibration level. This is expected to remain similar or reduce due to the development.
Ground Noise	Residential – Day	Negligible + moderate (beneficial)	Not significant	A very small number of dwellings are exposed to a significant ground noise level. Some dwellings experience moderate reductions in noise due to screening by the new development. Overall, changes due to the development are negligible and therefore not significant.
	Residential – Night	Negligible + moderate (beneficial)	Not significant	A very small number of dwellings are exposed to a significant ground noise level. Some dwellings experience moderate reductions in noise due to screening by the new development. Overall, changes due to the development are negligible and therefore not significant.
	Schools	Negligible	Not significant	No schools are exposed to a significant ground noise level.

Source	Receptor type and assessment period	Magnitude of change[2]	Significance[3]	Summary rationale
	Amenity Areas	N/A	Not significant	No amenity areas are exposed to a significant ground noise level.
Road Traffic Noise	Residential	Negligible	Not significant	A small number of dwellings are exposed to a significant road traffic noise level. Changes due to the development are negligible and therefore not significant.
Construction Noise	Residential	N/A	Not significant	A small number of dwellings are exposed to a significant construction noise level.
Construction Vibration	Residential	N/A	Not significant	No dwellings are exposed to significant construction vibration levels.

1. The sensitivity of receptor is defined using the criteria set out in **Section 7.9** above and is defined as low, medium, high and very high.
2. The magnitude of change on a receptor resulting from activities relating to the development is defined using the criteria set out in **Section 7.9** and is defined as negligible, minor, moderate, substantial and very substantial. The change is shown as adverse unless otherwise stated.
3. The significance of the environmental effects is based on the combination of the sensitivity of a receptor and the magnitude of change and is expressed as major (significant), moderate (probably significant) or minor/negligible (not significant), subject to the evaluation methodology outlined in **Section 7.9**.

7.14.2 From **Table 7.57** it can be seen that there are no receptors subject to significant noise and vibration effects due to any noise or vibration source between the Without Development (10 mppa 2021) and With Development (12 mppa 2026) scenarios, with the exception of construction noise, which is predicted to expose a small number of dwellings to significant levels of noise.

7.15 Consideration of optional additional mitigation or compensation

7.15.1 This assessment has shown that there are no receptors subject to significant operational noise and vibration effects due to the change between the Without Development (10 mppa) and With Development (12 mppa) scenarios. Therefore, no further mitigation is required to reduce the noise and vibration effects that are identified in this ES. However, some receptors are exposed to significant levels of noise and therefore BAL already have in place a number of mitigation measures, one of which is the noise insulation grant scheme. BAL are proposing to enhance this scheme as part of the Proposed Development.

7.15.2 The assessment has found that, with no mitigation, some receptors are likely to be exposed to significant levels of noise during the construction of the Proposed Development. Therefore, a number of measures are set out in the Outline Construction Environmental Management Plan (CEMP), which forms **Appendix 2B**. These measures, described in paragraphs 7.15.14 and 7.15.15, alongside relevant and implementable embedded measures, are considered to be likely to be effective and deliverable and address the potential significant effects of the construction of the Proposed Development.

Enhanced noise insulation grant scheme

7.15.3 As part of the Proposed Development, Bristol Airport are proposing to offer an enhanced noise insulation grant scheme.

7.15.4 In this proposed scheme, the thresholds for insulation will remain as current (refer to paragraph 7.8.25), i.e. daytime 57 dB $L_{Aeq,16h}$ for the 50% grant and 63 dB $L_{Aeq,16h}$ for the 100% grant. It is noted that in all scenarios the night-time 55 dB $L_{Aeq,8h}$ contour is completely enclosed within the daytime 57 dB $L_{Aeq,16h}$ contour. Therefore, people exposed to significant levels of night-time noise will also benefit from the scheme.

7.15.5 The minimum specification of the ventilators that can be installed as part of the scheme will also be improved. These provide a benefit as with sufficient ventilation, residents are not required to open windows and therefore can experience the full acoustic benefit of the glazing.

7.15.6 The grant amount available will increase by 50%, i.e. up to £7,500 for those properties within the 63 dB $L_{Aeq,16h}$ contour and up to £3,750 for those properties within the 60dB & 57 dB $L_{Aeq,16h}$ contour.

7.15.7 For a limited time, all properties within the 57 dB $L_{Aeq,16h}$ contour for the 12 mppa 2026 scenario will be eligible to use the grant amount towards 100% of the cost of works, rather than 50%. This is intended to incentivise uptake in the short-term in order to encourage implementation of mitigation measures prior to BAL reaching 12 mppa by 2026.

7.15.8 BAL will also contact all properties within the forecast eligibility contour to make them aware of the scheme and the offer being provided. Furthermore, BAL will advertise the scheme in the constituencies where the eligibility contour reaches twice a year in order to encourage uptake.

Construction noise and vibration mitigation

7.15.9 The assessment of construction noise effects has shown that daytime construction works in the north-east area of Bristol Airport, specifically the roadworks required for the new gyratory road with internal surface parking may have a significant effect on residential properties located at the east end of Downside Road.

7.15.10 *BS5228-1* suggests that site hoardings may provide a noise reduction from 5 dB, when plant is just visible over the noise barrier, to 10 dB, when the plant is not visible over the noise barrier. On the assumption that a conventional solid timber site hoarding is installed along the northern edge of the gyratory road site, near Downside Road, with a minimum height of 2.4m, then noise at the most affected receptors is predicted to be mitigated to below the threshold for a potentially significant effect to be indicated. This is shown in **Appendix 7G** and will be secured as part of the CEMP (**Appendix 2B**).

7.15.11 Further roadworks constituting the A38 highway improvements also pose a risk to the amenity of residential properties situated close to the road, with noise levels predicted to reach up to 75 dB in the worst-case, where there is concentrated activity on site.

7.15.12 Using the same assumptions for screening as for the gyratory road, temporary barriers surrounding stationary plant such as hand-held road breakers would be predicted to mitigate noise at affected receptors. Further mitigation would be required for those residences directly adjacent to the road due to their close proximity to the works. Additional temporary solid road-side site hoardings to screen these receptors would be predicted to mitigate noise levels below the threshold for a potentially significant effect for these receptors as well. This is shown in **Appendix 7G** and will be secured as part of the CEMP (**Appendix 2B**).

7.15.13 No significant effects are expected to arise from construction vibration and therefore no vibration mitigation will be required.

Recommendations relating to the Outline Construction Environmental Management Plan

7.15.14 Measures to be considered in implementing Best Practicable Means, adopted as part of the CEMP (**Appendix 2B**) will be consistent with the recommendations in BS 5228-1[33], including:

- Project supervision – the Proposed Development will include the designation of a Project Environmental Manager to supervise the implementation of the works;
- Community Relations – keeping local people informed of progress and treating complaints fairly and expediently;
- Site Personnel Training – informing site personnel about the need to minimise noise and advising on the proper use and maintenance of tools and equipment and the positioning of machinery to reduce noise emission to the neighbourhood;
- Site Location – setting noise emission limits with due regard to the proximity of noise sensitive premises;
- Noise Monitoring – to ensure compliance with noise emission limits applicable to relevant items of plant or around the boundary of a site;
- Programme - Details of operations with an indication of the expected duration of each phase and key dates. Local residents may be willing to accept higher levels of noise if they know that the activity causing the noise will only last for a short time; and
- Type of Plant – consideration will be given to using quiet techniques taking account of practical site constraints and best practicable means. Where reasonably practicable, quiet working

methods will be employed, including use of the most suitable plant, reasonable hours of working for noisy operations, and economy and speed of operations.

7.15.15 Many of the work sites relating to the Proposed Development are located at a reasonable distance from the nearest residential receptor and the effects of construction noise and vibration will therefore be negligible. For some sites however, such as for the highway improvements to the A38, some works will take place in close proximity to dwellings. In such cases, it will be particularly important to establish a procedure by which consultation between the contractor and local residents can take place regularly, to keep them informed of progress and steps being taken to protect them from any significant effects of noise and vibration.

7.16 Conclusions of significance evaluation

Air noise and vibration

7.16.1 The Proposed Development will allow a greater number of passenger movements at Bristol Airport compared to the Without Development scenario (approximately 2 mppa beyond current permission).

7.16.2 The number of dwellings exposed to significant levels of aircraft air noise during the daytime period will generally stay the same as now and as for the Without Development scenarios (either 2021 or 2026). This is primarily due to the change in aircraft utilising Bristol Airport, with more modern, quieter types being introduced in the future.

7.16.3 The number of dwellings exposed to significant levels of air noise during the night will increase compared to the 2017 baseline and will be slightly more for the Proposed Development compared to the Without Development scenarios. This is due to an increase in the numbers of aircraft operating at Bristol Airport during the night in the future, and in the Proposed Development compared to the Without Development scenarios.

7.16.4 The change in air noise levels between the Without Development scenarios and the Proposed Development scenario is **negligible** (0 to 2 dB) for all dwellings in both the day and night periods.

7.16.5 Bristol Airport will continue to implement the various current air noise mitigation measures and will provide an enhanced noise insulation grant scheme, which includes all those dwellings exposed to significant levels of air noise as per the 12 mppa with development scenario.

7.16.6 More people will become affected by aircraft noise at night as Bristol Airport continues to grow within its permitted limits, irrespective of whether the Proposed Development goes ahead or not. The Proposed Development will give rise to a **negligible adverse** effect compared to if the Proposed Development does not go ahead and so will have **no significant effect** on the surrounding noise climate.

7.16.7 The number of people exposed to significant levels of vibration due to airborne aircraft in 2017 is very small. This is expected to remain similar or reduce in the future due to the introduction of more modern, quieter aircraft types. No significant effects are expected due to the Proposed Development.

Ground noise

7.16.8 The principle difference between future ground noise levels under the Proposed Development, as compared to those without the Proposed Development, is the change in the distribution of ground noise around the area and therefore the change in the population that will be exposed to ground noise, resulting in increased ground noise levels for some and decreases for others.

7.16.9 There is a small increase in the number of dwellings exposed to the ground noise during the day and night in the future compared to now for both the Proposed Development and Without Development scenarios. In the future, there is an increase of one in the number of dwellings exposed to the ground noise SOAEL if the Proposed Development occurs compared to if it doesn't, and a slight decrease in the number of dwellings exposed to the LOAEL in the daytime for the Proposed Development compared to the Without Development scenarios. In the future with the Proposed Development, some receptors will benefit from the additional screening provided by infrastructure leading to some significant reductions in ground noise. For all other receptors, any changes in ground noise arising from the Proposed Development as compared to Without Development in the future will experience a **negligible** change in noise level of **no significance**.

7.16.10 More people will become affected by ground noise at night as Bristol Airport continues to grow within its permitted limits, irrespective of whether the Proposed Development goes ahead or not. The Proposed Development will give rise to a **negligible adverse effect** compared to if the Proposed Development does not go ahead and so will have **no significant effect** on the surrounding noise climate.

Road traffic noise

7.16.11 The Proposed Development will change the road traffic noise levels around Bristol Airport. There is a small increase in the number of dwellings exposed to road traffic noise in the future compared to 2017 for both the Proposed Development and Without Development scenarios. There is no change in the number of dwellings exposed to road traffic noise if the Proposed Development occurs or not. The Proposed Development will give rise to a **negligible adverse effect** compared to if the Proposed Development does not go ahead, which is **not significant**.

Construction noise and vibration

7.16.12 The construction noise and vibration assessment has been carried out using predictions to a number of representative noise and vibration sensitive receptors. Accounting for the use of best practicable means and some specific mitigation measures, the construction of the Proposed Development will give rise to a **negligible adverse effect** which is **not significant**.

7.16.13 It has been recommended that the Principal Contractor develop and implement a site-specific Construction Noise and Vibration Management and Mitigation Strategy (refer to **Appendix 2B**) covering demolition and new construction. This will ensure that best practicable means are used to mitigate construction noise effects.

7.17 Implementation of environmental measures

7.17.1 **Table 7.58** describes the environmental measures accompanying the Proposed Development and the means by which they will be implemented. Full details of these are given in **Section 7.8**.

Table 7.58 Summary of environmental measures to be implemented – relating to noise and vibration

Environmental measure	Responsibility for implementation	Compliance mechanism	ES section reference
Fixed 57dB $L_{Aeq,\ 16hr}$ summer Air Noise Contour at 12.42 sq km	Bristol Airport	Planning condition[40]	**n/a**
Noise Control Scheme providing noise violation limits and penalties	Bristol Airport	Section 106 Agreement	**n/a**

Environmental measure	Responsibility for implementation	Compliance mechanism	ES section reference
for Air Noise, specification and adoption of noise and track keeping system and associated community engagement			
Fixed Shoulder Period movement limits	Bristol Airport	Planning condition[40]	**n/a**
Air noise – night noise quota count used to restrict night flying	Bristol Airport	Planning condition[40]	**Section 7.8.**
Air noise – enhanced noise insulation grants	Bristol Airport	Section 106 Agreement	**Section 7.8.**
Ground noise – limits on APU use	Bristol Airport	Planning condition[40]	**Section 7.8.**
Air and ground noise – noise abatement procedures	Bristol Airport	Aeronautical Information Package (AIP) for Bristol Airport[44.]	**Section 7.8.**

YOUR LONDON AIRPORT
Gatwick

Gatwick Airport Ltd

Environmental Noise Directive

Noise Action Plan 2019 – 2024

GATWICK AIRPORT ENVIRONMENTAL NOISE DIRECTIVE NOISE ACTION PLAN 2019 – 2024

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SECTION 1 - FOREWORD

By Stewart Wingate, Chief Executive Officer

As Gatwick has grown significantly over the past decade and today welcomes more passengers than ever before; over 45 million passengers in 2017 and a record number of air traffic movements. The airport, as part of the UK aviation network, plays a vital role in supporting the local as well as national economy. As one of the largest companies in our region, Gatwick helps businesses to prosper and tourism to flourish, as well as generating employment for 24,000 people on the airport and a further 13,000 in the local economy.

We continue to sustain air passenger growth in line with the government's challenge for airports to optimise the use of existing infrastructure. However, in supporting aviation growth and creating a range of economic and social benefits, we also recognise our responsibility to ensure we deliver a sustainable and considerate airport operation.

The Independent Review of Arrivals, initiated in August 2015, heralded a significant shift in our approach to tackling community concern regarding airspace and aviation noise. A series of recommendations were put to the airport, all of which were accepted.

The establishment of the Noise Management Board as a result of the Review - the membership of which includes a spectrum of industry stakeholders and community representatives - has created a highly effective means of engaging on noise issues relating to aircraft arrivals, departures as well as on the ground. This robust structure of industry stakeholder collaboration, strongly influenced through a process of community engagement, has allowed the evolution of the noise management process to help identify noise issues and develop solutions which are now managed through a more dynamic Noise Management Board Work Plan.

Under the Environmental Noise (England) Regulations 2006, Gatwick Airport Ltd is required to produce a Noise Action Plan, designed to manage noise issues and effects arising from aircraft departing from and arriving at the airport. This is the third version of the END Noise Action Plan containing 58 Action Plan Actions and it continues to align with the S106 Legal Agreement with West Sussex County Council and Crawley Borough Council, the work plan of the Noise Management Board and our Decade of Change Sustainability Strategy.

We continue to deliver on our commitments and obligations relating to sustainable growth, captured in the S106 Legal Agreement, Noise Management Board Work Plan, Decade of Change strategy and this END Noise Action Plan. We remain committed to publicly reporting our performance against these and the effectiveness of our actions to address community concerns.

Gatwick is a national success story and we are proud that we have become a vital part of the country's national infrastructure as we have grown. And we recognise the important part we have to play in the future not only of our local communities but the UK as a whole.

[redacted]

STEWART WINGATE

SECTION 2 - PURPOSE AND SCOPE

The purpose of this Noise Action Plan is to comply with the requirements of the European Union (EU) Environmental Noise Directive 2002/49/EC (END) and associated UK Government Regulations.

The airport operator is deemed the competent authority for drawing up the Action Plan which for Gatwick Airport, is Gatwick Airport Ltd. The final adoption and approval of the noise action plan is undertaken by the Secretary of State for the Department of Food and Rural Affairs (DEFRA).

Government guidance states that noise action plans are designed to manage noise issues and effects arising from aircraft departing from and arriving at the airport, including noise reduction if necessary.

Gatwick Airport Ltd is committed to reducing noise at or around the airport and has significantly increased the level of focus in addressing the challenges arising from aircraft noise over recent years however it continues to remain an area of concern for local communities. While we can't eliminate aircraft noise completely, our goal is to reduce it as much as possible and this document sets out how Gatwick Airport Ltd plans to manage and where possible reduce the impact of aircraft noise.

Responsibilities within the management of noise do not always fall to the airport operator and where responsibility falls to the Department for Transport, air navigation service providers or the Civil Aviation Authority then the airport can seek to recommend or influence changes. The Noise Management Board at Gatwick is an excellent example of where a wide range of key industry experts and stakeholders are gathered with the purpose of reducing the impact of noise on the local community.

Gatwick Airport's first Environmental Noise Directive Noise Action Plan was published in June 2010 and covered the period 2010 - 2015. This action plan was subsequently updated to cover the period 2013 - 2018. This is the third revision to the action plan and has been devised in line with the latest guidance provided to airport operators by DEFRA.

In revising this action plan, the following bodies have been consulted:

- The Gatwick Airport Consultative Committee
- The Noise and Track Monitoring Advisory Group
- West Sussex County Council
- Crawley Borough Council

In addition, the Noise Management Board has been advised of this process. Details of feedback received is included in Annex 9.

SCOPE

Directive 2002/49/EC relates to the assessment and management of environmental noise and is referred to as the Environmental Noise Directive or END. The Environmental Noise (England) Regulations 2006, as amended, transpose this Directive into English law.

The Regulations require that strategic noise maps be produced for the main sources of environmental noise (major roads, major railways, and major airports) and for agglomerations in

England. Strategic noise mapping for Gatwick Airport, in scope of the Regulations was produced by the Environment Research Consultancy Department (ERCD) division of the CAA and completed in 2017, showing the situation in 2016 utilising the L_{den} measurement.

The contours are shown in Annex 3.

Through the action plan actions set out in this plan, we seek to manage aircraft noise from Gatwick's operation. It is important to note that this document only includes actions related to developments for which the airport has been granted planning permission at the time of publication. For the avoidance of doubt, the scope of this noise action plan does not include a mitigation strategy or specific actions to deal with any new infrastructure or significant airspace change. Nor does it deal with any actions or mitigation schemes in the event Gatwick Airport constructs a second runway.

In the event of any changes or proposals that impact this action plan we will review our noise action plan with the bodies referred earlier in this section, and if appropriate, consult on any proposed amendments publicly.

The legal requirement is for Gatwick Airport Ltd to consider noise issues within the 55dB L_{den} and 50dB L_{night} noise contours. These contours take into account aircraft noise during take-off, landing and ground roll stages of flight.

In revising this Noise Action Plan, we continue to give consideration to actions that seek to address the impacts of aircraft noise in areas beyond the specified contours as well as noise created by taxiing aircraft and engine testing carried out within the airport perimeter.

The 2015 Section 106 Legal Agreement with West Sussex County Council and Crawley Borough Council sets a limit of 250 high powered engine tests per six month rolling period before Gatwick Airport Ltd is required to undertake further prescribed actions. The proposed Boeing Hangar, scheduled for operational use in 2019 is not anticipated to result in a significant increase in engine testing due to the nature if the maintenance work to be undertaken, and high powered engine tests are not expected to occur more than once a month, and probably less than that.

This Noise Action Plan also aligns with Gatwick's Sustainability Strategy, the Decade of Change and the Section 106 Legal Agreement with Crawley Borough Council and West Sussex County Council.

Our strategic approach to noise is described later in this document with more details regarding our Decade of Change and S106 Legal Agreements available on our website in the sustainability section at www.gatwickairport.com

The action plan does not include noise from airport construction activities or noise from road and rail traffic associated with the airport.

Action plans for noise associated with major road and rail routes are dealt with separately under government legislation and do not fall within the responsibility of airport operators.

SECTION 3 - INTRODUCTION

Airports bring positive economic and social benefits, as well as environmental impacts. They are important to the economy, providing jobs, encouraging inward investment and boosting local tourism. However airports can also have an impact for those communities that exist around them. Noise remains a significant issue for people living or working close to airports or under flight paths.

Our environmental policy continues to encourage the use of quieter aircraft and to restrict noisier aircraft. As the airport grows, and the frequency and number of flights increase, we know that we must make sure that our policies on controlling noise continue to evolve so they remain appropriate and effective. The Noise Management Board at Gatwick continues to identify innovative new solutions, in partnership with key industry stakeholders and local community groups to control aircraft noise.

At Gatwick Airport, we have a dedicated team whose focus is to continually monitor aircraft operations to ensure compliance with the noise abatement requirements applicable to the airport. Departing aircraft must follow set routes designed, where possible, to avoid flying over densely populated areas. We monitor the noise levels generated by each aircraft as it takes off from the airport. If any aircraft goes over strict noise limits when taking off, the airline must pay a surcharge. We donate these surcharges to the Gatwick Airport Community Trust Fund. Although the average level of noise from departing aircraft is falling over time, the frequency of aircraft movements has increased, we will therefore continue to work closely with airlines and air traffic control to explore opportunities to improve performance even more.

Until recently, noise from aircraft landing has not received the same attention as that from aircraft taking off; the Independent Review of Arrivals commissioned in 2015 has changed this. We have worked with airlines to enhance landing procedures such as the increase in measurement of continuous descent operations from 6,000ft to 7,000ft to control noise as much as possible. We are also looking into ways to distribute aircraft in a fair and equitable manner as they fly towards the final approach in order to provide benefits for the communities around the airport.

The Department for Transport night flying restrictions continues to place tight controls on aircraft noise at night. It limits the total number of flights during the night, and noisiest types of aircraft cannot be used. The most recent night flying restrictions were announced in early 2017 and came into effect for the winter season 2017/2018 and will remain in place until 2022.

Mitigation schemes play an important role in limiting the disturbance caused by aircraft noise. We have offered a noise insulation scheme for many years and between 2014 and 2017, Gatwick Airport Ltd has spent over £3m providing acoustic insulation to homes within our extended scheme boundary.

We continue to provide schemes where we will offer to purchase properties that may be suffering from either a very high level of noise or a large increase in noise. The Home Owner Support Scheme aims to provide financial reassurance for those property owners whose home may be impacted by the construction of a second runway and we also offer a Property Relocation Scheme, which covers the costs of moving house to help residents in the noisiest areas to move to a quieter area. Full details of these schemes are included later in this document within Section 15.

We are committed to developing the ways we share information relating to aircraft noise with others. We continue to make information from our Noise and Track Keeping System available

online through the 'Casper Noise Lab'. We continue to regularly publish our performance against a set of performance indicators and will report on the noise complaints we receive and how we handled them. We regularly report our performance on our website, through the Gatwick Airport Consultative Committee, and by engaging with airlines, pilots and air traffic control through the Flight Operations Performance and Safety Committee, along with local authority representatives through the Noise and Track Monitoring Advisory Group.

Our community noise monitoring programme continues to be well used with noise data from a wide range of areas being analysed by local Environmental Health Officers through the Gatwick Noise Monitoring Group and detailed reports shared with the Noise and Track Monitoring Advisory Group and uploaded to the airport website.

As a designated airport operator, the Department for Transport (DfT) has direct control over noise policy at Gatwick Airport and has established over many years a range of operational controls and statutory objectives to manage and where possible reduce noise. Limiting and, where possible, reducing the impact of noise is a long-standing commitment of Gatwick Airport and is critical to maintaining the airport's licence to operate and grow.

Gatwick Airport has had in place for a number of years a detailed noise strategy and a comprehensive and effective approach to aircraft noise management. This is further supported by our Decade of Change strategy as well as our S106 Legal Agreement with West Sussex County Council and Crawley Borough Council which lays the foundations of our Noise Action Plan.

Gatwick Airport is, as defined by the Environmental Noise (England) Regulations 2006, as amended, a major airport and consequently must produce noise maps and publish a Noise Action Plan every five years. These five yearly cycles of noise mapping are referred to as 'Rounds' and this Noise Action Plan is produced in response to the latest 'Round 3' noise mapping exercise.

Noise Action Plans are designed with the aim of 'preventing and reducing environmental noise where necessary', and the Department for Environment, Food and Rural Affairs (DEFRA) has issued guidance to help airport operators prepare their plans.

Under the regulations we must assess, and provide information on, how effectively we are controlling the effect of noise arising from aircraft landing and taking off. We must provide information on our performance in noise maps, together with the numbers of people and homes exposed to a range of noise levels

The Environmental Noise (England) Regulations 2006 align with the Government's aim – as set out in the Aviation Policy Framework – to adopt a balanced approach to securing the benefits of aviation. This is underpinned by two core principles:

- Collaboration: By working together with industry, regulators, experts, local communities and others at all levels, the industry will be better able to identify workable solutions to the challenges and share the benefits of aviation in a fairer way than in the past.
- Transparency: To facilitate improved collaboration, it is crucial to have clear and independent information and processes in place. Those involved in and affected by aviation need to have a clearer understanding of the facts and the confidence that proportionate action will be taken at the international, national or local level.

Government policy is to strike a fair balance between the negative impacts of noise (on health, amenity (quality of life) and productivity) and the positive economic impacts of flights. As a general principle, the Government therefore expects that future growth in aviation should ensure that

benefits are shared between the aviation industry and local communities. This means that the industry must continue to reduce and mitigate noise as airport capacity grows. As noise levels fall with technology improvements the aviation industry should be expected to share the benefits from these improvements.

In July 2017, the Department for Environment, Food & Rural Affairs (DEFRA) provided amended guidance to airport operators in respect of the production of noise action plans under the terms of the Environmental Noise (England) Regulations. Existing action plans are to be revised taking into account the updated noise mapping, airport specific operational changes, new actions that may influence aircraft noise and progress against actions within the current action plan.

The guidance states that the airport operator will present their revised action plan to the airport consultative committee and any other appropriate organisation for comment after which the airport operator will reflect on them and include them in the revised plan together with a response to the issues raised.

This document aims to:

- Demonstrate our continuing commitment to managing aircraft noise impacts associated with Gatwick Airport's operations. We have identified this issue as one of our key sustainability priorities
- Allow us to engage with communities affected by aircraft noise and better understand their concerns and priorities, so that we can ensure our airport noise strategies and action plans are well informed
- Enable us to make progress towards our long-term statutory and voluntary aircraft noise objectives
- Enable us, in our role as the competent authority for Gatwick Airport, to meet the requirements of the Environmental Noise Directive 2002/49/EC and The Environmental Noise (England) Regulations 2006.

Over the following paragraphs we have set out the key aspects of sections 3–19 of this Noise Action Plan. There are also a series of Annexes contained within this document including a glossary of terms (Annex 1).

Section 2 sets out the purpose and scope of the noise action plan. The scope extends beyond the areas identified by the strategic noise mapping to include ground noise issues and actions that impact on areas outside the contours. The section also points out that responsibilities for noise management do not always fall to the airport operator and often fall to the Department for Transport, NATS and/or the Civil Aviation Authority. In such cases the airport operator can only recommend any proposed changes.

Section 4 provides a description of Gatwick Airport and comments briefly on future development of the airport.

Section 5 introduces the issue of aircraft noise and acknowledges that noise contours are not the only way to describe the community impacts of aircraft noise. This section details the Attitude to Noise from Aviation Sources in England (ANASE) study conducted on behalf of the DfT; Survey of Noise Attitudes (SoNA) 2014 commissioned by the UK Government.

These studies, some of the early feedback we received during our initial pre-consultation stakeholder meetings and analysis of our complaints data has shown that the frequency of overflight, night flying and our role in influencing associated stakeholders are all key local concerns for community stakeholders.

The interdependencies between noise and air emissions to ensure compatibility between action plans are also briefly discussed. The legal context within which Gatwick Airport operates is complex. The International Civil Aviation Organisation (ICAO) sets international noise certification standards and recommended practices and procedures in relation to aircraft noise. Reference is also made to the requirement for member states to adopt a 'balanced approach' to noise management.

Section 6 provides a detailed overview of aviation policy and what it means for Gatwick. This includes International, European and Domestic policy.

At the European level some detail is provided on key European Union Directives which relate to aircraft noise including the phasing out of older Chapter 2 aircraft in 2002. At a national level a number of significant Acts of Parliament and regulations are set out. These include the Civil Aviation Acts 1982 and 2006 which grant the government powers to introduce noise control measures at designated airports (Gatwick is a designated airport). This section also introduces the UK Aeronautical Information Package (UK AIP) which contains a range of noise controls relating directly to aircraft operations.

Section 7 outlines our strategic approach to aircraft noise management framed around our long-term objective 'to gain the trust of our stakeholders, that we are using best practicable means to minimise aircraft noise impacts'.

This noise action plan sets out the themes to our noise work programme which are:

1. **Reducing noise impacts wherever practicable. This includes:**
    a. **Quietest fleet practicable**
    b. **Quietest practicable aircraft operations, balanced against NO_X and CO_2 emissions**
    c. **Effective and credible noise mitigation schemes**
2. **Engaging with communities affected by noise impacts to better understand their concerns and priorities, reflecting them as far as possible in airport noise strategies and communication plans**
3. **Influencing planning policy to minimise the number of noise sensitive properties around our airport**
4. **Organising ourselves to continue to manage noise efficiently and effectively**
5. **Continuing to build our understanding of aircraft noise to further inform our priorities, strategies and targets.**

We also describe the current measures in place to manage noise at Gatwick Airport. In headline terms these include:

- Noise and track keeping monitoring arrangements
- Operating restrictions
- Runway use
- Night flight restrictions
- Operational procedures
- Departure procedures
- Noise Preferential Routes (NPRs)
- 1,000ft rule
- Arrival procedures
- Continuous Descent Operations (CDO or otherwise known as Continuous Descent Approach (CDA))
- Instrument Landing System (ILS) joining point rules
- Reverse thrust
- Noise limits
- Ground noise controls
- Aeronautical charging
- Noise mitigation and compensation schemes
- Stakeholder engagement.

Section 8 details the Independent Review of Arrivals and the establishment of the Noise Management Board, itself a step change in noise management at Gatwick since the last iteration of this Noise Action Plan.

Sections 9 and 10 cover the Control Measures in place at Gatwick and our Environmental Risk Management strategy respectively. Whilst Section 12 provides an overview of the various committees that are in existence relating to aircraft noise management, this has been included in this version of the Noise Action Plan to provide more transparency as to 'who does what' given the frequency certain committees are referenced in this document.

Section 14 explains the need for airspace modernisation. While this is a contentious issue in certain communities, the fact remains the present airspace structures are ageing and inefficient. Optimisation of the airspace will provide capacity, resilience and environmental benefits due to aircraft being able to operate more efficiently.

Section 17 summarises the results of the 2016 noise mapping and is supported by the maps in Annex 3. Although the mapping introduces a relatively new metric to describe the noise impact, Gatwick Airport's strong history of noise management controls and frequent contour analysis means it does not highlight any new geographical areas of concern with regard to noise impacts.

Section 18 is the list of actions. There are 58 actions detailed within this Noise Action Plan.

Performance against our Action Plan Actions will be reported quarterly to the Noise and Track Monitoring Advisory Group, annually to the Gatwick Airport Consultative Committee as well as referenced in our Flight Performance, Section 106 and Decade of Change report.

SECTION 4 - ABOUT GATWICK AIRPORT

Gatwick became an aerodrome in the 1930s, but the airport today opened in 1958 with just 186,000 passengers passing through the airport in our first year of operation. Today, it's a different story. Gatwick Airport is open 24 hours a day, 365 days a year, and we now help take more than 45 million passengers to 228 destinations in 74 countries around the world every year.

The airport is located approximately 28 miles south of London and about 2 miles north of Crawley. Aside from the nearby towns of Crawley and Horley, it is situated in mostly lightly populated countryside. The airport has one main runway, designated 08R/26L, which is 3,316 metres long. The Runway 26L threshold is displaced by 424 metres, and the Runway 08R threshold is displaced by 393 metres. There is also one standby runway (08L/26R) that can be used if the main runway is out of operation.

Gatwick operates the world's most efficient single runway and is the second largest airport in the UK. Uniquely, it is home to a mix of airline operators from scheduled to low-cost and charter airlines. Fifty-three airlines currently operate (as of December 2016) regularly from the airport including easyJet, British Airways, Norwegian, Virgin Atlantic, Emirates, Cathay Pacific, Thomas Cook, Thomson, Turkish Airlines, Air Transat, Vueling, Iberia Express, Ryanair, Air Lingus, Aurigny, Air Canada Rouge and WestJet.

The Airport is the biggest base for easyJet, one of Europe's most successful airlines, and it's also home to key charter operations such as Thomson and Thomas Cook. It is also the airport with most connections to and from other UK regions, with significant numbers of passengers travelling on easyJet, British Airways, Flybe, and Aurigny.

In addition to the major long haul leisure operations of British Airways and Virgin, Gatwick is now seeing the emergence of long haul services to the Far East, with the arrival of Turkish Airlines, Cathay Pacific and Tianjin Airways. These complement the existing long haul services provided by airlines such as Emirates, WestJet, and Norwegian.

The consortium that ultimately owns the Airport currently comprises the following parties:

Global Infrastructure Partners, LP ("GIP 1") 41.95%
The Abu Dhabi Investment Authority ("ADIA") 15.90%
The California Public Employees' Retirement System ("CalPERS") 12.78%
National Pension Service of Korea ("NPS") 12.14%
Future Fund Board of Guardians ("Future Fund") 17.23%

The strategy for the Airport is to transform the passenger experience and improve efficiency for the airlines and the Airport itself, thereby improving its competitiveness in the London airport market. A key element of Gatwick's strategy is to build and maintain strong relationships with its airline customers, regulators and other stakeholders.

Gatwick has set out its ambition – compete to grow and become London's airport of choice, and has established six strategic priorities to which its activities are aligned.

The strategic priorities and the approach Gatwick is taking to achieve them have been outlined below:

- Deliver the best passenger experience: by listening to its passengers and delivering the kind of service that will make them choose to fly from Gatwick;
- Help its airlines grow: by understanding airlines' goals and developing commercial partnerships;
- Increase value and efficiency: by maximising income, lowering its operating costs and driving capital efficiency;
- Protect and enhance its reputation: by building strong and constructive relationships with its stakeholders based on openness and trust;
- Build a strong environment, health and safety ("EH&S") culture: by maintaining a relentless focus on achieving zero incidents; and
- Develop the best people, processes and technology: by investing in high-performing people, continuous improvement and deploying the right systems.

2017 – 2022 CAPITAL INVESTMENT PLAN

Whilst the airport continues to expand, Gatwick recognises that to improve continually the quality of service which passengers have come to expect requires ambitious investment plans keep pace with rising demand. The 2017 Capital Investment Programme sets out Gatwick's plans to invest £1.15 billion over the next five years through to 2022, with £240 million planned for 2017/18 alone. The airport has continued to invest to improve facilities since it changed ownership in December 2009, and has invested £1.5 billion to date.

One area where the airport is putting more emphasis are projects to enhance the efficiency of the airfield, by optimising infrastructure, to help its airlines operate on time. Gatwick also plans to commence the resurfacing of the main runway during this five year period to protect its most valuable asset. Other projects that are being accelerated to meet the airport's growing demands are the expansion to the North Terminal Border facilities and a suite of IT projects supporting core airport functions. Gatwick continues to develop its plans for expanding the International Departures Lounges in both terminals, for providing additional car parking capacity, and for improving the roads in the vicinity of the airport.

Over the last three years, passengers have benefited from Gatwick's North Terminal Development Programme which has vastly improved the terminal's landside areas; providing check-in and bag drop automation, more efficient security processing and a much more welcoming arrivals concourse. Automation was a key component of this programme, and the airport plans to build on the success it has seen in North Terminal by extending the roll-out of self-service bag drop to South Terminal. Gatwick will also start a programme to automate boarding in gaterooms to make the embarkation process more efficient for passengers and airlines.

As always, Gatwick is committed to maintaining its existing assets, as well as continuing its programme of resilience measures, to ensure passengers consistently receive the best experience possible during their journey through the airport.

One of Gatwick's biggest achievements has been the successful consolidation of easyJet's operations into the North Terminal in late January 2017, simplifying the journey for millions of its passengers. As part of this consolidation British Airways moved to the South Terminal, whilst Virgin Atlantic Airways moved to the North Terminal. It took several years of planning to make this happen, and a wide ranging suite of infrastructure changes; not only the more obvious front-of-house switches of check-in areas, passenger lounges, baggage reclaim and security facilities, but also changes to the behind-the-scenes facilities that are so critical to a successful airport operation

such as airlines' crew and engineering facilities. In the process of making these changes, many improvements to passenger-facing facilities have also been undertaken.

On 1 June 2016 Gatwick opened the new Pier 1, which provided five new aircraft stands with light, bright, modern gaterooms. The building is also home to a brand new departures baggage facility, serving the whole South Terminal, which provides airlines and passengers with greater check-in and baggage processing capacity and flexibility, including allowing passengers to check-in earlier than before.

BOEING HANGAR

Planning permission was granted in October 2017 for the construction of the £88 million Boeing Hangar at Gatwick. Boeing expects construction to start at the facility in late 2017, for an early 2019 opening. Building the facility is expected to support 475 jobs and contribute around £80m of gross value added to the local economy around the airport. Over the first two decades of operation the hangar's activities will generate a further £135m in GVA in the Gatwick area. This development will build on the long term partnership between Boeing and the UK Government, announced at the Farnborough International Airshow in July 2016 and the ground breaking for Boeing's first factory in Europe, to be built outside Sheffield, South Yorkshire and twinned with a facility in Portland, Oregon.

TRANSPORT FACTS

- Gatwick was the world's first airport to have a direct mainline train link with a dedicated railway station
- Gatwick is already the UK's best connected airport by rail and directly connects to more stations than any other European airport
- Number of direct rail connections: more than 129
- Time by rail to central London: 30 mins

FACILITIES

- Number of runways: 1
- Runway length: 3,316m long by 45m wide
- Number of terminals: 2 - South (opened in 1958) and North (opened in 1988)
- South Terminal is 160,000 square metres of which 14,768 square metres is retail facilities
- North Terminal is 98,000 square metres of which 12,530 square metres is retail facilities
- There are 143 stands in total at Gatwick Airport:
- 71 pier served stands split roughly 50:50 between each terminal
- 72 remote stands serviced by coaches
- 346 check-in desks. 187 in South Terminal and 159 in North Terminal. In addition, there are 69 self-service kiosks

WORKFORCE AND ECONOMY

- Around 24,000 staff work on the Gatwick campus across 252 different companies, the airport also creates a further 12,000 jobs indirectly and directly generates £1.6 billion for the UK economy
- Gatwick Airport itself employs around 2,800 people directly of which 1,800 are security staff
- 25% of all staff working at the airport are cabin crew

SECTION 5 - AVIATION NOISE

Aviation noise is unwanted sound generated by aircraft, and it is a serious and growing problem in the UK. As airports expand and air services increase, more and more homes are exposed for large parts of the day to a persistent background noise from aircraft.

Noise from aircraft is subject to an entirely different regulatory regime to other noise pollution. The Civil Aviation Act 1982 (updated in 2006) provides that no action for trespass or nuisance can be taken as long as an aircraft observes the rules of the Air and Air Traffic Control Regulations, which also cover ground movements.

The UK's main measure of aviation noise is Equivalent Continuous Sound Level (L_{eq} dB(A)). This averages the sound energy monitored from all aircraft noise events in a certain area over a 16 hour period each day (0700 and 2300). The UK government defines three community annoyance thresholds of low annoyance at 57 L_{eq}, medium annoyance at 63 L_{eq} and high annoyance at 69 L_{eq}.

The government published their Response to their Airspace Consultation in 2017 and acknowledged the evidence from the SoNA study, which showed that sensitivity to aircraft noise has increased, with the same percentage of people reporting to be highly annoyed at a level of 54 dB $L_{Aeq, 16hr}$ as occurred at 57 dB $L_{Aeq, 16hr}$ in the past.

BACKGROUND

The Air Navigation Act 1920 provided the basis of the UK's aviation noise regulation regime, by exempting aviation from nuisance sanctions, in order to stimulate the nascent industry.

This principle was reaffirmed in the Civil Aviation Act 1982, which nonetheless set out a number of provisions for controlling noise at larger airports through a process of "designation", which has only been applied to date to Heathrow, Gatwick and Stansted. By their Section 78 designation, the Transport Secretary is responsible for regulating take-off and landing noise at these airports.

In practice, noise restrictions at designated airports have been implemented through restrictions on departing aircraft noise, controls on night flying and (at Heathrow and Gatwick, under Section 79) housing noise insulation schemes.

At other airports, the successive governments have continued to favour local resolution. Councils' main instrument in this regard is the Section 106 Obligation, a condition that can be placed on planning permission.

Aviation is necessarily an international business, making unilateral domestic regulation difficult. However, successive agreements of the International Civil Aviation Organisation (ICAO) have sought to impose controls on aircraft design in order to minimise noise pollution.

Since the 1960s, jet engines have become four times quieter. A process of driving up noise pollution standards has been pursued by the ICAO, and by the European Civil Aviation Conference.

In 2001, the ICAO Assembly agreed that a balance of at-source restrictions, planning controls, operating restrictions and noise abatement practices by pilots and air traffic controllers would form the appropriate methods to address aviation noise.

In 2002, "Chapter 2" aircraft were outlawed from the EU, and the new "Chapter 4" came into force in January 2006, which improved upon the current "Chapter 3" standard by a cumulative 10 dB(A). The majority of aircraft in service today already meet the Chapter 4 requirements with an ever increasing number qualifying for Chapter 14 status[1]. This was agreed in 2013 and represents the latest requirements for all aircraft certified on, or after 31st December 2017 or 31st December 2017 for aircraft under 55 tonnes.

Night flights are a particularly controversial aspect of aviation noise. Studies have shown that sleep can be disturbed at a relatively low L_{eq} level of just 30. The first restrictions on night flights were imposed at Heathrow in 1962. Reviews have taken place since then in 1988, 1993 and 1998 and ten airports are now subject to night noise controls under the Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003.

The Government undertook to consult on a new night noise regime in 2004, and decided that the existing limits on night flights should remain until 2012. This was extended again until 2017 with a new regime coming into effect thereafter following a consultation process.

AIRCRAFT NOISE

For the large majority of commercial jets, the primary noise source is the engines. The secondary one originates in the airflow around the aircraft (aerodynamic source).

ENGINE NOISE - JET

The jet noise is linked to the intense exhaustion of the burnt gases at high temperature. Downstream of the aeroplane wings, the jet generates strong turbulence as it enters a still area (relatively to the jet speed).

The main characteristics of this noise are the following:

- The generation area is located rear of the engines, at a distance equivalent to a few nozzle diameters.
- The noise directivity is strong, heading for the back of the aircraft.
- The noise generated does not contain remarkable tones, and its frequency band is quite wide.

ENGINE NOISE - FAN

The noise produced by the fan results of the superimposition of a wide-band noise (as for the jet) and noise with harmonics.

- The wide band noise is due to the boundary layer developing on the fan blades, and more generally to the airflow around them.
- The harmonics are originating in the intrinsic cycling character of the fan motion (spinning motion). The most remarkable frequency is the fundamental, the value of which is the number of blades times the fan rotation speed. The harmonics are multiples of this fundamental.
- When the engine rating is high (during take-off for instance), the airflow around the fan blades transitions to supersonic and these multiple pure tones are at the origin of the so-called “buzz saw noise”.

[1] In 2017, 39% of aircraft movements at Gatwick were billed at the Chapter 14 noise standard. Of these, 63% were in the quietest noise categories, Chapter 14 Base and Chapter 14 Minus

ENGINE NOISE - COMPRESSOR

It is of the same kind than the fan noise, but the harmonics are less emergent due to interaction phenomena.

AIRFRAME NOISE

The airframe noise would be the noise produced by the aircraft, if all engines were made inoperative. It is generated by the airflow surrounding the moving plane. The main sources are the discontinuities of the aircraft structure, such as high-lift devices (flaps and slats), landing gear wheels (when extended), trailing edges where there is a speed shearing (aircraft speed versus still air).

It was empirically determined that the noise emissions are dependent on the sixth power of the aircraft's true airspeed. This noise produced from aerodynamic phenomena is most sensitive during approach, when engine power is the lowest.

AIRCRAFT NOISE AROUND AIRPORTS

The community noise does not only include the aircraft emissions but also other sources, such as road traffic. Actually the airport-side residents are also exposed to these other sources, the noise of which may be higher than the one produced by the aircraft, at least in terms of equivalent acoustic energy.

The noise produced by aeroplanes was not really a major issue before the early 1960's, when the traffic of jet-planes started to grow. Nowadays, it can be considered as the most obvious kind of pollution due to aircraft operations. Nonetheless, one must acknowledge that the noise perception (and especially for aircraft) is very subjective and depends on the sensitivity to noise of each person. This is the reason why even though the global amount of aircraft noise energy has decreased, in the meanwhile the feeling of disturbance has increased.

Aircraft manufactured today are much quieter than they were 20 years ago and these will be replaced by even quieter aircraft in the future. But, even though each individual aircraft is quieter, there are more aircraft flying now than previously. This means that the average level of noise is lower than before, but the frequency of aircraft movements and hence noise 'events' has increased.

AIRCRAFT NOISE MEASUREMENT

In the UK, daytime aircraft noise is measured by calculating the average noise level in decibels (dB) over 16 hours, to give a single daily figure. The UK Government calls this average decibel measurement 'L_{Aeq}' (which is often shortened to L_{eq}). It means 'equivalent continuous noise level' and is the most common international measure of aircraft noise. The UK Government says that communities become significantly annoyed by aircraft noise above 57dB L_{Aeq}. They use this as the starting point when setting policy on aircraft noise.

In the last 15 years, the number of people affected by noise within Gatwick's 57dB(A) 16 hour L_{eq} daytime noise contour has fallen from 14,500 people in 1996 to 3,650 in 2012. This has been achieved despite a significant growth in air traffic movements per annum from around 220,000 in 2006 to 240,000 flights in 2012. In 2016, the number of people in this contour increased to 4,150. However, looking holistically over the same period the total number of people in this contour has fallen by 70% since 1996 whilst the airport has grown to serve a total of 281,000 aircraft movements and 44.1 million passengers in 2016.

INTERDEPENDENCIES - NOISE AND EMISSIONS TO AIR

There are interdependencies between the emissions of local air pollutants and carbon dioxide (CO_2) from aircraft engines, which affect aircraft noise management strategies. Most of the technological advances in aircraft design in the last 20 years have led to both a reduction in noise and CO_2 emissions, but in some cases have resulted in an increase in emissions of local air pollutants such as oxides of nitrogen (NO_x). The challenge for the aviation industry is to address these three issues simultaneously.

Operational controls also need to be balanced. For example, the adoption of a reduced thrust setting for an aircraft during take-off can reduce NO_x emissions by up to 30% or more compared to a full thrust setting. Many airlines already employ 'reduced thrust' as their standard operating procedure. While this is beneficial in the immediate vicinity of the airport, there can be a small increase in the noise experienced by those further away under the departure flight path as the aircraft decreases its angle of ascent.

Gatwick Airport has long been aware of the interdependencies between noise, local air quality and CO_2 emissions and has undertaken a number of studies to help quantify the exact balance that needs to be struck for specific situations. The level of understanding of this interdependency external to the aviation community is not complete, and Gatwick Airport aims to promote further engagement.

EFFECTS OF NOISE

There are many different effects and sources of noise, and individuals experience each of them to different degrees. The effects can include general distraction, speech interference and sleep disturbance. Sometimes these effects can lead to annoyance and complaints. Research into the potential health effects of noise produces varying outcomes. More recently research published in the British Medical Journal in October 2013 states that the exact role that noise exposure may play in ill health is not well established. However, it is plausible that it might be contributing - for example, by raising blood pressure or by disturbing people's sleep. There's a 'startle reaction' to loud noise - if you're suddenly exposed to it, the heart rate and blood pressure increase. And aircraft noise can be annoying for some people, which can also affect their blood pressure, leading to illness. (Dr A Hansell, Imperial College London).

The possibility that severe annoyance might induce stress cannot be ignored. The Government's Aviation Policy Framework aims is to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise as part of a policy of sharing benefits of noise reduction with industry. This is consistent with the Government's Noise Policy, as set out in the Noise Policy Statement for England (NPSE) 93 which aims to avoid significant adverse impacts on health and quality of life.

ANNOYANCE

Extracted from the Civil Aviation Authority publication 'CAP 1588 - Aircraft Noise and Annoyance: Recent findings'.

The ever-increasing demand for regular and convenient road, rail and aircraft transportation consequently brings with it an increase in environmental noise and subsequent effects.

The most widespread and well documented subjective response to noise is annoyance; which can be defined as a feeling of resentment, displeasure, discomfort, dissatisfaction or offence which occurs when noise interferes with thoughts, feelings or activities. The annoyance of populations exposed to aircraft noise varies not only with the acoustical characteristics of the noise, but also with a range of non-acoustical factors of social, psychological or economic nature.

Transportation noise, amongst other noise sources such as that from construction, was brought to people's attention in 1963, via a report entitled "*Noise*", written by the Committee on the Problem of Noise, and commonly referred to as the "Wilson Report" after Sir Alan Wilson, Chairman of the committee. The Wilson Report stated that solving "noise problems must involve people and their feelings, and its assessment is a matter rather of human values and environments than of precise physical measurement". The issues raised in the Wilson Report are still, if not more, relevant today with an increasing demand for travel, 24-hour society and requirements for transport links.

Annoyance is considered to be a detriment to quality of life, well-being and ultimately, health. The Word Health Organisation's (WHO) definition of health is: *"Health is a state of complete physical, mental and social well-being, and not merely an absence of disease and infirmity."* Annoyance from any source therefore represents a diminished state of well-being.

In order to provide public protection from aircraft noise, an 'annoyance threshold' currently exists within UK policy. The time period for noise exposure used is an average summer day, from June 16th to September 15th and from 7am to 11pm. The Wilson report originally recommended the use of summer days (7am – 7pm) due to the increased likelihood of more people being outdoors and having windows open, and also because aviation levels are at their highest during summer months. The 1982 *Aircraft Noise Index Study (ANIS)*, the outcomes of which were adopted in policy in 1990, extended the reference day period from 7am to 11pm to reflect that there is a difference in terms of daytime and night-time noise exposure and consequently, annoyance reactions, resulting in the need for distinctive daytime and night-time noise exposure metrics. The noise exposure metric $L_{Aeq,\ 16h}$, was adopted in 1990 on the basis of the ANIS findings. The UK government defined three thresholds for policy consideration: 57, 63 and 69 dB $L_{Aeq,\ 16h}$, representing low, moderate, and high annoyance levels.

The 2003 Air Transport White Paper subsequently defined 57dB $L_{Aeq,\ 16h}$ as marking the approximate onset of significant community annoyance, and this was reaffirmed in the Government's 2013 Aviation Policy Framework. Critics argue that attitudes have changed since the 1982 survey. This could be because of general shifts in attitudes to annoyance, changes in the pattern of aircraft noise experienced, and/or because of changes to lifestyle that are affected by aircraft noise. This ultimately led to the UK government commissioning the *Survey of Noise Attitudes (SoNA) 2014: Aircraft stud*y.

The government published their Response to their Airspace Consultation in 2017 and acknowledged the evidence from the SoNA study, which showed that sensitivity to aircraft noise has increased, with the same percentage of people reporting to be highly annoyed at a level of 54 dB $L_{Aeq,\ 16hr}$ as occurred at 57 dB $L_{Aeq,\ 16hr}$ in the past.

Taking account of this and other evidence on the link between exposure to noise from all sources and chronic health outcomes, the government decided to adopt the risk based approach proposed in their consultation, so that airspace decisions are made in line with the latest evidence and consistent with current guidance from the World Heath Organisation (WHO).

In 2010 the Department for Environment, Food and Rural Affairs (DEFRA) released the *Noise Policy Statement for England (*NPSE), which aimed to provide clarity on noise and set out the government's long-term vision of noise policy for all noise sources. The noise policy vision was to "promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."

The NPSE aims, through the effective management and control of environmental, neighbour and neighbourhood noise within the context of government policy on sustainable development:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.

The phrases "Significant adverse" and "adverse" refer to the two established concepts that are applied to noise impacts worldwide, namely:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected. Extending these concepts for the purpose of the NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur. It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. SOAEL is therefore not specifically defined in the NPSE, for flexibility purposes in the future, with the addition of more research findings.

Annoyance from aircraft noise is a global issue, not just confined to the UK. In 2011, the WHO Europe and the Joint Research Centre published the report: *Burden of Disease from Environmental Noise.* The aim of this report was to provide technical support to policymakers in the form of quantitative risk assessment of environmental noise, using the evidence available in Europe.

For each noise-induced outcome, the report estimated the number of life years that are affected by noise, defined as Disability Adjusted Life Years (DALYs). DALYs are the sum of the potential years of life lost due to premature death and the equivalent years of "healthy" life lost by virtue of being in states of poor health or disability. The outcomes included were ischemic heart disease, cognitive impairment of children, sleep disturbance, tinnitus and annoyance. It was estimated that 654,000 years were lost annually due to annoyance in the EU Member States, and other western European countries (from combined noise sources, but predominantly road traffic noise). This was only exceeded by those lost due to sleep disturbance annually, which were calculated as 903,000 years.

All transportation noise sources result in a degree of annoyance, and this remains a growing concern, particularly with the possible links to other health endpoints. This report will focus on aircraft noise-induced annoyance. Annoyance from aircraft noise and other transportation sources is often studied as part of complex pathways which may exist between acute and chronic health effects such as cardiovascular disease, disturbed sleep patterns with subsequent next-day effects, and even the cognitive performance and learning aspects in children, as detailed in the Burden of Disease Report.

The much anticipated update to the 1999 WHO Community Noise Guidelines is currently being developed, and it is expected that this document will be published in 2018.

CIVIL AVIATION AUTHORITY LITERATURE REVIEW

The United Kingdom Civil Aviation Authority (CAA), at the request of the Department for Transport has undertaken a literature review on the effects of night time aircraft noise on local residents. The CAA's review concluded that:

- It is possible to estimate the proportion of the population who are likely to self-report being highly sleep disturbed for a given noise exposure. Chronic sleep disturbance is regarded as a health effect in its own right with a measurable impact on quality of life, which can be expressed as Years Lost due to Disability (YLD).
- For impacts on cardiovascular health, there is evidence that noise exposure above 55 dB L_{night} results in increased risk of myocardial infarctions (heart attacks).
- There is evidence for a correlation between noise exposure and hypertension and there is sufficient evidence in order to value the impacts in terms of hypertension leading to a stroke or dementia.
- For stress and mental health effects, the evidence is inconclusive or limited, showing a possible correlation between noise exposure and mental health symptoms (e.g. depression, anxiety) but not problems such as clinically defined psychiatric disorder.
- For next day effects, there is some evidence to suggest that environmental (night) noise has scientific evidence of chronic objective effects on stress hormone levels, immune system or performance the next day.
- In relation to the impact on children, the evidence is inconclusive. There is a growing amount of research that noise exposure has effects on cognitive development (particularly on reading) and chronic noise may affect children's stress levels, blood pressure and mental health. There is evidence to suggest that aircraft noise may be associated with poorer reading comprehension and recognition memory. However, it is unclear whether the effects are attributable to daytime or night time noise, and there is no evidence for long-term persistent effects on cognitive development.

Following their literature review, the CAA developed a methodology paper, which proposes how the following health impacts associated with aircraft night noise may be quantified and monetised as part of an appraisal:

- Sleep disturbance;
- The increased risk of myocardial infarctions (heart attacks); and
- The increased incidence of hypertension (including secondary effects of stroke and dementia).

The CAA have recently published a new paper, 'Aircraft noise and health effects: Recent findings' which examines evidence on the relationship between aircraft noise and health that has been published since 2009. The report concludes that with regards to night noise and sleep disturbance, there is growing recognition that average indicators, such as L_{night}, are insufficient to fully predict sleep disturbance and sleep quality.

AIRCRAFT NOISE EFFECTS ON HEALTH

As part of the Airports Commission, specific research on aircraft noise was prepared by Dr Charlotte Clarke of the Queen Mary University of London. The study investigated the health effects of environmental noise on cardiovascular health, sleep disturbance, annoyance, psychological well-being, and effects on children's cognition and learning. Although the study was not an exhaustive review it summarised the strength of the evidence for aircraft noise effects as well as briefly discussing guidelines for environment noise exposure.

ANASE (ATTITUDES TO NOISE FROM AVIATION SOURCES IN ENGLAND)

ANASE was a social study commissioned by the Department for Transport in 2002 aimed at reassessing people's attitudes to aircraft noise, reassessing L_{Aeq} as a measure of annoyance and determining the financial value of noise. The final report was published in 2007, together with the comments of peer reviewers.

The expert peer reviewers advised the DfT that reliance on the detailed outcome of the ANASE study would be misplaced and specifically counselled against using the detailed results and conclusions in the development of Government policy. As a result, the Government stated that they did not propose to use the detailed results from ANASE in the development of policy.

Gatwick Airport continues to support the Government's view of ANASE being an important step forward in understanding people's attitudes towards aviation noise. The report findings will continue to be reflected on and considered by Gatwick Airport when formulating noise strategies, objectives and plans.

SURVEY OF NOISE ATTITUDES (SONA) 2014: AIRCRAFT

Airports aim to satisfy the demands of travellers and provide jobs: but they can cause adverse effects on the environment and people living nearby. A major form of adverse effect is that from aircraft noise. Airport planning and development planning must take account of the aircraft noise exposure to residents; airport operators and interested government departments have to view aircraft operations in the context of the related airport noise. These assessments are usually carried out in the UK, and in most countries of the world, by using noise exposure indices.

This report describes a research study to obtain new and updated evidence on attitudes to aviation noise around airports in England, and how they relate to the UK aircraft noise exposure indices. The study was commissioned by the Department for Transport, and builds on earlier noise attitude surveys commissioned by DEFRA.

In part it aims to review the use of the $L_{Aeq,\,16h}$ noise contour which was adopted in 1990, based on an aircraft noise attitude survey undertaken in 1982 and reported as the UK Aircraft Noise Index Study (ANIS) in 1985. The 57dB L_{Aeq16h} contour was chosen as the threshold of community annoyance because it 'indicated a marked increase in some reported measures of disturbance', with 63 and 69dB $L_{Aeq,\,16h}$ representing medium and high annoyance and subsequently incorporated into planning policy guidance.

The SoNA study considered 1,877 participants using face-to-face surveys on attitudes to civil aircraft noise. Respondents were selected using a random, partially-clustered approach from around nine airports in England, having been exposed to average $L_{Aeq,\,16h}$ noise levels of at least 51dB in the summer of 2013.

Using the data gathered in the surveys, the study compared reported mean annoyance scores against average summer-day noise exposure defined using different noise indicators including N above (N60 or N70).

Evidence was found that mean annoyance score correlated well with the current average summer day noise exposure contour ($L_{Aeq,16h}$) whilst there was no evidence found that other metrics correlated better with annoyance than $L_{Aeq,16h}$.

However, the study did note that residents can struggle to understand the L_{Aeq} measure which is time averaged and reported on a logarithmic scale. It noted that there is merit in considering the greater use of N above (N60 or N70) metrics as supplementary metrics to help portray noise exposure but recognising that evidence-based decisions should continue to use $L_{Aeq, 16h}$.

When comparing the results to previous studies (ANIS, ANASE and Miedema) Annoyance scores were found to be comparable however for a given noise exposure, a lower proportion of respondents was found to be highly annoyed. This was demonstrated with the same percentage of respondents (9%) said by ANIS to be highly annoyed at 57 dB $L_{Aeq, 16h}$ now showing annoyance in SoNA at 54 dB.

Evidence was found that non-acoustic factors such as noise sensitivity, approximated social grade, and expectations – both prior to moving to an area exposed to aircraft noise and in the future – influence reported aircraft noise annoyance and these non-acoustic factors may be as important as the noise exposure level.

The full report can be viewed online by following this link:
https://publicapps.caa.co.uk/docs/33/CAP%201506%20FEB17.pdf

PRE CONSULTATION INFORMATION

In preparing the initial 'Round One' 2010 – 2015 Noise Action Plan we held a series of pre-consultation events with representatives from airlines, NATS, Local Authorities, local environment amenity groups and members of the Gatwick Airport Consultative Committee (GATCOM).

In producing this revised action plan we have consulted with the Noise Management Board, GATCOM, members of the Noise and Track Monitoring Advisory Group (NaTMAG), Crawley Borough Council and West Sussex County Council, and advised the Noise Management Board of this process, in line with the guidance issued from DEFRA.

Details of feedback received during this revision process is provided in Annex 9.

SECTION 6 – AVIATION POLICY AND REGULATION OVERVIEW

There are three main tiers of regulation which govern aircraft noise in the UK: International; European and national.

INTERNATIONAL REGULATION

The International Civil Aviation Organisation (ICAO) is an intergovernmental organisation. It aims to develop the principles and techniques of international civil air navigation and foster the planning and development of international air transport. ICAO establishes International Standards, Recommended Practices and Procedures regarding the technical areas of aviation, including aircraft noise. The Standards, once adopted, are put into effect by each ICAO member state in its own country.

An important pillar of the Balanced Approach to Aircraft Noise Management is the reduction of noise at source. Aircraft noise ("noise at source") has been controlled since the 1970s by the setting of noise limits for aircraft in the form Standards and Recommended Practices (SARPs) contained in Annex 16 to the Convention on International Civil Aviation (the "Chicago Convention"). This continues to be the case today. Noise provisions appear in Volume I of Annex 16. The primary purpose of noise certification is to ensure that the latest available noise reduction technology is incorporated into aircraft design and that this is demonstrated by procedures that are relevant to day-to-day operations. This aims to ensure that noise reductions offered by technology are reflected in reductions around airports.

The first noise standard was developed by the ICAO Committee on Aircraft Noise in 1971 and became applicable in 1973, setting noise limits as a direct function of Maximum Take-off Mass (MTOM) in order to recognize that heavier aeroplanes, which were of greater transport capability, produce more noise than lighter aeroplane types. This is the Chapter 2 Noise Standard contained in Annex 16, Volume I.

In the years following the introduction of Chapter 2, much higher bypass ratio jet engines were introduced into service. Not only did this new technology deliver improved fuel efficiency, it also resulted in reductions in engine noise. This allowed for the ICAO noise standard to be made more stringent and in 1977 the Chapter 3 Noise Standard was added to Annex 16, Volume I. In the following years, further noise reduction technologies were incorporated into engine and airframe designs which led to incremental improvements in aircraft noise performance and this resulted in progressively further increases in the stringency of noise standards as reflected in Annex 16, Volume I, Chapter 4 and Chapter 14.

Over time it has become common parlance when discussing aviation noise to refer to civil jet aircraft by which chapter of Annex 16 Volume 1 they sit in. The adoption of progressively more stringent standards has encouraged the phase out of noisier aircraft meeting the noise standards of earlier Chapters. Chapter 2 aeroplanes have been banned from operating within the EU since 1st April 2002, unless they are granted specific exemptions. The vast majority of civil aircraft now operating therefore fall within Chapters 3 and 4, and are much quieter than the previous Chapter 2 aircraft types. As yet, there is no agreed date for the phase out of Chapter 3 aircraft.

All new aircraft manufactured from 2006 onwards must meet the requirements of Chapter 4. The standard for Chapter 4 has been set at 10dB quieter than Chapter 3. This is based on an aggregate of reductions in noise measured at three standardised locations close to an airport. During the

process of agreeing the Chapter 4 standard, the industry discussed a stricter level at 18dB (aggregate) below the current Chapter 3, which would have reflected best available technology. This now forms the basis of Chapter 14 standard adopted in 2014 by the ICAO Council. This represented a new noise standard for jet and propeller-driven aeroplanes which is Chapter 4 minus 7dB (Chapter 3, -17dB). This new, more stringent standard will be the mainstay ICAO Standard for subsonic jet and propeller-driven aeroplane noise for the coming years. It is applicable to new aeroplane types submitted for certification on or after 31 December 2017, and on or after 31 December 2020 for aircraft less than 55 tonnes in mass.

The new Chapter 14 noise standard is expected to drive the continued reduction in aircraft noise emissions and lead to long term reductions in the number of people affected by aircraft noise.

ICAO also requires Member States to adopt a “balanced approach” to noise management. Both the EU and the UK have adopted the ICAO “Balanced Approach to Airport Noise Management”.

Where a noise problem has been identified at an airport, the Balanced Approach process requires the agreement of a noise objective. Following this, all potential measures to manage noise at the airport must be identified, and a cost benefit analysis to determine the most cost-effective package of measures, carried out.

The Balanced Approach consists of four main elements:

- **Noise at source**
- **Land use planning**
- **Operating procedures**
- **Operational restrictions**

NOISE AT SOURCE

Aircraft noise is generated by a number of different ‘sources’, though the dominant one is still the main engines, on approach airframe noise is now becoming important. Through the work of ICAO and the development of the aircraft chapter standards, the industry has invested heavily in Research and Development to continually reduce the noise impact of aviation.

LAND USE PLANNING

Land use planning covers a wide range of measures aimed at improving the noise climate around airports. The most effective long-term options include the definition of noise zones in which there are restrictions on residential and other noise sensitive property development, and these are used widely in the UK and across Europe.

OPERATING PROCEDURES

Using defined, or 'noise preferential' routes (NPR's) is one way of minimising exposure to noise for people living near airports. Such routes are chosen because they direct aircraft, where possible, over less densely populated areas.

Although originally developed as a procedure for reducing fuel use, Continuous Descent Operation (CDO) is an important tool for reducing the noise of aircraft approaching airports. It involves starting a continuous steady descent, from 6,000ft or higher, rather than following a number of short descents to set 'cleared' altitudes where level segments are flow before finally joining the 3° approach glide-slope from below, as is normally required by Air Traffic Control.

The CDO technique results in lower noise levels on the ground through two effects:

1. the CDO flight-path is always higher than in the traditional stepped approach - being further from the ground also results in lower noise levels;
2. by keeping the aircraft on a continuous descent, the overall engine power levels are kept lower, generating less noise than if the aircraft were required to fly level.

Gatwick Airport Ltd raised the level at which a CDO is measured to 7,000ft in 2016 and is exploring ways to raise this further through our work with the Noise Management Board.

Additional noise reductions may be achieved by using a Low Power/Low Drag (LPLD) procedure. In this, the aircraft is flown in a 'clean' condition (i.e. with no flap or wheels deployed) as long as possible, consistent with safety, this can result in lower noise levels when the aircraft are close to the ground.

OPERATING RESTRICTIONS

Operating restrictions may be necessary for some airports where noise mitigation is required, and other methods prove to be ineffective. In this respect, as part of the “Balanced Approach”, operating restrictions may be applied to aircraft whose noise emissions are marginally below the Chapter 3 limits. Strict rules apply for the introduction of operating restrictions to ensure fair competition across Europe and maintain the efficiency of the EU aviation network.

At a number of airports, there are restrictions over and above the noise certification standard, the most common of which are applied at night. One example of this is the Night Jet Restrictions Scheme used at the “designated” London airports.

EUROPEAN REGULATION

The EU works to define the approach towards a common aviation policy in Europe. The EU has issued various directives relating to environmental issues including for the regulation of aircraft noise standards. Member States are obliged to comply with the requirements of the directives and incorporate them into national legislation.

On 23 June 2016, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation.

The directives of most relevance to aircraft noise as follows:

EC Directive 92/14/EEC – This directive banned Chapter 2 aircraft from landing in the EU from 1 April 2002.

EC Directive 2002/49 (“Environmental Noise Directive”) – This requires Member States to create noise maps from all transport sources in urban areas by 2007 and to develop and adopt Noise Action Plans to manage noise by 2008, and to repeat the mapping and produce revised Noise Action Plans every five years. This Noise Action Plan meets that requirement. The directive also aims to harmonise methods for measuring noise across the EU, but it does not include noise limits.

EU Regulation 598/2014 -This regulation applies rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports. This regulation replaced an earlier EC Directive, 2002/30 (March 2002) which prescribed that the ICAO balanced approach would be followed when the introduction of noise related operating restrictions was considered at EU airports. EU598/2014 updated 2002/30/EC by being more specific regarding the rights and

responsibilities of the interested parties during the noise assessment process, and provides for a new and wider definition of what constitutes an operating restriction:

'operating restriction' means a noise-related action that limits access to or reduces the operational capacity of an airport, including operating restrictions aimed at the withdrawal from operations of marginally compliant aircraft at specific airports as well as operating restrictions of a partial nature, which for example apply for an identified period of time during the day or only for certain runways at the airport.

When a new operating restriction is being considered, EU598/2014 requires a defined objective to be set, and demonstration of why other measures within the balanced approach (which would not restrict capacity) would not achieve the objective. It also prescribes a process for evaluation of the cost effectiveness of the proposed operating restrictions which involves reviewing the relative costs of noise restrictions options and considering how many people would benefit from them. New restrictions must be consulted upon, and then prior to their introduction a period of notice must be given.

EU598/2014 anticipates the introduction of noise restrictions aimed at reducing the number of marginally compliant Chapter 3 aircraft. It prohibits the introduction of restrictions aiming to reduce the number of aircraft meeting the Chapter 4 standard.

NATIONAL REGULATION

ACTS OF PARLIAMENT AND REGULATIONS

The UK Government also enacts Acts of Parliament and regulations which deal with aircraft noise. The relevant legislation is detailed below:

- **The Civil Aviation Acts 1982 and 2006**

These Acts grant the Government powers to introduce noise control measures to limit or mitigate the effect of noise and vibration connected with taking off or landing aircraft at designated airports (the Secretary of State has currently designated Gatwick). These powers are widened by the Civil Aviation Act 2006. The Act also permits an airport authority to charge aircraft operators for use of the airport based on noise and emissions. Airport operators can thereby introduce differential charges to incentivise the use of quieter and cleaner aircraft.

The Act also permits airport operators to levy financial penalties on aircraft operators who breach noise abatement requirements imposed by the Secretary of State. A sum equal to the penalties received must then be paid for the benefit of people who live in the vicinity of the airport. At Gatwick Airport, we enforce this power and did so long before 2006. All fines are paid to an independent charity, the Gatwick Airport Community Trust.

- **Airports Act 1986**

This Act gives power to the Secretary of State to make orders if it appears to them that the existing runway capacity of the airport is not fully utilised for a substantial proportion of the time during which it is available. It includes powers to limit the number of occasions on which aircraft may land or take off at an airport and schemes to allocate airport capacity.

- **Aeroplane Noise Regulations 1999**

These regulations set out the noise certificate requirements for both propeller and jet aeroplanes registered in the UK. It makes provision to ensure that no aircraft can land or take off in the UK without a noise certificate issued by its competent authority which meets at least equal requirements to those for UK registered aircraft. The regulations make reference to noise certification standards and noise limits issued by ICAO and also provides a list of aircraft that are exempt from the ICAO noise certification.

In accordance with its powers under the Civil Aviation Acts, the DfT has direct control over noise at Gatwick Airport and determines the night flight restrictions applicable to the designated London airports.

- **The 2003 Air Transport White Paper**

The 2003 Air Transport White Paper (2003 ATWP) was intended to provide a strategic framework for the development of air travel in the UK for the next 30 years. In case the conditions attached to the construction of a third Heathrow runway could not be met, the ATWP required that land at Gatwick be safeguarded for development of a second runway after 2019. This safeguarding presently remains in place.

- **The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003**

The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003 set out the procedures which major airports should follow when considering noise amelioration measures. Broadly, the Regulations require aerodromes to follow the 'balanced approach' when dealing with noise problems at an airport. These regulations transposed the EC Directive 2002/30/EC into UK law, they remain "within" the boundaries prescribed by EU598/2014, however, presumably were the UK to remain part of the EU, would be updated in accordance with it.

The main rules are that aerodromes:

- may consider economic incentives as a noise measure;
- shall not impose a measure or a combination of measures which is more restrictive than is necessary to achieve the environmental objectives established for the airport by the Airport Operator or in the case of a designated airport, the Secretary of State;
- shall not discriminate on grounds of the nationality or the identity of the air carrier or the aircraft manufacturer;
- should take into account the likely costs and benefits of the various noise measures available as well as airport-specific characteristics;
- when introducing restrictions based on an aircraft's noise performance, should base these upon the noise performance of the aircraft as determined by the certification procedure conducted in accordance with ICAO Annex 16;
- shall establish one or more environmental objectives for the airport before considering any measures under the Regulations.

- **Environmental Noise Objectives**

In June 2006, the Secretary of State published long-term statutory environmental noise objectives for Gatwick Airport. These are:

- to progressively encourage the use of quieter aircraft
- avoid allowing the overall noise from aircraft during the night quota period to increase above what was permitted in 2002- 2003
- to meet other noise-abatement objectives as adopted from time to time.

- **The Environmental Noise (England) Regulations 2006 (as amended)**

These regulations transpose the requirements of EC Directive 2002/49/EC (Environment Noise Directive – see above) into UK law. They place a duty on the Secretary of State to produce strategic noise maps and, under regulation 18, airport operators are obliged to produce noise action plans based on the strategic noise maps.

- **Local Authorities**

As well as Government legislation, additional noise-related controls are introduced by local planning authorities as part of the planning system. For example at Gatwick Airport there are several planning conditions relating to North Terminal which require towing of aircraft between 23:00 - 06:30 on some aircraft stands as well as limits of the amount of aircraft engine tests permitted. This is often done by way of planning obligations contained in Section 106 Legal Agreements made between the airport operator and the planning authority. Gatwick Airport signed a re-negotiated S106 Agreement in December 2015. This agreement, valid until 2018, outlines a number of obligations and action plan action; this is independently audited annually.

For details of Gatwick Airport's S106 Legal Agreement with West Sussex County Council and Crawley Borough Council please refer to our website[2].

- **2013 Aviation Policy Framework**

The **2013 Aviation Policy Framework (APF)** fully replaced the 2003 ATWP as Government's policy on aviation, alongside any decisions Government would later make taking account of the recommendations of the independent Airports Commission review which was ongoing at the time. The APF strongly supports making best use of existing airport capacity as part of a strategy to promote a vibrant aviation sector (§1.24, §1.60 and other references). This policy has been re-affirmed recently in the revised draft Airports National Policy Statement where Government states that it is supportive of all airports who wish to make best use of their existing runways (e.g. para 1.37).

The 2013 APF focuses on the benefits of aviation and its environmental impacts and frames national policy to strike a balance between the two. The APF seeks to integrate aviation noise policy contextually with other Government policies for land use planning in the National Planning Policy Framework (NPPF) and the promotion of good health and good quality of life through the management of noise in the Noise Policy Statement for England (NPSE). The APF also has wider objectives in relation to Safety, Security, Competition and Regulation Policy and Passenger rights.

[2] https://www.gatwickairport.com/business-community/community-sustainability/sustainability/s106-agreement/

- **Draft Airports National Policy Statement**

A Draft Airports National Policy Statement ("NPS") was published on 2 February 2017, for consultation running through to 25 May 2017. The draft NPS sets out the Government's policy on the need for new airport capacity in the South East of England, and its preferred location and scheme for delivering this capacity. In addition to work on the NPS, the Government plans to consult on various elements of a new Aviation Strategy during 2018. This will replace the Aviation Policy Framework (2013) and to include consideration of airport development requirements at all UK airports.

- **Revised Draft Airports National Policy Statement**

Between February and May 2017, the Department for Transport consulted on a draft Airports National Policy Statement (NPS), and received more than 70,000 responses from across the UK. In October 2017, the Government launched a period of further consultation to give people the chance to consider updated evidence which was unavailable in February 2017.

- **UK Airspace Policy**

The Government confirmed in October 2017 that it will be establishing a new independent noise body, which will help to ensure the communities around UK airports have a say in airspace changes which may affect them. The Independent Commission on Civil Aviation Noise (ICCAN) will produce guidance and best practice for making sure the process for taking airspace change decisions is trusted and transparent. To ensure this is happening, there will be a review of ICCAN within two years, with a view to considering whether statutory powers are required.

The announcement confirms that Government accepts recent research regarding the way noise effects should be assessed. These support the continued use of the L_{eq} noise assessment metric, but relating noise to risk of adverse effects to health and quality of life. Supplementary noise metrics are to be used to capture frequency of noise events in areas affected by noise below levels below those where adverse effects to health or quality of life occur.

It is intended that measures set out in October 2017 will enable the UK to make much greater use of new technology which gives the UK the ability to manage its airspace more effectively to tackle delays, cut emissions and reduce the need for stacking above the UK's busiest airports. More detailed methods of assessing the noise impacts of the required airspace changes are being consulted on.

GENERAL PLANNING POLICY – THE NPSE, AND THE NPPF

THE NOISE POLICY STATEMENT FOR ENGLAND

The Noise Policy Statement for England (NPSE) of March 2010 states the long-term vision of Government noise policy is to "promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development".

The long-term vision is supported by the following aims; through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life;
- Where possible, contribute to the improvement of health and quality of life.

The intention is that the NPSE should apply to all types of noise apart from noise in the workplace (occupational noise). For the purposes of the NPSE, "noise" includes:

- "environmental noise" which includes noise from transportation sources;
- "neighbour noise" which includes noise from inside and outside people's homes; and
- "neighbourhood noise" which includes noise arising from within the community such as industrial and entertainment premises, trade and business premises, construction sites and noise in the street.

The NPSE introduced the concepts of the Significant Observable Adverse Effect Level (SOAEL) and the Lowest Observable Adverse Effect Level (LOAEL) to draw the distinction between those noise levels that should be avoided (above SOAEL) and those that should be minimised (above LOAEL), all in the context of Government policy on sustainable development. Recent government research (the SONA 2014 report) indicates that the LOAEL is at L_{eq} 16 hour 51dB and recent airport planning decisions agree that the SOAEL is at L_{eq} 16 hr 63dB.

THE NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF provides Government's policies to promote sustainable development and sets out that the purpose of the planning system is to contribute to the achievement of sustainable development[3]. Sustainable development includes three dimensions: economic, social and environmental, and thus, when planning decisions are made to increase capacity, the process requires weighing the relative balance of these three factors.

Planning law requires that applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. The National Planning Policy Framework must be taken into account in the preparation of local and neighbourhood plans, and is a material consideration in planning decisions. Planning policies and decisions must reflect and where appropriate promote relevant EU obligations and statutory requirements.

The NPPF does not contain specific policies for nationally significant infrastructure projects for which particular considerations apply. These are determined in accordance with the decision-making framework set out in the Planning Act 2008 and relevant national policy statements for

[3] NPPF §6

major infrastructure, as well as any other matters that are considered both important and relevant (which may include the National Planning Policy Framework). National policy statements form part of the overall framework of national planning policy, and are a material consideration in decisions on planning applications.

With reference to airports, the NPPF states:

*"When planning for ports, airports and airfields that are not subject to a separate national policy statement, plans should take account of their growth and role in serving business, leisure, training and emergency service needs. Plans should take account of this Framework (NPPF) as well as the principles set out in the relevant national policy statements and the Government Framework for UK Aviation."[*NPPF §33]

GOVERNMENT AVIATION NOISE POLICY

The Government's current aviation noise policy is encapsulated in the 2017 Airspace Policy Consultation Response, October 2017, as follows[4]:

"The government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise, as part of a policy of sharing benefits of noise reduction between industry and communities in support of sustainable development. Consistent with the Noise Policy Statement for England…"

The Noise Policy Statement for England makes a distinction between those significant adversely affected, and those adversely affected, and requires the focus of noise control to be on those people significantly adversely affected because those are the people most at risk of health impacts.

Within the overarching policy, "limiting" the effects of noise means avoiding significant adverse effects to health and quality of life, mitigating adverse effects, and where possible contributing to the improvement of health and quality of life. [Feb 2017 Airspace Policy Consultation §5.28]. Whereas Government's primary objective is economic growth [Ref APF Executive Summary §5], the noise policy can be interpreted as Government wanting to regulate aviation growth so that it occurs sustainably and so that industry continues to have the incentive to invest and deliver long term reductions in noise.

[4] §2.69 Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace – October 2017.

SECTION 7 – NOISE MANAGEMENT AT GATWICK AIRPORT

Airports bring positive economic and social benefits as well as environmental impacts. They are important to the economy, providing jobs, encouraging inward investment and boosting local tourism. However, they can also have an impact for those communities that exist around airports. Noise remains a significant issue for people living or working close to airports or under flight paths.

Some of this noise results from Gatwick Airport's own operations, noise which we have the ability to directly control. However, noise is also generated from sources outside our direct control but where we can exert influence to bring about change. Limiting and, where possible, reducing the impact of noise is a long standing commitment of Gatwick Airport and is critical to maintaining the airport's licence to operate and grow.

OUR APPROACH

Gatwick is a designated airport, so the Government sets the policy framework which influences how the airport responds to aircraft noise issues. The Government's Aviation Policy Framework outlines several ways to control, mitigate and compensate for noise.

The Department for Transport has direct control over noise at Gatwick Airport. Local authorities also contribute to noise controls and we also work with airlines, air navigation services providers and local authorities towards achieving our noise objectives.

OUR PLANS

Alongside the statutory noise objectives, Gatwick Airport has set the following long term objective for the management of aircraft noise:

'To gain the trust of our stakeholders that we are using best practicable means to minimise aircraft noise impacts'

CURRENT MEASURES TO MANAGE AIRCRAFT NOISE AT GATWICK AIRPORT

We believe that we have a full and comprehensive range of noise management measures already in place when compared with other similar airports. These measures cover operational procedures, stakeholder communication and engagement as well as mitigation and compensation schemes.

OPERATIONAL PROCEDURES - AERONAUTICAL INFORMATION PUBLICATION

In aviation, an Aeronautical Information Publication (or AIP) is defined by the International Civil Aviation Organization as a publication issued by or with the authority of a state and containing aeronautical information of a lasting character essential to air navigation. It is designed to be a manual containing thorough details of regulations, procedures and other information pertinent to flying aircraft in the particular country to which it relates. It is usually issued by or on behalf of the respective Civil Aviation Administration.

The structure and contents of AIPs are standardised by international agreement through ICAO. AIPs normally have three parts – GEN (general), ENR (en route) and AD (aerodromes). The

document contains many charts; most of these are in the AD section where details and charts of all public aerodromes are published.

AIPs are kept up-to-date by regular revision on a fixed cycle. For operationally significant changes in information, the cycle known as the AIRAC (Aeronautical Information Regulation and Control) cycle is used: revisions are produced every 56 days (double AIRAC cycle) or every 28 days (single AIRAC cycle). These changes are received well in advance so that users of the aeronautical data can update their Flight Management Systems (FMS).

A range of noise controls relating directly to aircraft operations are set out in statutory notices and are published in the Gatwick Aerodrome AIP and elsewhere as appropriate. These controls cover aspects such as Continuous Descent Operations (CDAs), Low Power / Low Drag, departures noise abatement procedures and night flight restrictions.

A range of noise controls relating directly to aircraft operations at Gatwick Airport are set out in statutory notices and are published in the UK Aeronautical Information Package (UK AIP).

GATWICK AIRPORT AIP REQUIREMENTS

Departures:

- After take-off the aircraft shall be operated in such a way that it is at a height of not less than 1,000ft above aerodrome level at 6.5 km from the start of roll as measured along the departure track of that aircraft.
- After taking off the aircraft shall avoid flying over the congested areas of Horley and Crawley.

Arrivals:

- Between the hours of 23:30 (local) and 06:00 (local), inbound aircraft, whether or not making use of the ILS (instrument landing system) localiser and irrespective of weight or type of approach, shall not join the centre-line below 3,000ft (Gatwick QNH) closer than 10nm (nautical miles) from touchdown.
- Before landing at the aerodrome the aircraft shall maintain as high an altitude as practicable and shall not fly over the congested areas of Crawley, East Grinstead, Horley and Horsham at an altitude of less than 3,000ft (Gatwick QNH) nor over the congested area of Lingfield at an altitude of less than 2,000ft (Gatwick QNH).
- Additionally, pilots are requested to avoid the use of reverse thrust after landing, unless required for safe operation of the aircraft, between 23:00 and 06:00 (local time). This is to minimise disturbance in areas adjacent to the airport.

CONTINUOUS DESCENT OPERATIONS (CDO)

A CDO is a technique of flight in which a pilot descends at a continuous rate to join the glide-path at the correct height for the distance and thereby avoid the need for extended periods of level flight. The intention is to keep aircraft higher for longer, using reduced thrust and thereby reducing arrival noise. CDO requires co-operation between Air Traffic Control (ATC) and pilots in order to both provide information and guidance to allow the pilot to fly the optimum CDO, and for the pilot to manage the descent to deliver the aircraft safely and efficiently at the ILS joining point. There are numerous factors that can affect the delivery of an efficient CDO including weather, crew and ATC familiarisation and traffic conditions.

Levels of CDO achievement are regularly reported back to the Gatwick Airport Consultative Committee (GATCOM) as well as the Flight Operations Performance & Safety Committee (FLOPSC), which includes airline and ATC representatives. This engagement is focused on delivering continuous operational improvement in airline CDO achievement.

In 2016, Gatwick Airport raised the altitude from which CDO is measured from 6,000ft to 7,000ft and will continue to explore the feasibility of raising this further.

LOW POWER / LOW DRAG

Within the Gatwick Airport AIP, part of the Noise Abatement Procedures require aircraft that are approaching the aerodrome to land shall, commensurate with its ATC clearance, minimise noise disturbance by the use of continuous descent and low power, low drag operating procedures.

Where the use of these procedures is not practicable, the aircraft shall maintain as high an altitude as possible. In addition, when descending on initial approach, including the closing heading, and on intermediate and final approach, thrust reductions should be achieved where possible by maintaining a 'clean' aircraft configuration and by landing with reduced flap, provided that in all the circumstances of the flight this is consistent with safe operation of the aircraft.

Currently, apart from visual observations, there is no process for measuring low power low drag compliance with the AIP instruction. Thus Gatwick airport has focused on airline engagement and sharing best practice.

NIGHT RESTRICTIONS

The current night restrictions regime was introduced by the Department for Transport in 2006 and initially was meant to remain in force until 2012. This has since been extended until the end of summer 2017 when a revised regime was introduced.

There have, however, been night restrictions in force at Gatwick Airport for many years. Details of the number of aircraft moments and quota count permitted per season are detailed in Annex 6 – Summary of Limit Values in Place.

Gatwick Airport reports regularly to GATCOM and to the Department for Transport on usage of the movements limits and the quota counts utilised, details of any dispensations or exemptions granted. All dispensations granted by the airport have to be reported to the Department for Transport in writing within one week of the event occurring.

NOISE PREFERENTIAL ROUTEINGS (NPRS)

Noise Preferential Routes provide volumes of pre-defined airspace within which Standard Instrument Departure (SID) Routes are established which aircraft must follow on departure from an aerodrome and so provide some certainty as to which areas will be exposed to aircraft activity.

All aircraft leaving Gatwick Airport should follow the Noise Preferential Routes (NPRs) up to an altitude of 3,000ft or 4,000ft depending on the route. Although aircraft may be directed outside of the NPR below this altitude if required to maintain safety of flight, e.g. to avoid thunderstorms or other traffic.

With reference to Gatwick Airport, as a designated aerodrome, the locations of all of the Noise Preferential Routes are determined by the Department for Transport and have been in their present locations since the late 1960s and were designed to avoid over flight of built-up areas where possible.

A Noise Preferential Routes (NPR) consists of a 'centreline' and an associated compliance monitoring swathe (3km across, i.e. 1.5km either side of the NPR centreline). As long as aircraft remain within this 'swathe' up to the minimum vectoring altitude (3,000ft or 4,000ft), they are deemed to be on track.

Air Traffic Control is responsible for the routing of aircraft once airborne, once the aircraft is above the minimum vectoring altitude, they may give a flight a more direct heading (known as vectoring) off the route. This is subject to certain factors including weather conditions and/or other traffic in the vicinity.

There is a map illustrating the location of all of the Noise Preferential Routes (NPRs) at Gatwick Airport in Annex 7.

NOISE LIMITS

The current departure noise limits of 94 dB(A) (day), 89 dB(A) (shoulder) and 87 dB(A) (night) were implemented at the London airports (Gatwick, Heathrow and Stansted) in 2001. The noise limits are related to a fixed reference distance of 6.5 km from start of roll and have been defined in terms of a maximum A-weighted noise level, LAmax since 1992-93.

Recognising that the noise limits had been in place for many years, the Government announced in its March 2013 Aviation Policy Framework that ANMAC would review the departure noise abatement procedures at the London airports, including noise limits and use of penalties, to ensure that these remain appropriately balanced and effective.

The study by the ANMAC Technical Working Group has identified that there is limited scope for reductions in the noise limits at Heathrow until the retirement of the remaining Boeing 747-400 fleet. A small reduction of 1 to 2 dB in the daytime and shoulder limits might be feasible without causing the overall number of infringements to increase above historic levels.

The results for Gatwick and Stansted indicate that the current daytime, shoulder and night limits could be lowered, by up to 3 decibels or more in some cases, without significantly impacting the current fleets at those airports.

A lowering of the noise limits at Gatwick and Stansted would provide a backstop, dissuading the re-introduction of the noisiest aircraft types, but it would mean that the limits would no longer be applied equally across the three airports (which has been a matter of Government policy for many years).

Analysis has shown that whilst reductions in noise levels at the 6.5 km location could be achieved through changes to airline Noise Abatement Departure Procedures, this would be at the expense of noise increases elsewhere along or to the side of the flight path

Regarding the wider influence of Noise Abatement Departure Procedures on departure noise, ICAO guidance provides two examples: NADP 1 which can mitigate noise close to the aerodrome, and NADP 2 which can mitigate noise more distant from the aerodrome. A wide range of procedures may be developed within the NADP 1 and 2 definitions.

The limits apply at fixed noise monitors only. These night time limits are consistent with the night restrictions regime. Airlines whose aircraft breach the noise limits are fined by Gatwick Airport.

There are no arrivals noise limits.

1,000 FT RULE

Aircraft are required to be at a height of not less than 1,000 feet at 6.5 km from start-of-roll. After passing the 1,000 feet point (at 6.5 km), aircraft are then required to maintain a climb gradient of not less than 4% to an altitude of 4,000 feet.

The rationale for the climb gradient requirement is to ensure that progressively reducing noise levels at points on the ground under the flight path are achieved.

GROUND NOISE

Aircraft engine testing is also controlled by Gatwick Airport. This is done by establishing and enforcing ground noise controls by way of Gatwick Airport Directives (GADs).

In the case of engine run-up restrictions, the GAD states that unless there are urgent operational reasons for engine testing to be carried out at night, ground running must be confined to the period 07:00-22:00 local time. There are additional restrictions regarding the running of auxiliary power units.

A range of ground noise metrics are presented to the quarterly meetings of the Noise and Track Monitoring Advisory Group. These include Fixed Electrical Group Power availability, aircraft Auxiliary Power Unit audit results and the number of aircraft engine tests carried out.

NOISE MONITORING

Gatwick Airport has a noise and track-keeping system, which takes data from ATC radars, combines it with flight information along with data from both fixed and mobile noise monitors situated around the airport.

There are five fixed noise monitors around Gatwick (approximately 6.5km from either end of the runway) and six to seven mobile noise monitors located in communities further away from the airport. The mobile noise monitors are deployed for periods of typically one year and are usually located in areas affected by inbound or outbound aircraft).

The mobile noise monitors allow Gatwick Airport to gain an understanding of the noise climate in a particular area and, in conjunction with the Gatwick Noise Monitoring Group, commission detailed noise studies by our independent acoustic specialists.

NOISE CHARGES

The Conditions of Use and airport charges for Gatwick Airport are published every year in the Conditions of Use publication. The table below provides an overview of the criteria associated with each aircraft noise charge category.

Figure 1: Overview of the noise performance criteria for ICAO aircraft chapter

Charge Category	Noise Performance Criteria	Cumulative Margin (CM) Relative to ICAO Chapter 3 Limits
Chapter 3 & Below	• Does not satisfy Chapter 4 criteria.	-
Chapter 4	• Margin at each certification point is greater than 0. • Combined margin at any two certification points is greater than or equal to 2. • Cumulative margin relative to Chapter 3 limits is greater than or equal to 10.	10 <= CM < 17
Chapter 14 High	• Margin at each certification point greater than or equal to 1. • Cumulative margin relative to Chapter 3 limits is greater than or equal to 17.	17 <= CM < 20
Chapter 14 Base		20 <= CM < 23
Chapter 14 Minus		CM >= 23

Noise charges vary by time of day (Day / Night). The Day and Night periods are defined in the table below; all times are shown in UTC (GMT).

Figure 2: Defined day/night periods in the summer and winter

Charge	Day (Times in UTC)	Night (Times in UTC)
Summer (1 April – 31 October)	05:00 – 22:29	22:30 – 04:59
Winter (1 November – 31 March)	06:00 – 23:29	23:30 – 05:59

The table below details the aircraft noise charges that apply on take-off and landing.

Figure 3: Charges per ICAO chapter for the summer and winter seasons

Season	Charge Category	Charging Unit	Day	Night
Summer (1 April – 31 October)	**Unmodified A320 Family***	Per movement	£784.40	£988.02
	Chapter 3 & Below	Per movement	£78.44	£988.02
	Chapter 4	Per movement	£39.22	£494.01
	Chapter 14 High	Per movement	£23.53	£296.41
	Chapter 14 Base	Per movement	£19.61	£247.00
	Chapter 14 Minus	Per movement	£15.69	£197.60
Winter (1 November – 31 March)	**Unmodified A320 Family***	Per movement	£784.40	£988.02
	Chapter 3 & Below	Per movement	£0.00	£988.02
	Chapter 4	Per movement	£0.00	£494.01
	Chapter 14 High	Per movement	£0.00	£296.41
	Chapter 14 Base	Per movement	£0.00	£247.00
	Chapter 14 Minus	Per movement	£0.00	£197.60

*Unmodified A320 Family Aircraft Noise Charge

(1) With effect from 1 January 2018, any Airbus A320 family aircraft (A318 / A319 / A320 / A321) which has not been declared on the 'All Up Weight Return' form detailed in Schedule 5 to this Conditions of Use as having the fuel over pressure protector (FOPP) modification – as described under Section 2.2 of Gatwick Airport Independent Arrivals Review Report dated 28 January 2016 will be subject to this charge.

There are other charges applicable to aircraft movements including passenger charges, demand charges and NOx emissions charges. Full details are available here: https://www.gatwickairport.com/globalassets/publicationfiles/business_and_community/all_public_publications/2017/2017-18-conditions-of-use---final---sent-30jan17.pdf

AREAS OF OUTSTANDING NATURAL BEAUTY (AONB)

Gatwick Airport is surrounded by many AONBs hence overflight is often unavoidable. The Air Navigation Guidance (ANG) 2017 is a Department for Transport document which provides the Civil Aviation Authority with guidance on how it should exercise its air navigation functions.

Section 3.3 of the ANG also refers to overflight in the context of the protection of landscapes and scenic beauty. It states that:

a) 'in the airspace from the ground to below 4,000 feet the government's environmental priority is to limit and, where possible, reduce the total adverse effects on people;
b) where options for route design from the ground to below 4,000 feet are similar in terms of the number of people affected by total adverse noise effects, preference should be given to that option which is most consistent with existing published airspace arrangements;
c) in the airspace at or above 4,000 feet to below 7,000 feet, the environmental priority should continue to be minimising the impact of aviation noise in a manner consistent with the government's overall policy on aviation noise, unless the CAA is satisfied that the evidence presented by the sponsor demonstrates this would disproportionately increase CO_2 emissions;
d) in the airspace at or above 7,000 feet, the CAA should prioritise the reduction of aircraft CO_2 emissions and the minimising of noise is no longer the priority;
e) where practicable, it is desirable that airspace routes below 7,000 feet should seek to avoid flying over AONB and National Parks; and
f) all changes below 7,000 feet should take into account local circumstances in the development of the airspace design, including the actual height of the ground level being overflown, and should not be agreed to by the CAA before appropriate community engagement has been conducted by the sponsor'.

STAKEHOLDER COMMUNICATION AND ENGAGEMENT

ACCESSING INFORMATION

- **Flight Performance Team (FPT)**

Gatwick Airport monitors compliance with the various noise control measures detailed in the Aerodrome Information Publication (AIP) or locally and handles aircraft noise complaints through the Flight Performance Team.

The team also provides relevant statistics to the Department for Transport, the Noise and Track Monitoring Advisory Group, the Noise Management Board and the Gatwick Airport Consultative Committee.

- **Reporting**

We produce quarterly and annually FPT reports that provide information on performance against noise control measures.

- **Website and online flight tracking**

Detailed information relating to aircraft noise is available on our website. This has links to various reports, minutes from the Noise and Track Monitoring Advisory Group, the Noise Management Board and information regarding ground noise, aircraft overflight and night flights.

A further facility on the website is our flight tracking tool, the Casper Noise Lab. This is an online self-service aircraft noise complaints system showing Gatwick aircraft flight tracks in real time, heights and aircraft types. By using this facility it is possible to see where planes are flying in relation to where the complainant lives or works together with aircraft noise complaint statics in a given area.

Gatwick Airport Ltd continues to monitor the online complaints system and flight tracking service and when appropriate will introduce modifications to enhance both.

- **Complaint handling service**

Gatwick Airport's FPT registers and investigates all complaints received in line with our stated complaint handling policy.

Relevant information to help understanding of the issue is offered but the FPT will not repeatedly supply the same or similar information or substantial amounts of data, or undertake extensive data gathering exercises in individual cases.

This allows the FPT to concentrate on performance monitoring and overall studies with the aim of providing useful information about what, if any, improvements might be possible.

The FPT also continuously monitors overall performance, for example track keeping and CDA. This is not dependent on receipt of complaints.

Where there appears to be something unusual occurring it is investigated and the data is used to continue to work proactively with the airline community to enhance performance overall. See Annex 5 for complaint data.

STAKEHOLDER ENGAGEMENT

In addition to the above measures, Gatwick Airport also regularly engages with stakeholders including airlines, air navigation service providers, local community groups, local authorities and government bodies. This is done through various engagement forums such as the:

- Gatwick Airport Consultative Committee (GATCOM),
- GATCOM Steering Group,
- Noise Management Board,
- Noise and Track Monitoring Advisory Group (NaTMAG),
- Section 106 Steering Group, and
- The Gatwick Noise Monitoring Group.

MITIGATION AND COMPENSATION SCHEMES

The Government's Aviation Policy Framework states that their overall objective on noise is to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise. The policy document makes clear that the acceptability of growth in aviation depends to a large extent on the industry continuing to tackle its noise impact and confirms that the Government expects the industry at all levels to continue to address noise.

The principal mitigation measure for aircraft noise impacts (at Gatwick Airport) is the provision of acoustic insulation and can be required on a statutory basis under section 79 of the Civil Aviation Act 1982. In practice however, all Gatwick Airport's current noise insulation schemes are provided on a voluntary basis and exceeds the expectations of the Aviation Policy Framework. Namely:

- Airport operators are to offer households exposed to levels of noise of 69 dB L_{Aeq},16h or more, assistance with the costs of moving.
- Airport operators are to offer acoustic insulation to noise-sensitive buildings, such as schools and hospitals, exposed to levels of noise of 63 dB L_{Aeq}, 16h or more.
- Where acoustic insulation cannot provide an appropriate or cost-effective solution, alternative mitigation measures should be offered.
- If no such schemes already exist, airport operators should consider financial assistance towards acoustic insulation for households. Where compensation schemes have been in place for many years and there are few properties still eligible for compensation, airport operators should review their schemes to ensure they remain reasonable and proportionate.
- Where airport operators are considering developments which result in an increase in noise, they should review their compensation schemes to ensure that they offer appropriate compensation to those potentially affected. As a minimum, the Government would expect airport operators to offer financial assistance towards acoustic insulation to residential properties which experience an increase in noise of 3dB or more which leaves them exposed to levels of noise of 63 dB L_{Aeq}, 16h or more.
- Any potential proposals for new nationally significant airport development projects following any Government decision on future recommendation(s) from the Airports Commission would need to consider tailored compensation schemes where appropriate, which would be subject to separate consultation.
- Airports may wish to use alternative criteria or have additional schemes based on night noise where night flights are an issue. Airport consultative committees should be involved in reviewing schemes and invited to give views on the criteria to be used.

Details of the boundaries of Gatwick's Noise Insulation Scheme, Home Owner Support Scheme and Property Market Support Bond are included in Section 15.

NEW NOISE SENSITIVE DEVELOPMENTS

Guidance on the planning of new noise sensitive development, such as housing, near airports can be found in some local authority local planning guidance. Following the repeal of national guidance on the subject, the Institute of Acoustics, Chartered Institute of Environmental Health and the Association of Noise Consultants produced Professional Practice Guidance (ProPG) Planning and Noise; New Residential Development in May 2017 which promotes good acoustics design to achieved suitable design standards in new housing in existing noisy environments including near airports. Under the Noise Management Board's work programme Gatwick Airport has worked with local authorities to promote good land use planning, and held a workshop sharing experiences in November 2017.

SECTION 8 – THE INDEPENDENT REVIEW OF ARRIVALS AND THE NOISE MANAGEMENT BOARD

THE INDEPENDENT REVIEW OF ARRIVALS

INTRODUCTION

In August 2015, in response to feedback from some of our local residents and resident groups, the then Chairman of Gatwick Airport Ltd, Sir Roy McNulty, commissioned an independent review of air traffic around Gatwick.

BACKGROUND

The Independent Review of Arrivals was led by industry experts Bo Redeborn and Graham Lake who were asked to provide a fully independent, professional analysis and report. As part of the review, the Independent Review of Arrivals team engaged with an extensive range of organisations, individuals, Parish, Town and District County Councils and MPs. They also held three interactive public meetings with local MPs which were attended by several hundred people. In addition, they received feedback and comments by email.

KEY FOCUS OF THE REVIEW

The review took over four months to complete and was published on 28 January 2016. Its main aim was:

- To make sure everything that can reasonably be done to alleviate issues raised by the local community is being done. This includes by Gatwick Airport as well as other agencies closely involved in the industry i.e. NATS, Civil Aviation Authority, airlines and the Department for Transport.
- To understand if the way Gatwick communicates with and provides information to the local community, including the handling of complaints, is fully adequate.

MAIN FINDINGS OF THE REVIEW

The report set out 23 practical steps that can be taken to improve noise and the key recommendations and findings from the review are as follows:

- To reduce the number of aircraft holding over land;
- To improve use of continuous descent arrivals which would generate significantly less noise, and to improve the sequencing and spacing of arrivals;
- To accelerate the modification of the Airbus A320 family of aircraft to reduce the whining noise they make during the approach phase of flight;
- To establish an independently chaired Noise Management Board to oversee joint strategies to deal with noise around the airport; and
- To develop a comprehensive online complaint management system.

GATWICK AIRPORT'S RESPONSE

Gatwick welcomed the findings of the review and published a detailed response and proposed Action Plan for the implementation of the review's 23 recommendations. This included the establishment of an independent Noise Management Board, comprising main aviation stakeholders and representatives of local communities.

A planning meeting of the proposed Noise Management Board was held on 18 May 2016.

Following publication of the Proposed Action Plan, Gatwick published its Final Action Plan. The Final Action Plan reflected the constructive feedback to the Arrivals Review and the Proposed Action Plan that has been received from communities and other stakeholders, as well as the results and conclusions of additional analysis.

NOISE MANAGEMENT BOARD

A key recommendation to come out of the Gatwick Airport Independent Arrivals Review was to establish an independently chaired Noise Management Board (NMB) to oversee joint strategies to deal with noise around the airport.

The purpose of the NMB is to develop, agree, oversee and maintain a coordinated noise management vision and consequent strategies for Gatwick, for all stakeholder organisations, intended to improve the situation for those affected by noise from aircraft using Gatwick.

This should include joint and coordinated reports through the NMB on progress of the implementation of these agreed strategies and, should seek to ensure consistent communication across all stakeholder groups, using verifiable data and transparent policies, to support the facilitation of their understanding by residents. This may also include when necessary, research and independent verification of information to be published.

The NMB can assist in ensuring that community concerns about aircraft noise are fully understood by key stakeholder organisations considering issues that may affect noise management around Gatwick. The NMB will focus initially on the implementation of recommendations from the Arrivals Review, but then extending to other important noise management issues.

The NMB should assist in the progressive development of consensus across its membership, to improve the alignment of responsibilities, initiatives and priorities of the key organisations able to influence change in the effect of noise from aircraft using Gatwick, whether for arrivals, departures or related to aircraft ground noise.

MEMBERSHIP

The Noise Management Board is made up of a wide range of industry experts and stakeholders. There are 13 seats on the Board, some of which are shared between a voting member and an alternate (back-up) member who have one vote and actively attend alternate meetings. The NMB has representation from the following members:

- Gatwick Airport Ltd
- Civil Aviation Authority (CAA)
- Department for Transport (DfT)
- National Air Traffic Services (NATS)
- Air Navigation Solutions - ANS - (the providers of air traffic services in the control tower at Gatwick)
- Airlines
- Chair of GATCOM (Gatwick Airport Consultative Committee)
- East Sussex and West Sussex County Councils
- Surrey and Kent County Councils
- The High Weald Councils Aviation Action Group (HWCAAG) and Association of Parish Councils Action Group (APCAG)
- East Sussex Communities for Control of Aircraft Noise (ESCCAN) and Tunbridge Wells Anti-Aircraft Noise Group (TWAANG)
- Communities against Gatwick Noise Emissions (CAGNE) and Plane Wrong
- Gatwick Obviously Not (GON) and People against Gatwick Noise Emissions (PAGNE)

The Board is chaired by Bo Redeborn and the secretary is Graham Lake. Bo and Graham conducted and wrote the Gatwick Airport Independent Arrivals Review.

On 18 May 2016, the NMB held a planning meeting in order to establish the membership, constitution and terms of reference for the Board. Following this, the first NMB meeting was held on 21 June 2016.

OBJECTIVES

1. The objective of the NMB is to develop, agree and oversee a coordinated noise management vision and consequent strategies for Gatwick, for all stakeholder organisations.
2. The initial focus will be on the implementation of the Recommendations of the Independent Review of Arrivals.
3. The NMB's remit extends to all important noise management issues related to Gatwick, including those related to departures, and aircraft ground noise, as well as arrivals.
4. The NMB's scope includes all commercial matters that might reasonably be expected to have a significant impact on the noise environment at Gatwick.
5. The NMB should be a body with real influence over operational stakeholders around the airport such as on airspace and aircraft operational issues.
6. The NMB should influence and monitor the effective use of noise awareness training policies for staff of all Gatwick stakeholders and reported through NATMAG.
7. The NMB should be consulted on all Gatwick noise related matters, such as compensation policy, noise insulation and community support.

8. The NMB should be a main channel (Notwithstanding the obligations of the Gatwick Areas Joint Authorities Group, hosted by Crawley Borough Council) through which GAL, NATS, ANS, Airlines, DfT and CAA communicate actions that are being taken to address the effects of noise from aircraft using Gatwick.
9. The NMB should seek to ensure the joint and co-ordinated reporting by stakeholders through the NMB, initially on progress of the Arrivals Review implementation and then on other noise issues and initiatives, and seek to facilitate better understanding by residents through more consistent communication and verifiable data.
10. The NMB should establish a mechanism to identify and address unintended and unexpected consequences of noise improvement initiatives.
11. Particular care will need to be taken by the NMB to avoid conflicting with the remits or duties of any of the other bodies already involved in noise matters related to Gatwick.
12. If and when the Government establishes an Independent Noise Authority the NMB should ensure appropriate alignment between its own Terms of Reference and the remit of such a body.
13. The NMB should agree and establish a process to set its SMART objectives and to regularly review and report its progress.
14. The NMB should establish and maintain a transparent mechanism to adapt these Terms of Reference when agreed by members of the NMB.
15. The NMB will seek to positively influence the noise environment of stakeholders by assisting the development of consensus among the various organisations represented through its membership.
16. In the event that it is not possible to reach NMB consensus on any matter, after exhausting all reasonable efforts, a majority decision can be made provided that it represents at least 75% of the NMB Membership.

MEETINGS AND REPORTING

- The NMB should meet every 2 months, or at intervals agreed by the members.
- The agenda and minutes of NMB meetings should be published (on the NMB website).
- NMB meetings will not be open to the public, unless agreed by the NMB members for specific dates or specific topics.
- It is expected that at least one public meeting will be conducted each year by the NMB, to facilitate community dialogue, a reasonable understanding in communities of the work areas of the NMB, and to report NMB progress and plans.

ONE YEAR ON

The Independent Review of Arrivals 'Recommendation IMM-20' was to provide an in-depth review of the activity and progress of the Gatwick Arrivals Review Final Action Plan developed in response to the Independent Arrivals Review.

The Imm-20 report, published on the 31st January 2017, provided an update on the range of activities and substantial work undertaken by Gatwick, industry stakeholders and the Noise Management Board (NMB). Progress one year on included:

- reduction of noise disturbance from aircraft using Gatwick;
- improved quality and transparency of information available;
- the access available to communities;
- active engagement with aviation stakeholders

A further update on progress was provided at the Gatwick Airport Airspace and Noise Management Board Public Meeting on 7th December 2017.

SECTION 9 - CONTROL MEASURES IN PLACE

CONTROL MEASURES IN PLACE APPLICABLE TO GATWICK AIRPORT

AERONAUTICAL INFORMATION PUBLICATION - LONDON GATWICK

- **EGKK AD 2.21 NOISE ABATEMENT PROCEDURES**

Adherence to the noise abatement procedures is reported quarterly and annually through Flight Performance Team Reports to the Noise and Track Monitoring Advisory Group and the Gatwick Airport Consultative Committee. These are published on the Airport website.

Performance Dashboard presented bi-monthly to the Flight Operations Performance and Safety Committee.

The FPT undertakes direct engagement with airlines to improve performance as and when required.

NIGHT FLIGHT RESTRICTIONS AT HEATHROW, GATWICK AND STANSTED AIRPORTS

Current regulations expire as of October 2017. New regime to come into effect that will expire in October 2022 with the objective to:

> 'Limit or reduce the number of people significantly affected by aircraft noise at night, including through encouraging the use of quieter aircraft, while maintaining the existing benefits of night flights'

The movements limit remains unchanged however the night quota limit will be reduced.

During the summer season, the air traffic movements limit is capped at 11,200 and during winter, this reduces to 3,250. The night quota limits will be reduced to 5,150 in the summer (from 6,200 in 2018) and to 1,785 in the winter (from 2,000 in 2017/18). This will further incentivise the use of quieter aircraft by encouraging industry to plan its operations with sufficient headroom to ensure the limits can still be complied with in the event of unplanned disruption or changes to their schedules.

Performance against the night flight restrictions are reported quarterly and annually through Flight Performance Team Reports to the Noise and Track Monitoring Advisory Group and the Gatwick Airport Consultative Committee. These are published on the Airport website.

Performance Dashboard presented bi-monthly to the Flight Operations Performance and Safety Committee.

Proactive direct engagement is undertaken by Gatwick Airport Limited with airlines, Airport Co-ordination Limited, Department for Transport and GAL Sales and Operations Planning to manage allocation, dispensations and usage.

SECTION 106 LEGAL AGREEMENT OBLIGATIONS AND NOISE ACTION PLAN

- **OBLIGATIONS 4.1 TO 4.5, ACTION PLAN ACTIONS 1 – 8**

Progress against the actions are reported annually in the Section 106 Annual Monitoring Report. Selected obligations and action plan actions are subject to audit. Final Annual Monitoring Report circulated to Crawley Borough Council and West Sussex County Council for circulation among the wider local authorities and the Gatwick Airport Consultative Committee. This report is published on the Airport website.

DECADE OF CHANGE

- **THE SUSTAINABILITY STRATEGY FOR GATWICK AIRPORT FOR 2010 – 2020**

Qualitative target of "Be consistently recognised as a best practice operator for noise management" and audited noise key performance indicators (track keeping, noise infringements and Continuous Descent Operations (CDO) compliance) included.

ENVIRONMENTAL NOISE DIRECTIVE NOISE ACTION PLAN

Contains 61 action plan actions (2013-2018) reported quarterly and annually to the Noise and Track Monitoring Advisory Group. The minutes are available online on the airport website where the annual report is also uploaded.

INDEPENDENT REVIEW OF ARRIVALS (Published January 2016)

The Noise Management Board initially focussed on the implementation of the 23 recommendations of the Independent Review of Arrivals. An annual update (Imm-20) was published in January 2017 which reported on progress against these recommendations.

A further update on progress was provided at the Gatwick Airport Airspace and Noise Management Board Public Meeting on 7th December 2017.

NOISE MANAGEMENT BOARD ANNUAL WORKPLAN

Annual workplan is negotiated, agreed and published on an annual basis, this details the key priorities and work streams of the Noise Management Board for the upcoming year including a defined short, medium and long term work plan. The workplan is publicly available from the NMB website.

SECTION 10 – EHS & ENVIRONMENTAL RISK MANAGEMENT

ENVIRONMENT, HEALTH AND SAFETY

At Gatwick Airport, we believe that exemplary environment, health and safety leadership is critical to successfully deliver a world-class service. Gatwick Airport considers environment, health and safety management a core business value and the strategy to deliver and achieve world class performance will be delivered through our approach: *GatwickSAFE - it's the way we do things around here.* It is paramount to our success and therefore demands our attention daily.

We are committed to delivering exemplary levels of environment, health and safety performance. When excellent examples are identified, we will replicate across our business and communicate them extensively so that everyone can benefit. We take our commitment to avoiding incidents, injuries and illness very seriously, learning from any incident, including near miss events, to continually improve our performance.

Our commitment to the environment and to the health and safety of everyone who visits Gatwick is at the heart of everything we do. Our priority is to build a strong EHS culture. We have an executive board member who oversees and is responsible for ensuring that environment, health and safety is always at the top of our agenda.

ENVIRONMENT, HEALTH AND SAFETY (EHS) POLICY

At Gatwick Airport we are committed to ensuring the health, safety and well-being of our employees, customers and business partners, as well as managing the impact of our business on the environment. We will achieve this by:

- Implementing and maintaining robust EHS management systems which are certified to industry recognised standards including ISO 14001, OHSAS 18001 and ISO 55001;
- Demonstrating strong, visible, felt leadership and behaviours for EHS where there is collective ownership throughout our business;
- Driving continuous improvement in our EHS performance by setting and monitoring clear, measurable objectives and key performance indicators that are visible and meaningful to our employees, achieving the vision of GatwickSAFE and meeting our Decade of Change sustainability targets;
- Protecting the environment including preventing pollution by managing pollution risks and maintaining pollution prevention systems;
- Protecting the health and well-being of our employees through proactive health surveillance and well-being initiatives;
- Incorporating EHS, both risk and opportunity identification, into our lifecycle decision making including the planning, design, construction, operation and decommissioning of our activities, facilities and assets;
- Verifying the effectiveness of our controls and plans through a robust EHS assurance programme;
- Ensuring compliance with all applicable legislation and other requirements as a minimum standard for performance;

- Ensuring our employees have the necessary information, instruction, training, supervision and resources to deliver EHS competence;
- Maintaining effective channels of communication with our employees, business partners and suppliers to ensure they have the right information, at the right time through the right media;
- Celebrating, rewarding and recognising, our successes and learning from our incidents and sharing what we learn with others.

IMPLEMENTATION

The Gatwick Airport Ltd Executive Management Board (EMB) will monitor and regularly review, this policy and supporting management systems at our Managing Corporate Responsibility (MCR) and Environment, Health & Safety and Operational Resilience (EHSOR) forums. Ensuring it remains relevant to the company's EHS risks/opportunities driving continuous performance improvement.

CERTIFICATION

Our performance has been validated by independent certification. In 2010 we obtained the ISO14001 standard for environmental management and in 2012 the OHSAS18001 standard for health and safety, demonstrating that we're managing risks and continuously improving.

ENVIRONMENTAL RISKS

Environmental risks need to be mitigated to ensure compliance with environmental legislation and to minimise environmental impact. Poor environmental performance has the potential to impact Gatwick's reputation, its licence to operate and potential to grow. These risks are mitigated at a number of levels including the implementation of an environmental management system which, as referenced above, is externally audited and certified to the ISO14001 standard. The management system includes the assessment and management of key environmental risks and opportunities including compliance obligations. Gatwick continues to monitor performance against annual improvement targets and undertakes internal audits and training programmes. Gatwick works proactively with stakeholders to ensure that it effectively manages the challenges posed to the environment by the Airport's operation.

The culture at Gatwick Airport is critically important in improving environment, health and safety. This is affected not only by us and those who work with us, but also those who come into contact with the airport. Building a strong EHS culture will not only make our environment, health and safety performance world class, it will enable us to achieve improved performance, and provide a safe, healthy and enjoyable place to work.

MEASURING OUR SUCCESS

We will ensure both our leading and lagging key performance indicators drive the correct actions and behaviours. Our corporate (internal and external) EHS audits will seek to identify inappropriate controls before adverse consequence materialise. Actions taken in response will encourage a proactive culture. In focussing on underlying factors, we will pay particular attention to collating, trending and targeting actions based on incidents and near misses, and, where practicable, utilise safety improvement ideas prior to these incidents occurring.

SECTION 11 - AIRCRAFT NOISE INDUSTRY STAKEHOLDERS

CIVIL AVIATION AUTHORITY (CAA)

The Civil Aviation Authority (CAA) is the statutory corporation which oversees and regulates all aspects of civil aviation in the United Kingdom. It is a public corporation established by Parliament in 1972 as an independent specialist aviation regulator. One of its four environmental goals is to contribute to a cleaner and quieter aviation industry.

DEPARTMENT FOR TRANSPORT (DFT)

The Department for Transport (DfT) is the government department responsible for the English transport network and a limited number of transport matters in Scotland, Wales and Northern Ireland that have not been devolved.

It has put in place a long-term framework aimed at balancing the delivery of social and economic benefits from aviation, with the need to reduce and mitigate the environmental impacts of air transport and airport development.

DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS (DEFRA)

The Department for Environment, Food and Rural Affairs (DEFRA) is the UK Government department responsible for safeguarding the natural environment, supporting the UKs world-leading food and farming industry, and sustaining a thriving rural economy. DEFRA's broad remit means it plays a major role in people's day-to-day life, from the food they eat, and the air they breathe, to the water they drink.

NATS

NATS is a UK's provider of air traffic control services, handling 2.4 million flights and 250 million passengers in UK airspace per annum. NATS provides en-route air traffic control services to flights within the UK Flight Information Regions and the Shanwick Oceanic Control Area and provides air traffic control services to fourteen UK airports. NATS is split into two main service provision companies: NATS En-Route PLC (NERL) and NATS Services Ltd (NSL):

- NERL is the sole provider of civilian en-route air traffic control over the UK and is regulated by the CAA who, for example, determine the charges NERL can make. NERL is funded by charging airlines for the provision of air traffic services.
- NSL competes for contracts in the free market to provide air traffic control at airports in the UK and overseas, as well as providing related services including engineering, consultancy, information services and training.

The overarching guiding principle of air traffic control is that safety is paramount.

The airspace about our homes and places of work contain a network of corridors, or airways. They mainly link busy areas of airspace known as terminal control areas, which are normally above major airports like London Gatwick. All of these airways are designated "controlled airspace". Aircraft fly in them under the supervision of air traffic controllers at all times.

AIR NAVIGATION SOLUTIONS (ANS)

Since 1st March 2016 Air Navigation Solutions Ltd has been responsible for the tower air navigation service provision at Gatwick Airport.

The scope of the services to be provided are:

- Aerodrome air traffic control – including, air, ground movement control, delivery and all training;
- Air traffic engineering services – including safeguarding and other support services;
- Emergency and alerting services;
- Meteorological services.

ANS is a wholly owned subsidiary of the Deutsche Flugsicherung (DFS) and has been awarded a 10-year contract for the future provision of Air Traffic Control and Air Traffic Engineering Services at Gatwick Airport.

AIRLINES

Airlines and their flight crew have a duty to operate their aircraft in order to comply with the various rules and regulations stipulated for flying in UK controlled airspace. The commander of an aircraft has the primary responsibility for the safety of the crew and passengers at all times.

CRAWLEY BOROUGH COUNCIL (CBC)

As the airport's local planning authority, CBC ensure that the airport is compliant with all Section 106 planning obligations, some of which relate to aircraft operations.

WEST SUSSEX COUNTY COUNCIL (WSCC)

As the airport's local highway authority, WSCC, with CBC as the lead members of the Local Authority Gatwick Officers Group ensure that the airport is compliant with all Section 106 planning obligations, some of which relate to aircraft operations.

AVIATION ENVIRONMENT FEDERATION (AEF)

The Aviation Environment Federation (AEF) is the principal UK non-governmental organisation campaigning exclusively on the environmental impacts of aviation and promoting a sustainable future for the sector. It formed as a federation in 1975 at a time when the sector was beginning to grow rapidly and noise was becoming an issue around airfields and airports. As aviation is exempt from noise nuisance legislation its members sought action to influence the national policy level. AEF continues to focus on policy change but its work now extends beyond national policies to influencing European and global policy makers. Its work covers issues ranging from local air quality to global climate change, and from local participation in an airport consultative committees to the overall national economic impact of any new runway.

THE INDEPENDENT COMMISSION ON CIVIL AVIATION NOISE (ICCAN) – PROPOSED

This will produce guidance and best practice for making sure the process for taking airspace change decisions is trusted and transparent. To ensure this is happening, there will be a review of ICCAN within two years, to consider whether statutory powers are required.

SECTION 12 - COMMITTEES ATTENDED REGARDING AIRCRAFT NOISE

EXTERNAL COMMITTEES

GATWICK AIRPORT CONSULTATIVE COMMITTEE (GATCOM)

GATCOM is constituted to meet the requirements of Section 35 of the Civil Aviation Act 1982 for an airport "to provide adequate facilities for consultation with respect to any matter concerning the management or administration of the airport which affects the interests of users of the airport, local authorities and any other organisation representing the interests of persons concerned with the locality in which the airport is situated".

GATCOM aims to:

- Foster communication and build understanding between the airport and its users, local authorities and interest groups.
- Consider and comment upon the impacts of the airport's administration, operation and development in relation to:
    - The environment,
    - The passenger experience,
    - Surface access issues associated with the airport,
    - Employment,
    - The local, regional and national economy,
    - The circumstances of local communities and their residents.
- Consider and, if appropriate, respond to any factual or consultative reports, from Governmental or other sources, which are material to the operation or development of the airport.
- Make suggestions to Gatwick Airport Limited where this might further the interests of those represented.

The members of the committee are drawn from three broad groups:

- **Users**: travel and tourism industry, aviation industry including airlines, passengers.
- **Local authorities**: all those whose boundary abuts Gatwick Airport or the M23 spur road.
- **Local interest groups**: groups representing local people affected by the airport's operations including environmental and noise groups, business and economic groups and employees.

THE GATCOM STEERING GROUP

The Steering Group is composed of the Chairman and Vice-Chairman and ten other members of GATCOM reflecting the composition of interests of the main Committee. The role of the Steering Group is to give preliminary consideration to new or detailed matters to be dealt with by GATCOM and to identify the facts and major issues, and to make recommendations to GATCOM. The Steering Group also deals with urgent matters on behalf of GATCOM.

NOISE AND TRACK MONITORING ADVISORY GROUP

The aims of the Noise and Track Monitoring Advisory Group (NATMAG) are:

- To oversee the operation of the Gatwick Airport Limited's Flight Performance Team's system to ensure that the requirements of the local community are taken into account in respect of the production of statistics, information and complaint handling.
- To advise Gatwick Airport Limited on issues relating to noise and track monitoring which derive from the results obtained from the monitoring equipment.
- To assist Gatwick Airport Limited in seeking improvements to the noise climate and track-keeping performance around Gatwick.
- To provide information and recommendations regarding noise and track monitoring to the GATCOM via the GATCOM Steering Group.

GATCOM also has representation on this group.

NOISE MANAGEMENT BOARD

The core role of the Noise Management Board (NMB) is to develop, agree, oversee and maintain a co-ordinated noise management vision and subsequent strategies for Gatwick on behalf of stakeholder organisations. The main aim of this work is to reduce the impact of noise on the local community.

The Noise Management Board is made up of a wide range of industry experts and stakeholders. There are 13 seats on the Board, some of which are shared between a voting member and an alternate member who have one vote and actively attend alternate meetings. The NMB has representation from the airport, Civil Aviation Authority, Department for Transport, air navigation service providers, airlines, County Councils, the Gatwick Airport Consultative Committee and various community noise protest groups.

The Board is chaired by Bo Redeborn and the secretary is Graham Lake; both conducted and wrote the original Gatwick Airport Independent Arrivals Review.

GATWICK NOISE MONITORING GROUP

This is where local environmental health professionals and representatives from the environment departments of local authorities meet with the Airport to discuss the location of mobile noise monitors, the duration they are to be onsite and to review and verify the data.

This group also makes recommendations on the format the data should be reported to NATMAG and the wider community.

FLIGHT OPERATIONS PERFORMANCE AND SAFETY COMMITTEE

The Flight Operations Performance and Safety Committee (FLOPSC) ensures the development of best practice in flight operations by all airlines using Gatwick Airport in order to minimise their effect on the local community.

Matters discussed include departure track keeping, continuous descent operations and noise infringements. FLOPSC meets bi monthly and is attended by the Airport, air traffic control, airlines and a representative of GATCOM.

AIRCRAFT NOISE MANAGEMENT ADVISORY COMMITTEE

The Aircraft Noise Management Advisory Committee (ANMAC) was set up by the Department for Transport (DfT) to advise it on policy relating to aircraft noise at Heathrow, Gatwick and Stansted - these airports being 'designated' for the purposes of s.78 of the Civil Aviation Act 1982.

ANMAC's membership includes representatives from London Gatwick plus representatives from the other designated London airports, NATS, the Environmental Research and Consultancy Department (ERCD) of the Civil Aviation Authority, the Scheduling Committees and a representative of the consultative committee at each of the three airports.

AIRSPACE AND NOISE ENGAGEMENT GROUP

The Airspace and Noise Engagement Group (ANEG) acts as a formal channel of communication between the Department for Transport and airspace and airport noise stakeholders.

The ANEG covers all aspects of national airspace and airport noise policy development. It acts as a sounding board to identify, discuss and, where possible, resolve airspace and airport noise issues that impact on the work of the department. Discussions are at a strategic policy level. The ANEG does not debate or attempt to resolve individual local issues. The ANEG is also an open forum for members to share their own relevant airspace and airport noise projects.

ANEG members include representatives from each of:

- air navigation service providers
- airlines
- airports
- Aviation Environment Federation
- Civil Aviation Authority
- community groups
- express delivery industry
- general aviation
- local authorities
- aerospace manufacturers
- passenger organisations
- Sustainable Aviation
- UK airport consultative committees
- independent noise body (ICAAN when established)

S106 LEGAL AGREEMENT MEETINGS

We work closely with the local authorities close to Gatwick on social, environmental and economic matters. In 2001, Gatwick Airport signed a Section 106 (S106) legal agreement with West Sussex County Council and Crawley Borough Council (following consultation with seven other local authorities in the area). The agreement reflected a shared desire to see the airport grow, with measures in place to minimise as far as possible its short and long term impacts. The S106 was renewed for a further seven years in 2008 and in December 2015 it was extended until the end of 2018.

The agreement defines how Gatwick's operation, growth and environmental impacts will be managed responsibly and ensures that our wider sustainability strategy is aligned with local authority partners. It is considered as a best practice case in the UK by external stakeholders. The agreement underpins the important relationship between the airport owner and the local authorities with responsibility for planning, environmental management and highways.

To ensure delivery of our S106 obligations, and additional commitments that we have made on sustainable development, we maintain a set of ten action plans on topics covered by the S106 agreement and by our Decade of change sustainability strategy. The current action plans cover the period 2015-2018.

Performance against the S106 agreement is reported in the S106 Annual Monitoring Report which covers our actions to fulfil our obligations and commitments; and is also communicated to the Gatwick Airport Consultative Committee (GATCOM).

The airport meets with Crawley Borough Council and West Sussex County Council a number of times per year to discuss progress against the S106 Legal Agreement Obligations and Action Plan Actions and to discuss matters of mutual interest.

INTERNAL GROUPS

EXECUTIVE MANAGEMENT BOARD

This includes the Chief Executive Officer, the Chief Financial Officer and other members of senior management. The Executive Management Board meets monthly and is responsible for the day-to-day management of the Airport. In particular, the Executive Management Board has collective responsibility for assisting the Board of Directors in the performance of their duties for the Group including:

- the development and implementation of strategy, operational plans and budgets;
- the achievement of business plans and targets;
- the assessment and control of risk;
- ensuring compliance with legal and regulatory requirements; and
- the development and implementation of the Group's ethics and business standards and health, safety, security and environmental policies and procedures.

ENVIRONMENT HEALTH AND SAFETY AND OPERATIONAL RESILIENCE COMMITTEE

The Environment Health and Safety and Operational Resilience Committee is responsible for reviewing the Airport's strategy with respect to health and safety, operational resilience and business continuity. The Committee monitors the Group's performance against targets and drives management commitment and accountability with respect to managing risks.

(FUTURE) AIRSPACE & ATS DESIGN INTEGRATION PANEL (AADIP)

The purpose of this committee is to develop and review design and integration of options for future airspace routing/procedures of Gatwick Airport Ltd / NATS Air Traffic Services.

The panel will consider the strategic design and integration/development challenges.

- To guide development in the design and integration of Gatwick Airport Ltd/NATS Air Traffic Services.
- To help prioritise, coordinate and integrate service delivery.
- To consider airspace requirements and develop strategies for its acquisition and use.
- To develop coherent inputs to the Master Plan and Gatwick Airport Ltd.'s growth strategy.
- To input into the strategic engagement with third parties: NATS, CAA, Department for Transport policy and local communities.
- To provide strategic input into the Noise Management Board on options to further reduce the impact of Air Traffic Movements.
- To review proposed changes to Department for Transport policy, CAA regulation and Air Traffic Movements.

DECADE OF CHANGE WORKING GROUP

The purpose of the Decade of Change working Group is to improve transparency and efficient coordination around key Decade of Change deliverables, e.g. Decade of Change and Section 106 Action Plan Actions and reporting, certifications and new initiatives.

Key outcomes from this working group are improved audit results on Decade of Change issues and greater awareness of Decade of Change as a proactive driver in the business.

MANAGING CORPORATE RESPONSIBILITY

The role of the Managing Corporate Responsibility (MCR) Committee is to establish a systematic and aligned management approach to:

- Deliver the Company's strategy with respect to Environment, Health, Safety and Operational Resilience (EHSOR) and Sustainability;
- Monitor the Company's exposure to EHSOR and sustainability risks;
- Monitor the Company's performance against EHSOR and sustainability targets; and
- Encourage management commitment and accountability with respect to Company-wide EHSOR and sustainability initiatives, policies and procedures.

SECTION 13 – SUSTAINABLE AVIATION

Gatwick Airport Ltd is a 'Council' Member of Sustainable Aviation, is a long term strategy which sets out the collective approach of UK aviation to tackling the challenge of ensuring a sustainable future for the aviation industry. Launched in 2005, it is a world first bringing together major UK airlines, airports, manufacturers and air navigation service providers.

The industry is committed to delivering a sustainable future, and Sustainable Aviation is critical to delivering that. The signatories and members are focused on finding collaborative ways of improving environmental performance and creating a balanced debate to ensure sustainable growth of the aviation industry, which is crucial to the health of the UK's island trading economy.

Sustainable Aviation has set a range of goals and commitments covering climate change, local air quality and noise to deliver a sustainable future for the aviation industry. Sustainable Aviation regularly reports on the progress towards these objectives, monitoring and tracking the practical cooperative work being undertaken.

Sustainable Aviation is funded by its signatories who also provide technical expertise. The number of signatories continues to grow, with over 90 per cent of UK airlines, airports and air navigation service providers, as well as all major UK aerospace manufacturers represented.

SUSTAINABLE AVIATION AND AIRCRAFT NOISE

Sustainable Aviation's (SA) goal with respect to aircraft noise is to 'Limit and, where possible, reduce the impact of aircraft noise'. The Sustainable Aviation Noise Road-Map is published in support of this goal.

The Road-Map is structured as a toolkit for individual areas of the UK aviation industry to assess and implement measures to reduce noise from aircraft operations. It also helps inform stakeholders, including those making future strategic decisions in which aircraft noise is an issue.

The document sets out SA's projection of aircraft noise impacts from UK aviation. This projection is based on the UK Government forecasts of aviation demand-growth published in 2013. Together with SA's own assumptions concerning the deployment of technology, operational measures, land use planning, communication, community engagement activities and, where necessary, the use of operating restrictions.

One of the most significant challenges in producing this Road-Map is the subjective nature of noise. As history and experience of seeking to manage aircraft noise issues have shown, people's reactions and perception of aircraft noise is a complex problem. Based purely on 57 Leq noise contour data, the reduction in aircraft noise achieved by the industry over the last half century has resulted in fewer people being significantly affected by noise. However based on regular stakeholder feedback received by the industry and reinforced in the UK Aviation Policy Framework, it is apparent that noise from aircraft operations remains a real source of tension between airports and local communities. Many local communities believe that current noise metrics, including the use of average noise contours, do not fully reflect their experience of aircraft noise.

SA believes that the number of people adversely affected by aircraft noise is influenced by a number of complex variables which combine to generate the total result as illustrated in Figure 4 overleaf.

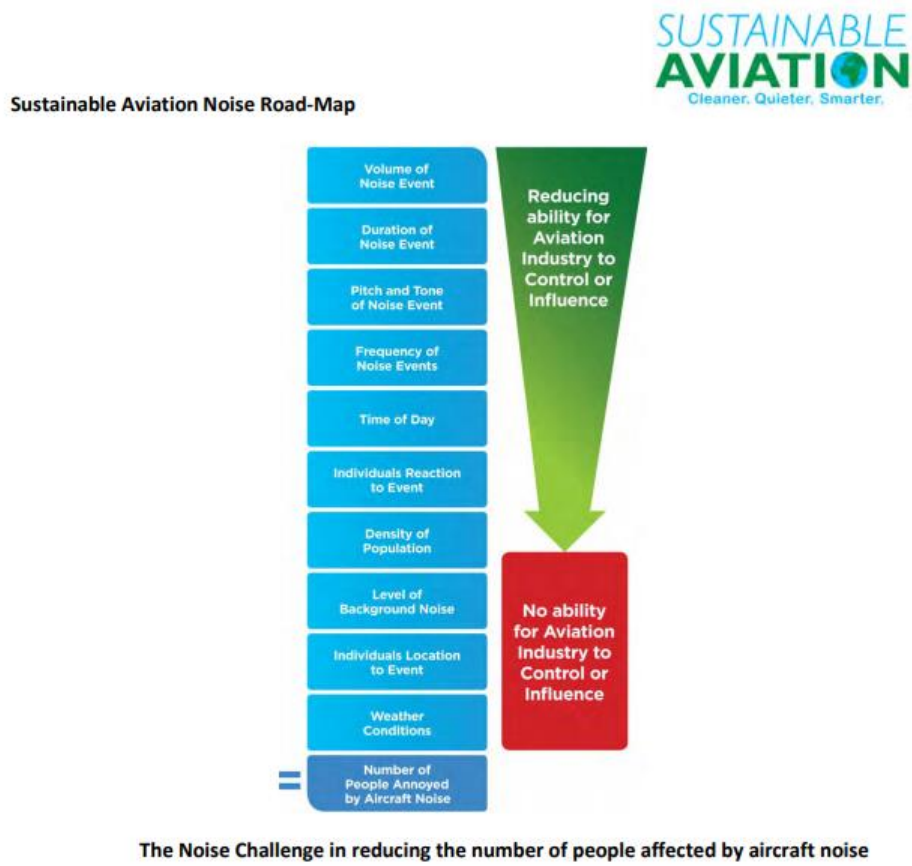

Figure 4: The challenges in reducing the number of people affected by aircraft noise from the SA Noise Road-Map

Three key conclusions arise from this diagram:

1. The number of people impacted by each variable is not consistent, for instance a loud aircraft event on a windy morning generally results in fewer people annoyed than the same aircraft event on a still, foggy morning.
2. While the aviation industry can take direct control of some of the variables, it has only indirect influence over others and no control at all over the remainder.
3. Research is required to understand in more detail the specific weighting and interrelationships each of the variables has on the final result.

In addition to these complexities, the nature of the noise problem can often change over time, even as a result of attempts to reduce its impact. For example, noise from departing aircraft was at one time the key area of concern among local communities. Technology solutions were developed to reduce departure noise, only for this to make arrival noise much more noticeable. Similarly, reducing the source noise of aircraft engines created a new focus on airframe noise, as that source then became dominant.

These unintended consequences of initiatives to reduce noise impact are common. There can be other unintended outcomes; reducing engine source noise often makes the engine heavier and therefore leads to additional fuel burn and emissions. Whilst a drive to concentrate noise impact on as few people as possible will obviously be better for those who escape it, but worse for the smaller communities that experience all of the noise.

This dynamic nature of noise problems, together with the risk of trade-offs and unintended consequences is at the forefront of the industry's mind in developing technologies and initiatives to limit and reduce noise impacts.

It makes the job of measuring, managing and reducing the number of people adversely affected by noise from aircraft very challenging. Unlike SA's Carbon Road-Map which used carbon dioxide emissions (CO_2), which are both easily measurable and with definable outcomes, measuring noise is more complex because of the multiplicity of noise metrics and human responses.

This Noise Road-Map therefore seeks to define future scenarios where best practice approaches can be used to limit and, where possible, reduce the number of people exposed to aircraft noise. To that end, the SA Noise Road-Map has been designed to identify and advocate best practice approaches to factors such as improved land use planning controls and community engagement as well as technology and operational advancements.

SA concludes that UK aviation is able to accommodate significant growth in air transport movements to 2050 and at the same time achieve a potential reduction to UK aviation's total noise output compared to 2010. The diagram below shows how the introduction of imminent and future aircraft and engine technology offers the potential to reduce UK aviation noise output by 2050 compared to 2010. Without this technology, given the forecast growth in demand for air transport, UK aviation's noise output would almost double.

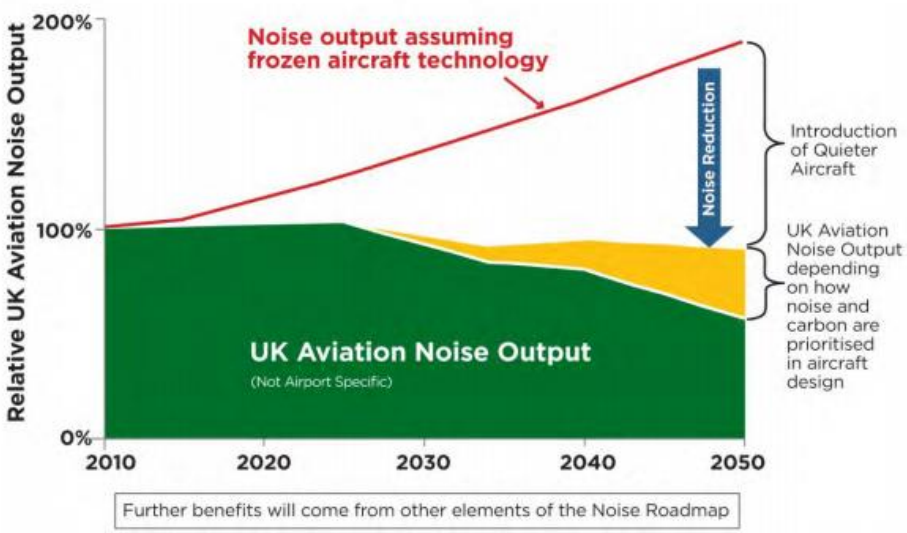

Figure 5: Sustainable Aviation (SA) Noise Road-Map

The graph shows an aggregated UK picture of noise output and how this is predicted to change between 2010 and 2050. The graph is not airport specific and cannot be read as the projection of noise output for any particular airport. This will depend on the aircraft types and rates of penetration of newer aircraft at individual airports.

Further improvements can be achieved through the wider implementation of operational improvements in the use of airspace and flying techniques and through better land use planning in the immediate vicinity of airports.

Developing the tools discussed in this Road-Map will require collaboration and co-ordination of efforts across the UK aviation industry, local and national Government along with national and local community groups. Responding to this, the SA signatory companies make the following commitments:

- SA members will use this Road-Map to develop best practice noise management strategies for the future.
- The Aerospace sector will continue to invest in aircraft technology research programmes.
- The Aerospace sector will work to achieve the visionary noise goals of Flightpath 2050 and CLEEN5.
- The industry will increase the use of existing operational techniques that reduce noise where safe and feasible.
- The industry will collaborate to explore and develop new operational techniques that reduce noise where safe and feasible.
- The industry will actively contribute to improving aircraft noise guidance in local planning policy.
- Airports will review masterplans to ensure they are consistent with Noise Action Plans.
- Airports will work with Government, local authorities and local communities to achieve identified land use planning improvements.
- The industry will promote open and transparent engagement with communities affected by noise, to better understand their concerns and priorities and to establish trust in the engagement process.
- The industry will ensure that any changes to noise impacts or noise mitigation efforts are clearly communicated through agreed channels in a timely and non-technical manner.
- The industry will present the best practice engagement mechanisms from the Road-Map to local stakeholders through channels such as consultative committees to help airport operators better evaluate their engagement techniques.
- The industry will work with Government and other stakeholders to identify and resolve research gaps in:
    - how the variables in the 'Noise Challenge' diagram are weighted and consult on whether a more accurate model can be developed to predict the number of people annoyed by aircraft noise under various 'what if' scenarios,
    - understanding of individual reactions to aircraft noise,
    - noise acceptability vs. noise annoyance and
    - a basis for better noise metrics.

SA requests the UK Government to:

- Support research and development in aerospace technology ensuring the right incentives are in place to enable uptake by the industry.
- Work with the aviation industry to clarify relative environmental impacts between reducing noise and CO2 emissions to enable future aeronautical design priorities.
- Strengthen and support local authorities' ability to enforce land use planning controls around airports.
- Implement improved airspace structures and operational procedures through the CAA.
- Work with the industry to support independent research to improve our understanding of the noise challenge and how people react to aircraft noise events.
- Work with the industry, local authorities and communities to optimise noise communication, monitoring and reporting processes.
- Ensure that operating restrictions are employed only as a last resort after full consideration has been given to the other dimensions of the ICAO Balanced Approach, namely reduction of noise at source, land use planning and management and noise abatement operational procedures.

SECTION 14 – THE NEED FOR AIRSPACE MODERNISATION

Airports rely on the effectiveness of the airspace that surrounds them to permit efficient operating procedures, and to minimise the environmental impact of operations. Our airspace safely handles over two million flights every year but it has remained little changed in over 50 years and is now in urgent need of modernisation. The airspace above the south-east of England was designed around procedures and infrastructure designed in the 1960's and is rapidly approaching the limit of its capacity. Not only does it contain choke points, but the use of legacy solutions, such as holding 'stacks' and movement limits, compound delays, increases operating costs and intensifies environmental impacts.

Designed over 50 years ago, for an industry vastly different in scale to the one we have today, it was never envisaged that our airspace would eventually handle more than two million aircraft and carry 250 million passengers, as it did in 2015. Many, including the Department for Transport, forecast that passenger demand will grow by a further 30% before 2030, with 3.1 million aircraft carrying 350 million passengers necessitating an additional 1 million aircraft movements per year. The boosts to trade and tourism from this growth are substantial, but if no action is taken it is expected that the current, ineffective design will lead to more than 1 in 3 flights being delayed by at least 30 minutes. It is widely recognised in government and across the aviation industry that urgent action is needed. We need to modernise our invisible infrastructure without further delay.

That means moving from traditional ground-based beacons to modern satellite navigation, the capability for which already exists on many modern aircraft. The UK is at the forefront of aerospace technological development, and since 2005 UK airlines alone have introduced over 470 new aircraft into service, representing an investment of over $49 billion. We now need to modernise our airspace to match. It will improve safety and increase efficiency and capacity whilst minimising the impact on the global environment and benefitting communities under flightpaths.

Through better operating procedures, that can be utilised with a modern airspace structure, there is a potential carbon saving to UK aviation by 2050 of between 9% and 14% and alongside the introduction of quieter aircraft 'the potential to reduce UK aviation noise output by 2050 compared to 2010' according to Sustainable Aviation. Aircraft can fly more directly and routes can be designed to avoid noise sensitive areas or provide a more equitable spread of noise as aircraft are not constrained by ground-based aids.

In essence, aircraft would be able to fly quieter and more efficient routes by greater utilising Continuous Descent and Climb operations which reduce noise and CO_2 emissions. New technology will also reduce the need for conventional orbital holding. It will also benefit the UK economy. Airspace modernisation across Europe will deliver over £29bn to UK GDP and 116,000 jobs by 2035 (IATA, 2016), as well as improving productivity. Without it, delays faced by passengers are likely to soar to 4 million minutes by 2030, up from 90,000 minutes in 2015 (NATS, 2015).

There will also be benefits to business and leisure fliers. Simpler airspace structures and boundaries will improve safety; and implementing continuous climb and descent operations for commercial air traffic has the potential to release some lower levels of controlled airspace.

FUTURE AIRSPACE MODERNISATION AT GATWICK AIRPORT

In July 2017 the Department for Transport directed NATS to re-energise the work on the Future Airspace Strategy for the southern half of the UK. This will include a fundamental redesign of the en-route airspace and the London Terminal Management Area (LTMA) along with refreshed airport specific procedures, by 2024. The Industry does not underestimate the size and complexity of this challenge. This programme will require the integration of NATS-led changes with parallel airport-led airspace changes and will constitute the single biggest airspace change in the UK. Gatwick Airport embraces the opportunity this programme presents and is helping to shape the programme's design and identify how risks can be shared and mitigated.

Gatwick Airport envisages the new airspace design will utilise Performance Based Navigation (PBN) solutions. PBN will not only allow improved avoidance of noise sensitive areas around airports on departure, but also enable more predictable routing options for arriving aircraft. Additionally, it is anticipated that the use of new technology will allow for more accurate management of arriving flights and so improve the efficiency of the runway operation.

Other design concepts that are expected to be adopted will permit aircraft to climb more steeply and more consistently to their cruising altitudes. This should create smaller noise footprints and decrease the noise levels experienced by some communities. Similarly, arriving flights will be able to make more direct, and continuous descents, saving distance, reducing emissions and reducing their noise and visual impact.

Gatwick Airport considers airspace redesign to be of the highest importance and as a result is actively investing time and resources to assist with the process and seek solutions that will deliver operational and environmental improvements. The airspace redesign will require the airport to update its departure and arrival procedures so that these link seamlessly with the upper airspace network in a considerate and environmentally sensitive manner.

The redesign of the wider airspace will be led by NATS and airspace operators; this will necessitate public consultation on the process and it is envisaged that this will happen during the latter part of 2018. Once there is sufficient clarity on the emerging airspace designs, Gatwick Airport can carry out its own public consultation with the local communities, on the options for connecting Gatwick's approach and departure routes to the updated airspace concept/s. This will provide the opportunity to address local concerns and seek to identify the optimum operational and environmental solutions.

INTERACTION WITH THE NOISE MANAGEMENT BOARD

Gatwick Airport also expects that the airspace change will allow the airport to deliver aspects of the Noise Management Board Action Plan that have the potential do deliver a meaningful improvement in the noise environment. The intent is to engage all parties at the earliest opportunity, explain how change will be managed under the new airspace change process, and to work with the communities to align on what must, should and could be changed.

While this process will place a major burden on the resources of all stakeholders, the airport sees this as a unique opportunity to modernise a key piece of national infrastructure. If successful there will be more efficient flight operations, with less fuel burn and less delays, along with meaningful noise benefits for local communities. The process will follow the new airspace change process being introduced by the Civil Aviation Authority which requires increased transparency and community engagement. The Noise Management Board will play an important role in the successful completion of this process.

SECTION 15 – DETAILS OF CURRENT NOISE ASSISTANCE SCHEMES

NOISE INSULATION SCHEME

The current Noise insulation Scheme was launched in 2014. This scheme was expanded significantly from the previous version covering 1,000 more properties in areas across Surrey, West Sussex and Kent.

The major changes to the scheme are two-fold. First the noise boundary for the scheme has increased by using a lower level of noise from 66 L_{eq} to 60 L_{eq} as a baseline with the boundary line drawn flexibly to ensure entire roads and communities are included. Secondly, the noise contour boundary has been drawn along the flight paths by 15km to both the east and west of the airport.

Gatwick Airport Ltd offered all local households eligible for the previous scheme the opportunity to comment and feedback on it before designing the new scheme, as well as local authorities and the Gatwick Airport Consultative Committee (GATCOM).

All eligible households were notified in writing of their eligibility and can receive up to £3,000 plus VAT towards acoustic insulation.

The Noise Insulation Scheme boundary can be viewed in Annex 7.

HOME OWNER SUPPORT SCHEME

Where land and property values are affected by new infrastructure, such as an airport development, property owners are not usually able to apply for compensation until a year after the new runway comes into use, when owners can seek compensation for the loss in the value of their property under the land Compensation Act 1973.

In the event that a second Gatwick runway goes ahead, it is likely to be many years before any runway would be open. In the meantime, there is no legal obligation to provide any support, although property values could be affected in the years before the development opens.

In these intervening years, it is recognised that an assurance of this later statutory compensation is not always enough to keep a property marketable. To allow for this, certain owner-occupiers have an entitlement in law to serve a Blight Notice, allowing them to require the promoter to purchase their property. These provisions only apply in tightly defined circumstances, and are set out in Schedule 13 of the Town and Country Planning Act 1990.

In order to support the local property market in the years before eligible property owners can receive any statutory support, we have developed a voluntary scheme. At the heart of the scheme is a fully transferable Home Owner Support Scheme (HOSS) Option Agreement. This will allow eligible property owners to require Gatwick to purchase their property for its unblighted market value (as if no runway development had been proposed) if and when Gatwick announces the intention to proceed with construction (having received planning permission).

The Home Owner Support Scheme aims to do four things to support the owners of properties which, if the development went ahead, would be newly exposed to medium-to-high levels of noise (66 decibels L_{eq}):

First, to make sure that affected properties can be bought and sold at normal market rates in the years before any development takes place. This is to counter any negative impact on property prices caused by the Government's proposals for possible runway development.

There are then two schemes for those people who want to move before they can require Gatwick to buy their property:

Once Gatwick announces its intention to apply for planning permission for a new runway, the scheme will allow property owners who wish to move, and have been unable to sell the property for a price within 15% of the prevailing market value, to sell their property to Gatwick at an unblighted price. We are calling this **Early Movers' Home Purchase**.

Once Gatwick announces its intention to apply for planning permission for a new runway, the scheme will provide property owners who wish to move and who are able to sell their properties for a price within 15% of the index-linked option price, with a contribution to sale costs of up to 5% of their property's sale price to property owners. We are calling this **Early Movers' Contribution to Sale Costs**.

Finally, if we receive planning permission for a new runway and once we announce our intention to begin construction, the scheme will enable property owners to sell their property to Gatwick at an unblighted price, without any loss of value threshold.

Our voluntary scheme means that people **will not have to wait until any new development has opened for any support or assistance** against blight, as they would usually have to if Gatwick only fulfilled its legal obligations.

The scheme applies to the area where properties will be newly exposed to medium-to-high levels of noise, resulting from a new runway at Gatwick. The area covered by the 66-decibel L_{eq} noise contour for a second runway has been forecast by the Civil Aviation Authority's Environmental Research and Consultancy Department. The scheme will only apply to properties which would fall within a 66-decibel L_{eq} noise contour for a new runway and are not currently within a 66-decibel L_{eq} noise contour for the existing airport.

A map of the area is enclosed in Annex 7. The area is defined by where a new runway would be sited.

We recognise that when we finalise the details of the new runway, the 66-decibel L_{eq} contour could change. If this happens we will extend the scheme to include any properties which fall inside the revised contour. We will also honour inclusion in the scheme for any properties that were inside but then fall outside the boundary.

PROPERTY MARKET SUPPORT BOND

Where land and properties need to be bought by a public body, statutory undertaker or infrastructure provider (such as Gatwick), the law allows that organisation to apply for a Compulsory Purchase Order, normally during the planning application process or after planning approval has been given.

Under a Compulsory Purchase Order, the land and property have to be bought by the developer at a fair, unblighted market price (i.e. as if no development had been proposed and no reduction in value had occurred). Eligible property owners are therefore guaranteed compensation under law for less of their property. However, this compensation is only paid once the developer has bought the property.

In the event that a second Gatwick runway goes ahead, it is likely to be many years before planning approval is granted and properties will have to be bought. In the meantime, there is no legal obligation to provide any support, although property values could be affected in the years before Compulsory Purchase Orders are granted.

In order to support the local property market in the years before eligible property owners could receive any statutory support, we have developed a voluntary scheme, which aims to do two things:

First, to make sure that properties in the area where land would be needed for any new runway development can be bought and sold at normal market rates in the years before any development takes place. This is to counter any negative impact on property prices caused by the Government's proposals for possible runway development.

Second, to enable people who take part in the scheme to sell their property to Gatwick, if Gatwick announces its intention to apply for planning permission for a second runway. We stand by our legal agreement that precludes runway construction before August 2019 and it consequently seems unlikely that such an announcement would need to occur much before 2012, and might be some years later than that.

Our voluntary scheme means that people won't have to wait until planning permission is granted for any support or compensation against blight, as they would generally have to if Gatwick only fulfilled its legal obligations. The scheme applies to the area where land would be required by Gatwick for a new runway development. We indicate this area in the map in Annex 7.

SECTION 16 - EVALUATING THE NOISE ACTION PLAN

We use a set of performance indicators to monitor and assess the effectiveness of our plan. Our performance against these indicators is regularly reviewed internally through our environmental governance structure and reported quarterly to the Noise and Track Monitoring Advisory Group (NaTMAG). An annual performance report is also presented to the Gatwick Airport Consultative Committee (GATCOM).

Set out below is a series of key performance indicators which we publish annually through our S.106 Annual Monitoring Report and Flight Performance Team reports. Certain KPIs are also published within the Decade of Change Annual Report and is subject to independent audit. We have included historical figures for the 'Round One' noise mapping for 2006 together with 'Round Two' for 2011 and the most recent 'Round Three' in order to set a baseline for this Noise Action Plan and to monitor progress.

Figure 6: Key Performance indicators to evaluate the Noise Action Plan

Key Performance Indicator	Round 1 2006	Round 2 2011	Round 3 2016
Percentage of Chapter 4 (or equivalent) aircraft	3%	96%	99%
Percentage of Chapter 14 aircraft[5]	-	-	-
Area inside the 55dBA L_{den} contour (km^2)	94.5km^2	85.6km^2	104.9km^2
Area inside the 48dBA L_{night} night-time (winter & summer seasons combined) contour (km^2)	41.3km^2 *2003 figure	34.1km^2	73.2km^2
Area inside the 57dB $L_{Aeq\ 16\ hour}$ daytime summer contour (km^2)	46.7km^2	40.4km^2	44.2km^2
Average quota count of aircraft operating during the night quota period (2330-0600)	0.82 Winter 2005/6 0.71 Summer 2006	0.65 Winter 2011/12 0.53 Summer 2011	0.59 Winter 2016/17 0.44 Summer 2016
Number of infringements of the daytime departure noise limit Number of infringements of the shoulder and night period	9 2	0 4	0 1
Percentage of aircraft achieving a CDO (24 hour period)	81.0%	90.5%	88.6%
Percentage of aircraft achieving a CDO Day / Shoulder period	79.9%	90.2%	88.2%
Percentage of aircraft achieving a CDO during the core night period	89.6%	94%	93%
Percentage of departing aircraft on-track (all routes)	98.2%	97.4%	98.6%
1,000ft Infringements (No.)	11	3	0
1,000ft Infringements (No. below 900ft)	6	1	0
Number of individual callers making noise related enquiries	587	343	2,324
Total noise complaints received	4,791	2,673	17,715
Percentage of noise related enquiries responded to within eight working days	94.5%	98.4%	46.6%

[5] In 2017, 39% of aircraft movements at Gatwick were billed at the Chapter 14 noise standard. Of these, 63% were in the quietest noise categories, Chapter 14 Base and Chapter 14 Minus

Figure 7: Airport Traffic Statistics

Traffic Statistics	2006	2011	2016
Total aircraft movements	262,832	251,068	280,089
West / east runway split	68/32	67/33	67/33
Total passengers	34,384,000	33,660,146	43,136,800
Night quota movements summer	7,749.5	9,859	11,303
Night quota movements winter	1,355.25	1,411	2,022

As a way of measuring the success of the revised noise action plan we have identified a number of expected outcomes. These are also set out below:

- No operations in 2024 by Chapter 3 aircraft.
- At least 80% of aircraft movements by Chapter 14 or equivalent aircraft by 2024.
- Performance against the noise abatement procedures in the UK Aeronautical Information Publication (AIP) will consistently be maintained and where practicable improved against a 2016 baseline.
- No daytime infringements against 94dB (A) daytime departure noise limit.
- 24 hour CDO achievement of no less than 90%.
- Track Keeping of no less than 98%.
- The 48dB (A) 6.5 hour night contour (winter and summer combined) will be within 47km^2.

The Flight Performance Team, along with other relevant Gatwick Teams track performance against these outcomes and report on progress within the quarterly and annual reports. Additional information is provided in Section 18.

SECTION 17 – RESULTS OF THE 2016 NOISE MAPPING

Gatwick Airport has, for many years, had an extensive noise management system in place and has annually produced summer L_{Aeq} 16 hour day contours. Therefore, the results of the 2017 noise mapping of 2016 do not raise any significant new issues. Traditionally our approach to noise management has contained actions aimed at addressing areas outside of these contours and, additionally, ground noise. As stated above, the actions contained within this revised plan will continue to adopt this approach.

The location of Gatwick Airport and the alignment of the main and standby runways mean that aircraft arrive and depart mostly over lightly populated rural areas. The alignment of the main runway means that residents of areas such as Lingfield to the east of the airport and Okewood Hill to the west are impacted by the airport's operation. Gatwick Airport has witnessed steady growth over recent decades, handling approximately 275,633 runway movements in 2016 compared to 220,000 in 1996.

The prevalence of westerly winds means that approximately 70% of aircraft arrivals come from the east and around 70% of departures are to the west however this figure does fluctuate.

There are four departure routes (noise preferential routes - NPRs) to the east of Gatwick and five to the west. The L_{den} maps indicate the impact of these NPRs particularly to the west where the departure routes form a spur in the 55dB L_{den} contour over Capel and the surrounding area.

For aircraft arriving at Gatwick the contour is influenced by arrivals from the east where the 55dB Lden contour extends over Lingfield, Marsh Green and Hever. The impact of departures is less marked on the L_{night} contour map reflecting that the night period typically consists of scheduled arrivals.

Detailed below, overleaf and in Annex 3, are the results of the 2016 noise mapping, showing the estimated number of people and dwellings exposed above various noise levels. This data has been sourced directly from the data pack provided to us by DEFRA. We have included data from L_{day}, $L_{evening}$, L_{night}, L_{den} and L_{eq} noise contours. We considered these results and our current noise mitigation measures in revising this noise action plan.

The number of dwellings has been rounded to the nearest 50, except when the number of dwellings is greater than zero but less than 50, in which case the total has been shown as '<50'.

The associated population has been rounded to the nearest 100, except when the associated population is greater than zero but less than 100, in which case the total has been shown as '<100'.

Figure 8: Estimated Total Number of People and Dwellings above Various Noise Levels, L_{den}

Noise Level (Db)	Number Of Dwellings	Number Of People
≥ 55	5,450	13,500
≥ 60	950	2,300
≥ 65	250	600
≥ 70	<50	<100
≥ 75	0	0

Figure 9: Estimated Total Number of People and Dwellings above Various Noise Levels, L_{day}

Noise Level (Db)	Number Of Dwellings	Number Of People
≥ 54	4,000	9,800
≥ 57	1,350	3,200
≥ 60	550	1,400
≥ 63	250	600
≥ 66	50	200
≥ 69	<50	<100

Figure 10: Estimated Total Number of People and Dwellings above Various Noise Levels, $L_{evening}$

Noise Level (Db)	Number Of Dwellings	Number Of People
≥ 54	3,300	8,000
≥ 57	900	2,100
≥ 60	450	1,000
≥ 63	150	400
≥ 66	<50	100
≥ 69	0	0

Figure 11: Estimated Total Number of People and Dwellings above Noise Levels, $L_{aeq,\ 16H}$

Noise Level (Db)	Number Of Dwellings	Number Of People
≥ 54	3,850	9,400
≥ 57	1,200	2,900
≥ 60	550	1,300
≥ 63	200	600
≥ 66	50	200
≥ 69	<50	<100

Figure 12: Estimated Total Number of People and Dwellings above Various Noise Levels, L_{night}

Noise Level (Db)	Number Of Dwellings	Number Of People
≥ 48	3,650	9,000
≥ 51	1,150	2,800
≥ 54	500	1,100
≥ 57	200	500
≥ 60	50	200
≥ 63	<50	<100
≥ 66	0	0

METHODOLOGY FOR CALCULATION OF POPULATION AND DWELLING EXPOSURE STATISTICS

In order to derive the statistics presented in this section, analysis has been undertaken to count the population and number of dwellings within the specified noise contours. This assessment was carried out utilising a strategic residential population location dataset. The following paragraphs summarise the method used in constructing this dataset.

Residential dwellings and buildings containing residential dwellings were identified through the 2015 (OS) AddressBase Premium and Topography layer respectively. An average population per residential dwelling was calculated for each discrete dwelling utilising population data attained from the mid-year population estimates from the Office of National Statistics (ONS), June 2015.

The total number of residential dwellings and the total associated population were calculated for each residential building polygon, taking into account building polygons with multiple dwellings. Examples of building polygons containing multiple dwellings located within a single polygon include tower blocks and apartments.

The previous noise mapping from 2011 and 2006 is provided within Annex 10 for the purposes of allowing comparisons to be made.

SECTION 18 – OUR NOISE ACTION PLAN

Over the following pages are the individual actions that make up this Noise Action Plan.

Figure 13: Our Noise Action Plan actions, impact areas, benefits, performance indicators, reporting and targets

Quiet Fleet							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
1. We will maintain a charging differential in our published airport charges which incentivises the use of aircraft with the best in class noise performance.	Arrivals, Departures and Ground	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Increased use of the quietest and cleanest Chapter 14 certified aircraft at Gatwick. These aircraft are 7 EPNdB quieter than Chapter 4 and 10 EPNdB than Chapter 3. **Cost:** Airline fleet replacement.	**Indicator:** Fleet mix including % of Chapters 4 and 14 Aircraft. **Reported:** Quarterly to NaTMAG.	Use of established airline engagement forums and channels.	On-going	By 2024, 90% of movements are by Chapter 14 aircraft.
2. We will continue to apply and report upon charging penalties to those aircraft operators of Airbus A320 family aircraft that have not had the Fuel Over Pressure Protector (FOPP) modification retrofitted.	Arrivals, Departures and Ground	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Use of FOPP modified A320 family aircraft, a modification which can deliver arrivals noise reductions of up to 9dB. **Cost:** Airline fleet modification.	**Indicator:** Percentage of A320 fleet retrofitted or delivered with modification in place. **Reported:** Quarterly to NaTMAG.	Use of established airline engagement forums and channels.	On-going	By 2020, 99% of all A320 family flights are by FOPP modified aircraft.
2a. If additional aircraft or manufacture specific noise defects which can be rectified by a modification are identified (similar to the FOPP) we will seek to identify, consult and implement corresponding charging penalties.	Arrivals, Departures and Ground	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Identification and rectification of potential fleet/aircraft specific noise issues. **Cost:** Airline fleet modification.	**Indicator:** To be decided based upon any potential issues identified. **Reported:** Quarterly to NaTMAG.	Use of established airline engagement forums and channels.	On-going	To be decided based upon any potential issues identified.

[6] The number of people affected by each action has been based upon an estimate of the area of impact correlated to the strategic noise mapping provided by DEFRA. In cases where the impact contour estimate does not correlate with the specific contours in the DEFRA mapping, the next contour down has been used to maintain a conservative approach.

Quiet Fleet							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
3 We will review the landing fee differential at least every five years.	Arrivals, Departures and Ground	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** As above for Action 1. **Cost:** As above for Action 1.	**Indicator:** Review of the landing fees. **Reported:** Online publication of the Conditions of Use.	Use of established airline engagement forums and channels.	5 yearly	Publication of revised conditions of use.
4. Gatwick Airport Ltd will consult with its airline partners annually regarding the Airport Charges Structure. The Noise Management Board will also be asked for its feedback.	Strategic Approach	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** As above for Action 1. **Cost:** As above for Action 1.	**Indicator:** Review of the airport charges structure. **Reported:** Online publication of the Conditions of Use.	Use of established airline engagement forums and channels.	Annually	Annual publication of revised conditions of use.
5. In conjunction with our airline partners we will seek to re-introduce, by the end of this Noise action Plan period a programme that will rank our airline partners in relation to their overall performance for a range of noise and any other appropriate topic potentially including, but not limited to metrics such as compliance with abatement techniques, fleet age, engine fit and passenger loads per km.	Arrivals, Departures and Ground	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Continual operational improvement in noise and emissions by providing a public facing league table whilst also providing clear and transparent information to stakeholders. **Cost:** Development and ongoing management of the league table along with airline engagement to drive improvements.	**Indicator:** Introduction and publication of the Gatwick airline league. **Reported:** Progress prior to implementation will be reported to the NMB. Once prepared the table will be reported regularly.	Use of established airline engagement forums and channels.	2019	Implement, publish and regularly update the league table.

Night Time Operations							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
6. We will continue to administer the Department for Transport night flight regime and ensure that we operate at night within the prescribed ATM and QC limits.	Night flights	Communities within and beyond 48dB Lnight (in excess of 9,000)	**Benefit:** Incentivise the use of the quietest aircraft in the night period through the application of the DfT's night flight regime with reduced QC limits and a new QC category. **Cost:** Implementation of the revisions and ongoing management of the regime.	**Indicator:** Application of and management of the revised DfT night flight regime. **Reported:** Regularly to the DfT and quarterly to NaTMAG.	Program managed by GAL with oversight provided by DfT using established process.	On-going	Controlled management of night flights in accordance with the DfT program.
7. We will report on a quarterly basis to the Noise and Track Monitoring Advisory Group the number of flights delayed from planned daytime arrival into night movements (after 23:30 local).	Night flights	Communities within and beyond 48dB Lnight (in excess of 9,000)	**Benefit:** Increased awareness of delayed arrivals allowing for proactive action to be taken within Action 8. **Cost:** Management, data analysis and reporting on the regime.	**Indicator:** Off-schedule performance statistics for aircraft affected. **Reported:** Quarterly to NaTMAG.	Engagement and participation with NaTMAG, an established group.	Quarterly / Annually	Report off-schedule flights which are delayed into the night period.
8. We will, as far as is practicable, take all necessary steps to manage the late running of aircraft to prevent scheduled day movements taking place during the sensitive night period.	Night flights	Communities within and beyond 48dB Lnight (in excess of 9,000)	**Benefit:** Reduction in the number of late running aircraft, planned for the daytime, operating in the sensitive night period. **Cost:** Management, data analysis and reporting on the regime. Actions taken could result in the potential cancellation of flights.	**Indicator:** The number of off-schedule flights which are delayed into the night period. **Reported:** Airside operations and airlines.	Use of established airline engagement forums and channels.	On-going	Minimise as far as possible, the number of off-schedule flights which are delayed into the night period.
9. We will implement a voluntary ban on operations of Quota Count 4 aircraft within the core night period by the end of 2022.	Night flights	Communities within and beyond 48dB Lnight (in excess of 9,000)	**Benefit:** Incentivise the use of the quietest and cleanest aircraft in the night period. **Cost:** Airline fleet replacement.	**Indicator**: Number of QC/4 aircraft operating in the night period. **Reported:** Quarterly to NaTMAG.	Use of established airline engagement forums and channels.	2022	Implement a voluntary ban by 2022.

Ground Noise Control							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
10. We will continue to monitor adherence to and review the effectiveness of our ground noise operational controls.	Ground	Communities within and beyond 65dB Lden (in excess of 600)	**Benefit:** Continual reduction in ground noise and emissions from engine testing and APU running in accordance with our S106 agreement. **Cost:** Management, data analysis and reporting on the operational controls.	**Indicator**: Publication of Gatwick Airport directives pertaining to Auxiliary power unit usage and audit findings reports. **Reported:** Quarterly to NaTMAG.	Engagement and participation with NaTMAG, along with an airline/ground handler education program on ground noise controls.	On-going	Maintain effective ground noise operational controls.
11. We will report on a quarterly and annual basis the following: • Fixed Electrical Ground Power availability. • The amount of Ground Power Unit dispensations granted. • The number of audit checks of aircraft auxiliary power unit running. • The number of non-compliances of aircraft auxiliary power unit runs identified. • The number of aircraft engine runs undertaken.	Ground	Communities within and beyond 65dB Lden (in excess of 600)	**Benefit:** Continual reduction in ground noise and emissions. **Cost:** Management, data analysis and reporting on the operational controls.	**Indicator**: Quarterly Ground noise monitoring reports. **Reported:** Quarterly to NaTMAG and annually in the Section 106 Annual Monitoring Report.	Engagement and participation with NaTMAG, an established group along with an airline/ground handler education program on ground noise controls.	On-going	Maintain effective ground noise operational controls.
12. We will continue to minimise aircraft auxiliary power unit use in order to reduce ground noise and local air quality emissions via Gatwick Airport Directives and monitoring of compliance.	Ground	Communities within and beyond 65dB Lden (in excess of 600)	**Benefit:** Continual reduction in ground noise and emissions. **Cost:** Management, data analysis and reporting on the operational controls.	**Indicator**: Quarterly Ground noise monitoring reports. **Reported:** Quarterly to NaTMAG and annually in the Section 106 Annual Monitoring Report.	Engagement and participation with NaTMAG, along with an airline/ground handler education program on ground noise controls.	On-going	Maintain effective ground noise operational controls.

Arriving Aircraft							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
13. We will continue to promote adherence to the Arrivals Code of Practice through groups such as FLOPSC, Sustainable Aviation and other engagement events.	Arrivals	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Continual improvement in operational practices leading to a reduction in arrivals noise and emissions. **Cost:** Airline engagement and operational improvement facilitated by GAL and NATS.	**Indicator**: Quarterly and Annual FPT reports covering metrics such as CDO performance etc. **Reported:** Quarterly to FLOPSC and NaTMAG.	Engagement and participation with established forums (FLOPSC and SA) along with direct airline engagement where required.	On-going	Share code of practice with all new airlines.
14. We will continue to promote, monitor, seek to improve and report on adherence to the arrival noise abatement procedures detailed in the London Gatwick Aeronautical Information Publication.	Arrivals	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** As above for Action 13. **Cost:** As above for Action 13.	**Indicator**: Quarterly and Annual FPT reports covering metrics such as CDO performance etc. **Reported:** Quarterly to FLOPSC and NaTMAG.	Engagement and participation FLOPSC, an established forums along with direct airline engagement where required.	On-going	By 2020 provide, adherence data to airlines on a regular basis to drive continuous improvement.
15. In conjunction with Sustainable Aviation, Gatwick Airport will identify a low noise arrival procedure which will capture Low Power Low Drag measures and result in a metric which will supplement Continuous Descent Operations as an additional measurable target.	Arrivals	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Introduction of a new, low noise target across the UK, for airlines to enable additional reductions in arrivals noise. **Cost:** The initial study (funded by the Future Aviation Strategy) along with airline training and continual engagement and operational improvement facilitated by GAL and ATC personnel.	**Indicator**: Project progress reports. **Reported:** Reported and tracked by Sustainable Aviation[7].	Program management by Sustainable Aviation with funding from the Future Aviation Strategy.	2019	Implement the low noise arrivals metric at Gatwick.

[7] The use of a low noise arrivals metric was first proposed by the Noise Management Board. To enable maximum uptake of the initiative, Gatwick Airport developed a proposal to seek funding from the Future Airspace Strategy to allow the program to be undertaken by Sustainable Aviation as a UK wide study. The study has now commenced and is proposed for completion in December 2018, with its subsequent implementation at Gatwick in 2019.

Arriving Aircraft							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
16. In line with Noise Management Board initiatives and the commitments in the Sustainable Aviation Noise Road Map, we will work with our airlines and air navigation services providers to improve CDO at Gatwick.	Arrivals	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Continual improvement in operational practices leading to a reduction in arrivals noise and emissions. **Cost:** Airline engagement and operational improvement facilitated by GAL and NATS.	**Indicator**: CDO performance figures. **Reported:** Provided to airlines on a monthly basis and to FLOPSC/NaTMAG at every meeting.	Engagement and participation with FLOPSC, an established forums along with direct airline engagement where required.	On-going	Maintain Gatwick's position as the No. 1 airport for UK CDO performance.
17. We will implement agreed Noise Management Board Work Plan solutions that are intended to reduce the noise impact of arriving aircraft.	Arrivals	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Reduction in arrivals noise through the delivery of activities listed in the published NMB 2017/18 Work Plan covering Fair and Equitable Distribution (FED), improvements in CDO and the sharing of best practice. **Cost:** Varied depending on the activity in question but will require support from GAL, Airlines NATS, ANS and DfT.	**Indicator**: Initiatives will be tracked according to their individual project plans. **Reported:** in progress updates to every NMB and publicly in an annual report.	Support and engagement with the NMB, an established group, which includes industry and community representatives.	2019 - 2024	Delivery of agreed Noise Management Board Work Plan activities.

Departing Aircraft							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
18. We will continue to promote adherence to the Departures Code of Practice through groups such as FLOPSC, Sustainable Aviation and other communication events.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Continual improvement in optimal departures performance. **Cost:** Airline engagement and operational improvement facilitated by GAL and ATC personnel.	**Indicator**: Metrics such as track keeping etc. **Reported:** Shared with FLOPSC and NaTMAG and publicly within the FPT reports.	Engagement and participation with established forums (FLOPSC) along with direct airline engagement where required.	On-going	Continue to share code of practice with airlines and by 2020 provide timely performance data to drive continuous improvement.
19. We will continue to promote, monitor, seek to improve and report on adherence to the departure noise abatement procedures detailed in the London Gatwick Aeronautical Information Publication.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** As above for Action 18. **Cost:** As above for Action 18.	**Indicator**: Metrics such as track keeping etc. **Reported:** Shared with FLOPSC and NaTMAG and publicly within the FPT reports.	Engagement and participation with established forums (FLOPSC) along with direct airline engagement where required.	On-going	By 2020 provide timely performance data to drive continuous improvement.
20. We have an annual limit of no more than 5% off-track departures. In future, we will compare on an annual basis the percentage of off-track departures against the average performance over the previous five years.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Management and control of departures track keeping up to the minimum vectoring altitude. **Cost:** Airline engagement and operational improvement facilitated by GAL and ATC personnel. In certain cases airspace change may be required to improve track keeping.	**Indicator**: Metrics such as track keeping etc. **Reported:** Shared with FLOPSC and NaTMAG and publicly within the FPT reports.	Engagement and participation with established forums (FLOPSC) along with direct airline engagement where required.	2019 - 2024	No more than 5% off-track departures per year.
21. In conjunction with our partners and the Noise Management Board we will adopt a preferred Noise Abatement Departure Procedure (NADP).	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Controlled management of departures noise. **Cost:** Fuel burn, CO_2, NO_x and noise vary depending on the procedure selected however the study will aim to determine the optimum solution.	**Indicator:** Publication of DfT ANMAC and NMB study on NADP. **Reported:** To the NMB and NaTMAG.	Engagement and participation with established forums (DfT ANMAC, FLOPSC and NMB).	2019	Implement a preferred NADP by the end of 2019.

Departing Aircraft							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
22. We undertake to explore opportunities to remove the altitude restrictions on departure Routes intended to reduce the noise impact of departing aircraft.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Increase in the ability to perform continuous climb operations and reduce noise and emissions. **Cost:** Airspace change and consultation process at Gatwick and nearby London airports.	**Indicator:** Completion of the feasibility studies. **Reported:** To the NMB and NaTMAG.	NATS to validate studies as required.	2024	Identify opportunities and implement options.
23. We undertake to explore the feasibility of introducing an alternative Standard Instrument Departure routes within our Noise Preferential Routes in order to provide dispersions and / or respite.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Use of alternative SID routes within a single NPR could be used to avoid sensitive areas or multiple routes could be used to provide a wider distribution or respite. **Cost:** Airspace change and consultation process.	**Indicator:** Completion of the feasibility study. **Reported:** To the NMB and NaTMAG.	NATS to validate the study.	2019	Identify opportunities and implement options.

Airline Supplementary Charges							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
24. We will continue to fine aircraft in breach of the Department for Transport departure noise limits with all such monies passed to the Gatwick Airport Community Trust.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Management of excessively noisy departures. **Cost:** Management and upkeep of the program.	**Indicator:** Aircraft noise infringements identified by the airport Noise and Track Keeping system. **Reported:** in FPT quarterly and annual reports.	Direct airline engagement.	On-going	Apply fines for breeches and direct these to the Gatwick Airport Community Trust.
24a. We will review and increase the fines currently levelled against airlines which breech departure noise limits with all such monies passed to the Gatwick Airport Community Trust.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Management of excessively noisy departures. **Cost:** Review process.	**Indicator:** Aircraft noise infringements identified by the airport Noise and Track Keeping system. **Reported:** in FPT quarterly and annual reports.	Direct airline engagement.	On-going	Increase fines for breeches of noise limits and continue to direct fines to the Gatwick Airport Community Trust.
25. Through engagement with the Department for Transport, Aircraft Noise Management Advisory Committee and/or through unilateral action review our departure noise limits.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Drive continual and further improvement in departures performance. **Cost:** Research and implementation of relevant noise controls.	**Indicator:** Input papers and letters as appropriate to Sustainable Aviation and DfT ANMAC working groups. **Reported:** to FLOPSC, NMB and NaTMAG.	Engagement and participation with established DfT ANMAC forum. Analysis work as required to be carried out by CAA ERCD.	2024	Attendance at meetings and propose the review.

Airline Supplementary Charges							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
26. We will work with our airlines and noise governance groups to explore the feasibility of introducing supplementary charges for aircraft departures which persistently fail to operate in accordance with Noise Preferential Routes prescribed for the airport as measured by the noise and track monitoring system operated by Gatwick Airport Ltd, with all such monies passed to the Gatwick Airport Community Trust.	Departures	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Drive continual and further improvement in departures performance. **Cost:** Research on applicable charges, airline engagement and implementation of supplementary charges.	**Indicator:** Input papers and letters as appropriate to Airlines, NMB, NaTMAG and FLOPSC. **Reported:** to FLOPSC, NMB and NaTMAG.	Engagement and participation with established forums (FLOPSC, NaTMAG and NMB) along with direct airline engagement where required.	On-going	Identify opportunities and implement options.

Mitigation Schemes							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
27. We will continue to provide a vortex-damage repair scheme to repair roofs that have been damaged by aircraft vortices.	Community assistance scheme	Communities within and beyond 60dB Lden (in excess of 2,300)	**Benefit:** Community reassurance that GAL will recompense damaged caused by aircraft wake vortices. **Cost:** Management of the program.	**Indicator:** Applications received for the program. **Reported:** to internal management.	Scheme contractor via a commercial agreement.	On-going	Maintain the scheme and introduce transparent reporting.
28. We will continue a scheme that helps with the cost of acoustically insulting homes against the effects of aircraft noise. We undertake to review the scheme every 5 years to ensure it remains appropriate and relevant.	Community noise mitigation initiative	Communities within and beyond 60dB Lden (in excess of 2,300)	**Benefit:** Reduction in indoor noise levels for those significantly affected by aviation noise levels. **Cost:** Management of the program.	**Indicator:** Applications received for the current program. Along with a review and implementation of changes as required. **Reported:** to internal management.	Insulation contractor via a commercial arrangement.	2019 - 2024	Maintain the current scheme and implement any changes arising from reviews.
28a We will undertake a review of our acoustic noise insulation programs by the end of 2019. With subsequent reviews considered every 5 years as noted in Action 28.	Community noise mitigation initiative	Communities within and beyond 60dB Lden (in excess of 2,300)	**Benefit:** Updated noise reduction program for those significantly affected by aviation noise levels. **Cost:** Review of the program.	**Indicator:** Review conducted. **Reported:** to internal management.	Insulation contractor.	2019 - 2024	Review completed by the end of 2019.
29. We will continue to offer acoustic insulation to noise sensitive buildings within the $60L_{Aeq}$ noise contour.	Community noise mitigation	Communities within and beyond 60dB Lden (in excess of 2,300)	**Benefit:** Reduction in indoor noise levels for those significantly affected by aviation noise levels. **Cost:** Management of the program.	**Indicator:** Applications received for the current program. **Reported:** to internal management.	Insulation contractor via a commercial arrangement.	2019 - 2024	Maintain the current scheme and implement any changes arising from reviews.

Mitigation Schemes							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
30. To address the impacts of future growth we will continue to offer to purchase those properties suffering from both a high level of noise (63dB(A) Leq or more) and a large increase in noise (3dB(A) Leq or more), in accordance with the Terms of Reference of the Property Market Support Bond and Home Owners Support Scheme.	Community noise mitigation Initiative	Communities within and beyond 65dB Lden (in excess of 600)	**Benefit:** Community reassurance that those who may be significantly affected by future growth of Gatwick. **Cost:** Financial commitment to the Scheme.	**Indicator:** Applications received for the current program. **Reported:** Not currently reported.	None required.	On-going	Maintain the current scheme.

Noise Reduction Measures							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
31. In conjunction with the Noise Management Board we will explore innovative methods to reduce both inbound and outbound aircraft noise levels.	Arrivals, Departures / community trust and awareness	Communities within and beyond 55dB Lden (in excess of 13,500)	**Benefit:** Reduction in arrivals and departures noise through the implementation of activities on the NMB 2017/18 workplan (and subsequent iterations). **Cost:** Varied depending on the activity in question but will require support from GAL, Airlines NATS, ANS and DfT. Implementation may require an airspace change process in some cases.	**Indicator**: Implementation progress reports. **Reported:** to each NMB meeting with public reports published annually.	Support and engagement with the NMB, an established group, which includes industry and community representatives.	2019 - 2024	Implement the identified and agreed tasks within the relevant NMB workplan for that period.

Monitoring and Reporting our Progress

ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
32. We will ensure that our Noise and Track Keeping (NTK) systems are suitable, relevant and reliable, providing updates as appropriate.	Community trust and awareness	Not Applicable	**Benefit:** Provision of a suitable, relevant and reliable NTK system for use by industry and community stakeholders. **Cost:** Licencing and software development to cover regular updates.	**Indicator**: Provision of the NTK service, including updates where required. **Reported:** Updates will be presented to NaTMAG.	Engagement and participation with NaTMAG, an established group. NTK supplier via a commercial agreement.	On-going	Continually review and update the NTK system.
33. We will continue to provide public access to flight track information and noise related data via the Gatwick Airport noise website and the online flight tracking facility, available both on desktop and mobile devices.	Community trust and awareness	Not Applicable	**Benefit:** Provision of a suitable, relevant and reliable flight tracking system for use by industry and community stakeholders **Cost:** Licencing and software development to cover regular updates.	**Indicator:** Provision of the Noise and Track Keeping service on desktop and mobiles. **Reported:** Updates will be presented to NaTMAG.	NTK supplier via a commercial agreement.	On-going	Provision of the Noise and Track Keeping service on desktop and mobiles.
34. We will continue to provide an airspace analysis service and implement service improvements where identified. The team will continue to provide accurate and timely data to aid strategy development and noise complaint handling.	Arrivals Departures Ground along with community trust and awareness	Not Applicable	**Benefit:** Provision of a dedicated analysis, engagement and operational improvement team to deliver further reductions in arrival and departure noise and emissions. **Cost:** Staffing of the FPT along with ATC and airline engagement.	**Indicator:** Provision of FPT services including but not limited to: • Support to NMB initiatives • Noise Abatement Reporting, • Ad-hoc Analysis, • Night Flight Administration, • Complaints Handling. **Reported:** Published quarterly and annually within the FPT report.	None required.	On-going	Continual provision of an FPT service and the publication of quarterly and annual reports.

Monitoring and Reporting our Progress

ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
35. We will improve the availability of, and access to, airspace and noise related data.	Strategic Approach/ community trust and awareness	Not Applicable	**Benefit:** Improved provision of timely and transparent data for airport and community stakeholders. **Cost:** Part of the function of the FPT.	**Indicator:** Review of current information provision. **Reported:** Updates and changes will be presented to NaTMAG.	Engagement and participation with NaTMAG, an established group.	2020	Publication of data in the improved format.
36. We will explore the feasibility of introducing an information service for local communities. This could include updates on airport operations, e.g. scheduled northern runway operations, change in runway direction, meteorological information, scheduled number of aircraft movements during the day and night periods, reported thunderstorm activity etc.	Community trust and awareness	Not Applicable	**Benefit:** Improved provision of timely and transparent data for airport and community stakeholders. **Cost:** Part of the function of the FPT.	**Indicator:** Review of available options. **Reported:** Updates and changes will be presented to NaTMAG.	Engagement and participation with NaTMAG, an established group.	2022	Implement the information service.
37. We will continue to provide a Community Noise Monitoring Scheme, operated under the supervision of the Noise and Track Monitoring Advisory Group and the Gatwick Noise Monitoring Group.	Arrivals Departures Community trust and awareness	Not Applicable	**Benefit:** Improved understanding of arrivals and departure noise whilst measuring the benefits delivered by the actions proposed in this plan. **Cost:** Part of the function of the FPT.	**Indicator:** Deployment of mobile noise monitoring terminals to locations around the airport. **Reported:** to NaTMAG via the Gatwick Noise Monitoring Group.	Engagement and participation with NaTMAG, an established group.	On-going	Timely publication of community noise monitoring reports.

Monitoring and Reporting our Progress

ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
37a. We will seek to expand the Community Noise Monitoring Scheme with additional noise monitoring terminals and update the reporting process to include holistic noise reports for the area around Gatwick Airport.	Arrivals Departures Community trust and awareness	Not Applicable	**Benefit:** Additional noise monitoring capability to gather quantifiable data on noise impacts. **Cost:** Procurement of noise monitors and development of reporting processes.	**Indicator:** Procurement of additional noise monitoring terminals and new reporting process. **Reported:** to NaTMAG via the Gatwick Noise Monitoring Group.	Engagement and participation with NaTMAG, an established group.	On-going	Procurement and deployment of additional monitors. Publication of new reports.
38. We will report progress against the published Noise Abatement Procedures contained within the London Gatwick Aeronautical information Publication and this Noise Action Plan on a quarterly basis to the Noise and Track Monitoring Advisory Group, the Gatwick Airport Consultative Committee and on our webpages.	Arrivals Departures Ground	Not Applicable	**Benefit:** Tracking and reporting of adherence to deliver further reductions in arrival and departure noise and emissions. **Cost:** Part of the function of the FPT.	**Indicator:** Data analysis on the compliance with the AIP. **Reported:** Quarterly to NaTMAG and published quarterly and annually within the FPT reports.	Engagement and participation with NaTMAG and GATCOM, both established groups.	On-going	Timely publication of quarterly and annual FPT reports.
39. We will update to our website the following noise contours: • Summer 16 hour day L_{eq} (actual) • Summer 16 hour day (standard) L_{eq} • Summer Night L_{eq} (actual) • The above compared to the previous year. • Summer Night 10 year average modal split L_{eq}	Arrivals Departures Ground	Not Applicable	**Benefit:** Provision of an independent assessment of noise contours using a long term assessment method. **Cost:** GAL/ CAA ERCD resource.	**Indicator:** Commission the contours from CAA ERCD. **Reported:** Published online.	CAA ERCD via a commercial agreement.	On-going	Noise contours published on the Gatwick website.

Monitoring and Reporting our Progress							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
39a. We will aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts. In order to achieve this we will conduct a review of Government policy including how Government policy should be interpreted and how that policy has been applied in practice. Following the establishment of a workable policy baseline we will aim to develop new noise metrics and reporting to complement the current noise contours and measure our future noise performance. This work will be used to more precisely describe outcomes to support this END Noise Action Plan.	Strategic Approach	Not Applicable	**Benefit:** Measurement of noise performance. **Cost:** GAL resource.	**Indicator:** Commencement of the study. **Reported:** Circulated to the relevant airport noise groups (GATCOM, NaTMAG and NMB) as appropriate.	Engagement with, Sustainable Aviation, DfT ANMAC, environmental health officers, GATCOM, NaTMAG and NMB as required.	2020	Publication of supplementary metrics.

Managing Aircraft Noise Complaints							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
40. We will seek to respond to at least 95% of all complaints and enquiries within eight working days of receipt, in line with the extant Complaints Handling Policy, and publish our performance in FPT quarterly reports.	Community trust and awareness	Not Applicable	**Benefit:** Timely review, investigation and response to noise complaints. Whilst long term trend analysis supports operational improvement. **Cost:** Part of the function of the FPT.	**Indicator:** Complaint tracking and management by the FPT. **Reported:** Quarterly to NaTMAG and published quarterly and annually within the FPT reports.	None required.	On-going	Timely publication of quarterly and annual FPT reports.
41. We will continue to log all complaints relating to aircraft operations in line with the extant Noise Complaints Handling Policy and publish the statistics on our website quarterly.	Community trust and awareness	Not Applicable	**Benefit:** Collection and analysis of complaints to support operational improvement. **Cost:** Part of the function of the FPT.	**Indicator:** Complaint tracking and management by the FPT. **Reported:** Quarterly to NaTMAG and published quarterly and annually within the FPT reports.	None required.	On-going	Timely publication of quarterly and annual FPT reports.
42. We will continue to offer various methods for complaints about aircraft noise events.	Community trust and awareness	Not Applicable	**Benefit:** Allow complainants to provide complaints using various methods suited to their individual needs. **Cost:** Part of the function of the FPT.	**Indicator:** Availability of the various methods (Casper and free post). **Reported:** Availability reported publicly.	None required.	On-going	Implement a complaints phone line by the end of 2019.

Managing Aircraft Noise Complaints							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
43. In order to achieve community confidence in the Complaints Handling Policy and provide transparency of information, we will, where appropriate update our procedures relating to the receipt, processing and reporting of aircraft noise complaints.	Strategic Approach	Not Applicable	**Benefit:** Improved transparency and confidence in the complaints handling process. **Cost:** Part of the function of the FPT.	**Indicator:** Review and update to the Complaints Handling Policy. **Reported:** Updates and changes will be presented to NaTMAG.	None required.	On-going	Online publication of the policy.

Engagement							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
44. Gatwick will continue to engage actively with Government, the Regulator, Sustainable Aviation and such ad-hoc reviews that may be established and will respond appropriately to relevant consultations, engagement exercises and recommendations arising from those activities.	Strategic Approach	Not Applicable	**Benefit:** Continual improvement in the operational and strategic management of noise and emissions. **Cost:** Staffing to support the ongoing engagement activity.	**Indicator:** Engagement with relevant stakeholders. **Reported:** Submission of consultation responses.	Membership of working groups.	On-going	Submission of consultation responses.
45. Gatwick Airport will implement relevant recommendations resulting from feasibility studies in conjunction with the CAA and the DfT as and when they are released.	Strategic Approach	Not Applicable	**Benefit:** Continual improvement in the operational and strategic management of noise and emissions. **Cost:** Staffing to support the ongoing engagement activity.	**Indicator**: Publication of the findings and recommendations of the relevant studies. **Reported:** Implementation of recommendations as required.	Support from CAA, NATS, ANS and airlines as and when required and achieved through extant working relationships.	On-going	Implement relevant findings.
46. We will continue to engage with local communities through the established noise governance groups.	Community trust and awareness	Not Applicable	**Benefit:** Provision of airport information to the community and an understanding of local issues by the airport. **Cost:** Staffing to support the ongoing engagement activity.	**Indicator**: Continual operation and attendance at community meetings. **Reported:** Meeting minutes published.	Engagement and participation with NaTMAG, GNMG, NMB and GATCOM along with sub-groups as required.	On-going	Attendance at each meeting and production of papers as required.

Engagement							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
47. We will continue to support the existence of, and engage with a Noise Management Board, the workplan and meeting papers, which will be adequately published to our other noise governance groups and online.	Arrivals Departures Ground/ Community trust and awareness	Not Applicable	**Benefit:** Continual improvement in the operational and strategic management of noise and emissions. Whilst implementing operational initiatives and strategies to reduce the impact of aviation noise. **Cost:** Staffing to support the ongoing engagement activity.	**Indicator:** Participation and support to the NMB. **Reported:** Meeting minutes and relevant papers published.	Engagement and participation with NMB and sub-groups as required.	On-going	Attendance at each meeting and production of papers as required.
48. We will continue to engage with and provide noise data as required to local Environmental Health Officers through the Gatwick Noise Monitoring Group.	Strategic Approach	Not Applicable	**Benefit:** Provision of timely and transparent data to Environmental Health Officers. **Cost:** Part of the function of the FPT.	**Indicator**: Participation and support to the GNMG. **Reported:** To NaTMAG and publicly within the NaTMAG minutes.	Engagement and participation with GNMG.	On-going	Attendance at each meeting and production of papers as required.
49. In conjunction with the Gatwick Noise Monitoring Group we will commission noise studies to gain an insight into the noise climate in a particular area and holistically across the Gatwick area. We will publish these reports on our website.	Strategic Approach	Not Applicable	**Benefit:** Improved understanding of arrivals and departure noise whilst measuring the benefits delivered by the actions proposed in this plan. **Cost:** Part of the function of the FPT.	**Indicator**: Participation and support to the GNMG. **Reported:** To NaTMAG and publicly within the NaTMAG minutes.	Engagement and participation with GNMG.	On going	Publication of local and holistic noise studies.
50. We will continue to host an annual airspace seminar, to include an annual update from the Noise Management Board, inviting local interest groups and stakeholders.	Community trust and awareness	Not Applicable	**Benefit:** Provision of airport information to the community and an understanding of local issues by the airport. **Cost:** Staffing to support the ongoing engagement activity.	**Indicator**: Hosting the event. **Reported:** Relevant papers published online.	Support from CAA, NATS, ANS and airlines as and when required and achieved through membership of the NMB.	On going (annually)	Hold an airspace seminar once per year.

Engagement							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
51. We will continue to engage with local planning authorities in order to ensure they are well informed about noise issues at Gatwick, and to provide information on the airport and its operation.	Strategic Approach	Not Applicable	**Benefit:** Provision of timely and transparent data to local planning authorities. **Cost:** Part of the function of the FPT.	**Indicator**: Participation and support to the Quarterly S106 steering group meetings. **Reported:** S106 reports published online.	Engagement and participation with local authorities.	On-going	Circulation of data and publication of reports as appropriate.

FUTURE AIRSPACE CHANGE							
ACTION	IMPACT AREA	NOS AFFECTED[6]	EXPECTED BENEFIT AND COST	PERFORMANCE INDICATOR, AND REPORTING	EXTERNAL SUPPORT REQUIREMENT	TIMESCALE	TARGET
52. We will participate in all activities relating to 'LAMP2' – the redesign of the London Terminal Manoeuvring Area (LTMA) and en-route airspace to eliminate chokepoints, alleviate areas of intensive aircraft concentrations, reduce the number of people affected by noise and to create a structure that has capacity to accommodate forecast traffic levels beyond 2040.	Strategic Approach / Arrivals Departures Ground	Not Applicable	**Benefit:** Large, LAMP 2 has the potential to deliver significant reductions in noise and emission through continuous descent and climb whilst providing increased capacity. **Cost:** Large requiring significant and long term input from all airports in the south east of the UK, CAA, NATS and the DfT.	**Indicator**: Engagement with airports, NATS, CAA and DfT via bilateral and established working groups. **Reported:** Progress reports circulated to GATCOM, NaTMAG and NMB as appropriate.	Support from CAA, NATS, ANS and airlines via established LAMP 2 groups.	2024	By 2024 implement LAMP 2 airspace.
53. Ensure that local communities are informed about LAMP 2 plans and the progress and airport plans for the integration of Gatwick specific departure and arrival procedures.	Strategic Approach / Arrivals Departures Ground	Not Applicable	**Benefit:** Local communities are aware of the LAMP 2 plans and area able to provide input to the airspace concept and design. **Cost:** Large requiring significant and long term input from all airports in the south east of the UK, CAA, NATS and the DfT.	**Indicator:** Information provided on the LAMP 2 process along with consultation documents, events and presentation as and when required. **Reported:** As and when required.	Engagement and participation with NaTMAG, GNMG, NMB and GATCOM along with sub-groups as required.	2024	Conduct of airspace consultation in accordance with CAP1616.

SECTION 19 – QUANTIFICATION OF THE NOISE ACTION PLAN

THE ORIGINAL 2010 – 2015 NOISE ACTION PLAN

In developing the original Noise Action Plan we took into account the guidance issued to airport operators at that time. This suggested that residential areas exposed to an annual noise level of $69L_{Aeq}$, 16h or more should be considered for further measures as a first priority. However unlike the guidance for the other major environmental noise sources (road and rail) the guidance did not offer a specific level by which to determine important areas within the strategic noise maps.

Subsequently we took the following steps to determine the most appropriate and effective actions to include in our draft noise action plan.

PRIOR TO PUBLIC CONSULTATION

Firstly we considered the areas enclosed by the strategic noise maps and our existing noise complaint database. This confirmed our expectation that complaints about the impact of aircraft noise originate from locations both inside and outside the area within the strategic noise maps (see Section 7 of the original report) and are about both air and ground noise. It also showed that issues such as night flying, runway alternation, arrivals noise, the number of over flights and low flying were consistently among the top issues of concern. Without guidance to the contrary and with our evidence and experience in managing noise from Gatwick we were determined that our action plan should include actions to limit, and where practicable, reduce noise impacts for areas both inside and outside the contours as well as ground noise. In this regard we extended the scope of the action plan beyond the END requirements.

Next we used results from three international benchmarking studies by independent consultants, to help identify potential actions we could consider. Over 30 international airports worldwide were selected based on the number of annual movements and regional prominence. This exercise revealed that for operational noise controls Gatwick was one of, if not the leading airport worldwide. Similarly, although direct comparison is difficult, our mitigation and compensation benchmarking study showed Gatwick to be among the leading airports in this area. The final area of benchmarking concerned stakeholder engagement and communication. The results of this showed the greatest opportunities for improvement, with more than a dozen airports more effective in this area.

We used this information to review all our existing noise management activities, identify additional ones and consider how they would impact on the areas enclosed by the 2006 noise mapping results and beyond. These new actions were then given a general ranking (high, medium and low) in terms of costs and benefits.

Following on from this and in order to prepare the then 'draft' noise action plan for full public consultation we held a series of pre-consultation, events with representatives from airlines, NATS, local authorities, local residents groups and members of the Gatwick Airport Consultative Committee.

A number of key themes emerged such as concern over current flight paths, night flights and sleep disturbance, application of noise mitigation and compensation schemes, the frequency of overflight, and a desire for recognition of the impact beyond the areas within the strategic noise maps.

Subsequently a total of 52 actions of which around 14 could be considered new activities were issued for public consultation over 16 weeks between 18 June and 7 October 2009. Key issues raised by the consultation included calls to stop night flights and to provide more financial help for insulation schemes, as well as the need to address issues relating to arrival and departure trajectories (44%). There were also a number of issues raised in relation to changing the current flight paths at Gatwick (30%) and how the action plan should be enforced (24%).

RESPONDING TO THE FEEDBACK

In response we reviewed and amended our performance indicators and established targets whenever possible.

As regards our insulation schemes we noted the many comments and remained committed to undertaking a review of the schemes in 2010. We also continued to support efforts to improve operational practices, including examining departure and arrival procedures.

We also added actions indicating our intention to request that the Government review the existing departure noise limit restrictions, airspace utilisation and night noise limits.

We also sought to identify opportunities to further involve key stakeholders in some of the actions detailed in the plan. For example we amended our benchmarking actions to include input from members from the Noise and Track Monitoring Advisory Group. Similarly we also sought the groups input in the formulation of a suite of noise metrics to describe our noise impacts.

REVISION OF THE NOISE ACTION PLAN 2013 – 2018

In 2013 following the second round of noise mapping for Gatwick Airport it was necessary to review and revise, as necessary, the Noise Action Plan that had previously been prepared and adopted by the Secretary of State. As the actions detailed in the original Noise Action Plan were already in existence and are therefore in most instances remained valid the guidance received was to review, update and generally refresh the document taking into account the following:

- the results of the noise mapping completed in 2012;
- the progress made against the actions described in the original action plan;
- any relevant updates about the airport and its operation;
- updating information about relevant legislation and standards;
- updating relevant national and local policies;
- information about any proposed new actions and any on-going actions.

Once the plan had been revised, it was presented to the Gatwick Airport Consultative Committee (GATCOM) for comment. Gatwick Airport Ltd reflected upon the comments received from the Gatwick Airport Consultative Committee, description of which were be included in the revised plan together with a reasoned justification for the response to the issues raised.

REVISION OF THE NOISE ACTION PLAN 2018 – 2024

In 2017, following the third round of noise mapping for Gatwick Airport it once again become necessary to review and revise, as necessary, the Noise Action Plan that had previously been prepared and adopted by the Secretary of State.

The guidance to airport operators remained similar to that of previous years as there had been no substantive changes to the content or underlying regulatory requirements. As Gatwick Airport already had an Action Plan in place, a relatively light touch "review and revise" updating process was proposed by DEFRA. This did not stop airports from undertaking a more detailed review and update should it be deemed appropriate. In revising the Noise Action Plan, the airport was required to include:

- updated details about the airport and its operation;
- the results of the noise mapping completed in 2017;
- the progress made against the actions described in the current Action Plan;
- updated information about relevant legislation and standards;
- updated relevant national and local policies;
- information about on-going actions; and
- information about any proposed new actions.

DEFRA guidance stated that once the plan had been revised it would be presented to the Airport's Consultative Committee for comment, and any other appropriate bodies depending on the extent and nature of the revisions. The Airport Operator would summarise the comments received in the revised plan together with the responses to the issues raised.

IT WAS PROPOSED THAT:

1. The draft Noise Action Plan be prepared by Gatwick Airport Ltd in accordance with the published guidance.
2. The Noise Management Board be advised of the revision of the draft Noise Action Plan in order for it to advise the Gatwick Airport Consultative Committee accordingly.
3. The draft Noise Action Plan be presented to the Gatwick Airport Consultative Committee, Crawley Borough Council and West Sussex County Council (being the lead local authorities of the Memorandum of Understanding with wider local authorities) for feedback and comment.
4. Any other feedback received be evaluated by Gatwick Airport Ltd and, if appropriate included.
5. Once all feedback has been received, it will be evaluated by Gatwick Airport Ltd and, if appropriate included into the draft Noise Action Plan. Details of feedback received will be included in the annexes of the draft Noise Action Plan. The decision of Gatwick Airport Ltd is final and correspondence will not be entered into regarding the decision to include material or otherwise.
6. The draft Noise Action Plan will be submitted to DEFRA for adoption. Once adopted, the Noise Action Plan will cease to be in draft status.

It was agreed at the meeting of GATCOM on 26 April 2018 that the draft Noise Action Plan, having been updated in response to the feedback received, be presented to the 21 June 2018 meeting of the GATCOM Steering Group for consideration prior to it being presented for a final time to the full meeting of GATCOM, scheduled for 19 June 2018. The effect of this additional stage of consultation is that there has been three stages of consultation; commencing with the circulation of a proposed list of Action Plan Actions, the circulation of an initial draft Noise Action Plan and culminating in the final draft of the Noise Action Plan being presented.

The airport publicised the revision of the END Noise Action Plan through the various committees attended and also online. We encouraged members of the community to contact their GATCOM Representative in the first instance with any feedback or requests for particular issues to be considered for inclusion.

Any other feedback received from interested parties is included in the annexes of this draft Noise Action Plan, in common with previous years.

NOTES

NOTICE OF ADOPTION

This EU Environmental Noise Directive (2002/49/EC) 'Round 3' Noise Action Plan was formally adopted by the Parliamentary Under Secretary of State for the Environment on 11 February 2019, as required by the Environmental Noise Directive and the Environmental Noise (England) Regulations 2006 (as amended).

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YOUR LONDON AIRPORT
Gatwick

www.gatwickairport.com/noise

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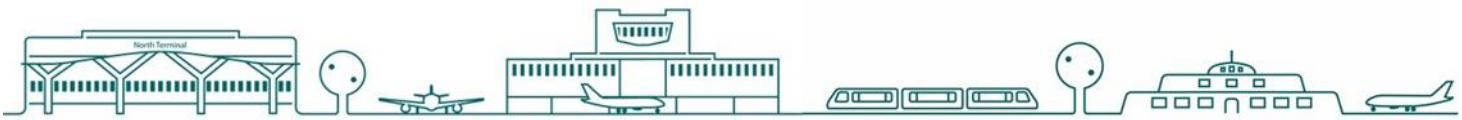


AIRPORT
EXPANSION
CONSULTATION

NOISE INSULATION POLICY

JUNE 2019

Heathrow

AIRPORT EXPANSION CONSULTATION (JUNE 2019)

Heathrow is consulting on proposals for an expanded airport.

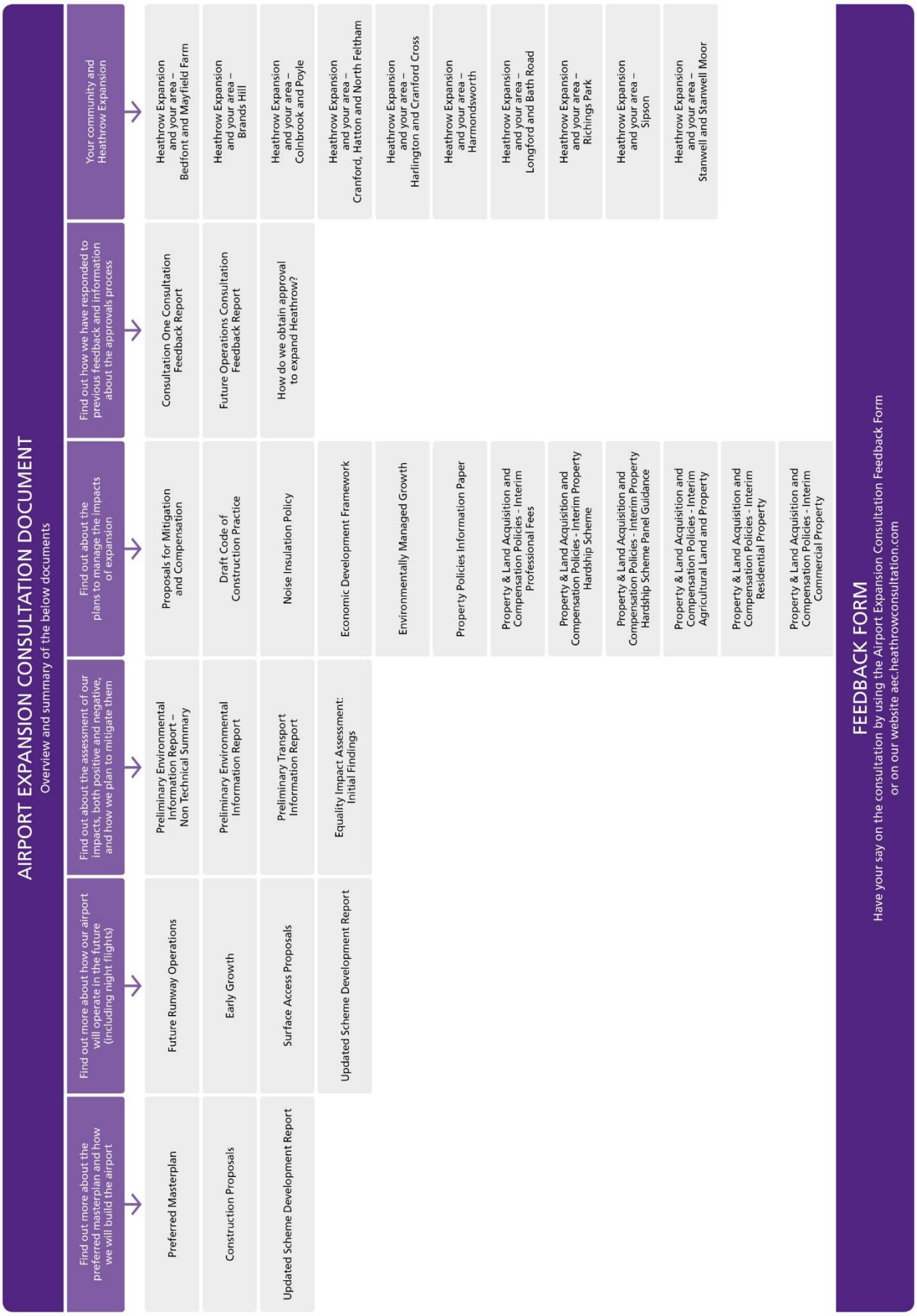
The Airport Expansion Consultation is our statutory consultation and we will be seeking your view on four key areas:

- Heathrow's preferred masterplan for expansion: our proposals for the future layout of the airport including the runway and other airport infrastructure such as terminals and road access. The masterplan will also reveal the airport's growth in phases – from runway opening in around 2026, to the end masterplan in approximately 2050;
- Plans to operate the future airport: how the future three runway airport will be operated, including important elements such as night flights, as well as how potential additional flights before the new runway opens could be operated on our existing two runways;
- Assessment of impacts of the airport's growth: our preliminary assessment of the likely impacts of expansion on the environment and local communities;
- Plans to manage the impacts of expansion: we will set out the airport's plans for mitigating the effects of expansion, including property compensation, our Noise Insulation Policy, a Community Fund, and measures to mitigate against air pollution, carbon, and other environmental effects.

We are grateful for feedback provided at previous consultations and have considered these responses in developing our proposals. We now ask for your views on our preferred proposals, so that we can further improve our project before we apply for development consent next year. You can provide feedback:

- online using the feedback form on our website aec.heathrowconsultation.com
- complete a feedback form, available at events or on request calling 0800 307 7996
- email us at feedback@heathrowconsultation.com
- write to us at Freepost LHR AIRPORT EXPANSION CONSULTATION

We have set out our proposals in a number of documents covering different topics and different levels of detail. All of these are available on our website, at Document Inspection Locations and at consultation events.


AIRPORT EXPANSION CONSULTATION DOCUMENT
Overview and summary of the below documents
Find out more about the preferred masterplan and how we will build the airport
Find out more about how our airport will operate in the future (including night flights)
Find out about the assessment of our impacts, both positive and negative, and how we plan to mitigate them
Find out about the plans to manage the impacts of expansion
Find out how we have responded to previous feedback and information about the approvals process
Your community and Heathrow Expansion
Preferred Masterplan
Construction Proposals
Updated Scheme Development Report
Future Runway Operations
Early Growth
Surface Access Proposals
Updated Scheme Development Report
Preliminary Environmental Information Report – Non Technical Summary
Preliminary Environmental Information Report
Preliminary Transport Information Report
Equality Impact Assessment: Initial Findings
Proposals for Mitigation and Compensation
Draft Code of Construction Practice
Noise Insulation Policy
Economic Development Framework
Environmentally Managed Growth
Property Policies Information Paper
Property & Land Acquisition and Compensation Policies - Interim Professional Fees
Property & Land Acquisition and Compensation Policies - Interim Property Hardship Scheme
Property & Land Acquisition and Compensation Policies - Interim Property Hardship Scheme Panel Guidance
Property & Land Acquisition and Compensation Policies - Interim Agricultural Land and Property
Property & Land Acquisition and Compensation Policies - Interim Residential Property
Property & Land Acquisition and Compensation Policies - Interim Commercial Property
Consultation One Consultation Feedback Report
Future Operations Consultation Feedback Report
How do we obtain approval to expand Heathrow?
Heathrow Expansion and your area – Bedfont and Mayfield Farm
Heathrow Expansion and your area – Brands Hill
Heathrow Expansion and your area – Colnbrook and Poyle
Heathrow Expansion and your area – Cranford, Hatton and North Feltham
Heathrow Expansion and your area – Harlington and Cranford Cross
Heathrow Expansion and your area – Harmondsworth
Heathrow Expansion and your area – Longford and Bath Road
Heathrow Expansion and your area – Richings Park
Heathrow Expansion and your area – Sipson
Heathrow Expansion and your area – Stanwell and Stanwell Moor
FEEDBACK FORM
Have your say on the consultation by using the Airport Expansion Consultation Feedback Form or on our website aec.heathrowconsultation.com

NOISE INSULATION POLICY (DRAFT FOR CONSULTATION)

Non-Technical Summary

This document sets out the Noise Insulation Policy for the Heathrow Expansion Programme (the Project) to address the requirements of the Government policy - "*Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England*" 2018 (Airports NPS).

This policy will address noise from aircraft movements in the air and on the ground, road, rail and construction noise associated with the Project.

The Noise Insulation Policy forms part of the extensive noise control measures included in the expansion Project to meet the aims of Government noise policy. The control measures on the aircraft fleet and operations first mitigate and minimise potential adverse noise effects arising from expansion and reduce existing noise from the airport. In a complementary manner, noise insulation provides compensatory control measures that aim to avoid residual significant adverse effects on health and quality of life from existing and predicted noise. This approach meets the aims of Government noise policy as stated in the Airports NPS.

For home owners, three levels of scheme will be offered, depending on the existing or predicted noise exposure level, as indicated by the relevant noise contour, source of noise and if confirmed through third-party assessment:

Scheme 1	Full cost of noise insulation fitout, potentially including new acoustic double glazing or secondary glazing, loft or ceiling insulation, ceiling over-boarding, external door upgrades and ventilation for aircraft noise.
Scheme 2	A package of noise insulation to exposed facades, potentially including acoustic double glazing or secondary glazing to windows, external door upgrades and attenuated ventilation for road, rail and construction noise exposure.
Scheme 3	A fixed £3,000 contribution to approved noise insulation works.

Eligibility for schemes will be based on published noise contours of the defined Action Levels, or thresholds, as set out in the government Airports NPS for aircraft noise, extended to include road, rail and construction noise.

Noise Insulation Schemes will be made available before defined Action Levels are expected to occur as a result of the expansion project.

In the lead up to Development Consent Order (DCO) approval, we plan to insulate homes that will be exposed to the highest noise from the Project and that are already exposed to similar noise from existing Heathrow operations. This will be via a replacement of our existing noise insulation schemes expanded in the light of changing Government policy. Homes expected to be exposed to early construction noise from the Project as well as existing high levels of aircraft noise will also be prioritised. This will help develop and test our systems and suppliers, also avoid long waiting times between applications and fit outs. Once the DCO is approved we will prioritise those forecast to be newly affected by construction, road and rail traffic and aircraft noise. We will ensure that the insulation is offered and, if accepted, installed before the new noise occurs.

Home and community building owners identified as being within the eligibility contours will be contacted and invited to apply for the schemes. We will use a seven-stage awareness process to ensure property owners are aware of their eligibility and are encouraged to apply.

Once we have received an application, an assessment will be conducted to confirm eligibility. Approved contractors will deliver a standard package of noise insulation measures, within a quality management scheme including sample completion testing.

For the very few properties that will be newly exposed to very high noise levels, where an application is not received or an offer accepted, we may need to obtain compulsory rights to provide treatments to prevent unacceptable noise exposure levels.

A dedicated support team will be provided to assist applicants throughout the process, including investigation of complaints during and after completion. Applicants will also be able to appeal to an Independent Panel.

The schemes will remain open until they cease to be relevant (for example, at the end of the construction period for the construction noise insulation), or the scheme is updated (for example if noise mitigation means that a property is no longer within a relevant contour).

These schemes will replace the existing noise insulation schemes currently offered by Heathrow including the Quieter Homes Scheme, the Day Scheme and the Night Scheme. Before existing schemes are closed, properties in those areas will be informed and advised of the scheme closure and possible eligibility for the replacement schemes. The contact period, of at least 12 months, will allow time for applications under the existing schemes before they close.

Heathrow’s Community Buildings Noise Insulation Scheme will be extended to include the impacts of Expansion.

In addition to the noise insulation schemes in this draft Noise Insulation Policy, Heathrow has two other existing noise and vortex related schemes that will be refreshed. These are the Home Relocation Assistance Scheme which offers financial help to eligible homeowners living in the noisiest areas around Heathrow to move away from the area if they wish; and the Vortex Protection Scheme which is designed to protect and repair homes from around the airport damaged by wind currents from aircraft wings.

Heathrow will also introduce a Temporary Home Relocation Scheme for those most impacted by short term construction noise.

These schemes are summarised at the end of the draft Noise Insultation Policy for reference.

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PREFACE: DEVELOPMENT OF THE NOISE INSULATION POLICY

1. The remainder of this document sets out the draft policy relating to noise insulation schemes to be provided in connection with the development and operation of a new north-west runway and associated infrastructure to expand Heathrow Airport. This draft policy is subject to consultation.
2. Once finalised taking into account feedback from consultation and draft policy would form the basis for the implementation of our Noise Insulation programme, if development consent is granted and we proceed with construction,
3. If the DCO application is granted, this document would become the basis for the implementation of our Noise Insulation programme. It was thought helpful, therefore, to provide a working draft of the document for this consultation in order that stakeholders could understand the terms on which Heathrow proposes to commit and comment on them whilst they remain in draft.
4. Within the document itself, there are passages which represent explanatory text for the purposes of this consultation and which will be deleted from the version published before and submitted with the DCO application. Those passages are highlighted in grey.
5. With the benefit of this explanation, hopefully this draft document is clear in its purpose and we would be pleased to receive feedback on its content and approach.

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1. INTRODUCTION

1.1 The Noise Insulation Policy for Heathrow Expansion Programme

1.1.1 This document sets out the Noise Insulation Policy for the Heathrow Expansion Programme (the Project) to address the requirements of the *Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England 2018* (Airports NPS).

1.1.2 The Noise Insulation Policy forms part of the extensive noise control measures included in the Project, to meet the aims of Government noise policy, as laid out in the Airports NPS at paragraph 5.68 (see below). Firstly, there are the mitigation control measures which cover actions ranging from aircraft fleet development, operational procedures, airport layout, airspace design, and night flight management, to managed respite through runway and airspace alternation. These control measures mitigate and minimise potential new adverse noise effects arising from expansion and, for many areas, reduce existing noise from the airport, within the context of Government policy on sustainable development. This Noise Insulation Policy provides compensatory control measures, which in combination with the mitigation controls, sets out to achieve the following:

- Firstly: to meet the Government noise policy to avoid significant adverse effects on health and quality of life that would otherwise newly arise from the expansion proposals, including preventing unacceptable adverse noise effects;
- Secondly: to avoid significant adverse effects on health and quality of life that would otherwise occur after expansion, but would also have occurred if Heathrow did not expand; and
- Thirdly: to more widely compensate for the adverse effects of aircraft noise both newly arising from expansion and that would have occurred if Heathrow did not expand, in line with Heathrow's committed community compensation scheme as set out in the Airports NPS (paragraph 5.245).

1.1.3 The objectives of this Noise Insulation Policy are to achieve the following:

- Set out the basis for Heathrow's noise insulation strategy and the definition and delivery of the Noise Insulation Schemes.
- Address noise from:
    - aircraft movements in the air and activity on the ground,
    - changes to road traffic associated with the airport expansion,
    - changes to rail traffic associated with the airport expansion, and,

- construction noise associated with the expansion programme.

- Describe how the package of Noise Insulation Schemes addresses the requirements of the Airports NPS and specifically the aim set out in paragraph 5.68 to avoid significant adverse effects on health and quality of life.

1.1.4 This document is structured to cover the following:

- the national, international and local policy, standards and guidance background,
- the assessment metrics and action levels that will be used to identify properties eligible for noise insulation,
- the Noise Insulation Schemes, and
- the staged delivery of these Schemes.

1.1.5 This document also includes outlines of the related, non-insulation programmes with respect to the Project – the Construction Temporary Rehousing Scheme, the Home Relocation Assistance Scheme (HRAS), and the Vortex Protection Scheme.

1.2 Heathrow's Noise Insulation Strategy

1.2.1 This Noise Insulation Policy for the Project can be viewed as a part of Heathrow's long-term noise insulation strategy which has three major policy components.

1. Development of our existing noise insulation schemes designed to address our current operations and changing Government policy.
2. Processes are now underway for certain non-expansion (two-runway) airspace changes such as Independent Parallel Approaches (IPA), easterly alternation and redesigning of the Compton departure route.
3. The Noise Insulation Policy for the Heathrow Expansion Programme (the Project) which includes the development of a new third runway and insulation mitigation options required by the Airports NPS.

1.2.2 The same Noise Insulation Schemes and processes will be used to deliver each of these policy components.

2. CONTEXT: POLICY, STANDARDS AND GUIDANCE

2.1 Airports National Policy Statement

2.1.1 The Government designated the "Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England" (Airports NPS) in June 2018.

2.1.2 The Airports NPS addresses a range of issues including Heathrow airport expansion and noise insulation. For noise impacts Airports NPS says:

"5.47 The Government wants to strike a fair balance between the negative impacts of noise (on health, amenity, quality of life and productivity) and the positive impacts of flights…

"5.48 The International Civil Aviation Organisation introduced the concept of a 'Balanced Approach' to noise management (resolution A33/7). This is given legal effect in the UK through EU Regulation 598/2014.

…

"5.68 Development consent should not be granted unless the Secretary of State is satisfied that the proposals will meet the following aims for the effective management and control of noise, within the context of Government policy on sustainable development:
- Avoid significant adverse impacts on health and quality of life from noise;
- Mitigate and minimise adverse impacts on health and quality of life from noise; and
- Where possible, contribute to improvements to health and quality of life.

…

"5.244 People are entitled to know what steps will be taken to help protect them against aircraft noise and, where appropriate, to help them to move house.

"5.245 In addition to statutory requirements, Heathrow Airport has publicly committed to a community compensation package comprising a number of more generous offers:

- *…*
- *Following a third-party assessment, to provide full acoustic insulation for residential property within the full single mode easterly and westerly 60dB $L_{Aeq,16hr}$ noise contour of an expanded airport;*
- *Following a third-party assessment, to provide a contribution of up to £3,000 for acoustic insulation for residential properties within the full single mode easterly*

and westerly 57dB $L_{Aeq,16hr}$ or the full 55dB L_{den} noise contours of an expanded airport, whichever is the bigger; and

- *To deliver a programme of noise insulation and ventilation for schools and community buildings within the 60dB $L_{Aeq,16hr}$ contour."*

2.2 Aviation Policy Framework

2.2.1 The Government published the Aviation Policy Framework (APF) in March 2013 which included the statement:

"3.17 We will continue to treat the 57dB $L_{Aeq,16\ hr}$ contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance. However, this does not mean that all people within this contour will experience significant adverse effects from aircraft noise. Nor does it mean that no-one outside of this contour will consider themselves annoyed by aircraft noise."

2.2.2 The Draft UK Airspace policy published by the Department for Transport (DfT) in February 2017 and the consultation response that the DfT published in October 2017 has modified the APF.

"Consistent with the Noise Policy Statement for England, our objectives in implementing this policy are to: … limit and, where possible, reduce the number of people in the UK significantly affected by the adverse impacts from aircraft noise." (para 2.69 Oct 2017)

"The government acknowledges the evidence from recent research which shows that sensitivity to aircraft noise has increased, with the same percentage of people reporting to be highly annoyed at a level of 54dB $L_{Aeq,16hr}$ as occurred at 57dB $L_{Aeq,16hr}$ in the past. The research also showed that some adverse effects of annoyance can be seen to occur down to 51dB $L_{Aeq,16hr}$." (para 2.70 Oct 2017)

"We will set a LOAEL at 51dB $L_{Aeq,16hr}$ for daytime and based on feedback and further discussion with CAA we are making one minor change to the LOAEL night metric to be 45dB $L_{Aeq,8hr}$ rather than L_{night} to be consistent with the daytime metric." (para 2.72 Oct 2017).

2.2.3 The Consultation Response also states that the Government:

- *"expects airport operators to offer acoustic insulation to noise sensitive buildings, such as schools and hospitals, exposed to levels of noise of 63dB $L_{Aeq,16hr}$ or more*
- *expects airport operators to offer financial assistance towards acoustic insulation to residential properties exposed to levels of noise of 63dB $L_{Aeq,16hr}$ or more."*

2.2.4 However, the government published the Aviation 2050 consultation in December 2018 which proposes the following noise insulation measures:

- *"to extend the noise insulation policy threshold beyond the current $L_{Aeq,16hr}$ 63dB contour to $L_{Aeq,16hr}$ 60dB.*
- *to require all airports to review the effectiveness of existing schemes. This should include how effective the insulation is and whether other factors (such as ventilation) need to be considered, and also whether levels of contributions are affecting take-up*
- *the government or ICCAN to issue new guidance to airports on best practice for noise insulation schemes, to improve consistency*
- *for airspace changes which lead to significantly increased overflight, to set a new minimum threshold of an increase of L_{AeqT} 3dB, which leaves a household in the $L_{Aeq,16hr}$ 54dB contour or above as a new eligibility criterion for assistance with noise insulation."*

2.2.5 These proposals have not yet been adopted by government but may need to be considered in the final Noise Insulation Policy submitted with the DCO if they would increase the area of eligibility. The progression of these Government policies (and draft policies) is summarised in Appendix B.

2.3 Noise Policy Statement for England

2.3.1 The Government published the Noise Policy Statement for England (NPSE) in March 2010 and refers to it in the Airports NPS. The NPSE policy aims, that are repeated in the Airports NPS at paragraph 5.68, are:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

2.3.2 The NPSE explanatory notes provide guidance on significant and adverse impacts:

"2.20 LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

2.21 Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

2.22 It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available."

2.3.3 In addition to the above, Planning Practice Guidance-Noise (2014) includes the concept of Unacceptable Adverse Effect Level (UAEL). This is a level of noise exposure that would be perceived as "*intrusive and very disruptive*" and that "*at the highest extreme, noise exposure would cause extensive and sustained changes in behaviour without an ability to mitigate the effect of noise. The impacts on health and quality of life are such that regardless of the benefits of activity causing noise, this situation should be prevented from occurring*."

2.3.4 The LOAEL, SOAEL and UAEL values being applied to the Project are provided in Chapter 17 of the Preliminary Environmental Information Report (PEIR) and will be adopted in this document when published. They are also summarised in Appendix B of this document.

2.3.5 We consider that this Noise Insulation Policy is one aspect of "avoiding" significant adverse noise effects on health and quality of life and "preventing" unacceptable noise effects.

2.4 World Health Organisation Guidelines for Community Noise (1999)

2.4.1 In 1999, the World Health Organisation (WHO) released Guidelines for Community Noise (GCN). These guidelines have informed a wide range of UK standards and guidelines, and contain recommended values for internal noise for specific environments and maximum night time noise levels that remain current.

2.4.2 WHO has also published:

- Night Noise Guidelines 2009 (NNG) which recommend a LOAEL and refer to GCN guideline text as remaining valid, and

- Environmental Noise Guidelines for the European Region 2018 (ENG) which recommend Noise Guideline values which are defined for L_{den} (which includes penalty for evening and night period) and L_{night}.

2.4.3 The WHO publications are guidance only and do not take precedence over Government legislation or policy.

2.5 Noise Insulation Regulations (1975)

2.5.1 The Noise Insulation Regulations provide a schedule of noise insulation measures to be provided if noise levels from a highway or road development are predicted to exceed action levels predicted using the Government method, Calculation of Road Traffic Noise (CRTN). CRTN is a historic calculation method which uses a different metric to those normally used for aircraft noise, $L_{A10,18hr}$, but this metric can be converted to $L_{Aeq,T}$ for normal highway noise and this conversion is described in the PEIR.

2.6 The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996

2.6.1 The Noise Insulation (Railways etc) Regulations provide a schedule of noise insulation measures to be provided if noise levels for a rail or similar development are predicted to exceed action levels predicted using the Government method, Calculation of Rail Noise (CRN).

2.7 Guidance on sound insulation and noise reduction for buildings: BS8233:2014

2.7.1 British Standard BS8233 provides guidance on the control of sound in and around new buildings, including noise from aircraft, roads and construction sites.

2.7.2 For residential buildings guideline internal noise levels are provided as annual average levels. BS8233 recognises that it may be desirable to build houses or flats above the guideline values for other reasons, such as access to transport, shopping etc, and that a relaxation of the guidance values may provide reasonable living conditions.

2.7.3 For non-residential buildings, BS8233 refers to a number of sector guidelines, including Building Bulleting BB93 for schools and Health Technical Memorandum HTM 08-01 for hospitals and recommends that a suitably qualified acoustician is retained for specialist uses, such as theatres, concert halls and cinemas.

2.8 Code of practice for noise and vibration control on construction and open sites. Noise BS5228-1:2009 and A1:2014

2.8.1 British Standard BS5228-1 provides guidance on the calculation and control of noise at construction sites and is widely used on minor and major development sites. Annex E of the Code addresses significance of effects with Example 1 being the "A-B-C" method that produces a table of threshold levels at various times of the day and night.

2.9 Airports NPS Tests

2.9.1 This Noise Insulation Policy has been designed so that the DCO will meet the first aim of the Airports NPS 5.68 (and NPSE), which is "*within the context of Government policy on sustainable development: to avoid significant adverse impacts on health and quality of life from noise*."

2.9.2 The Airports NPS refers to the "Noise Mitigation – Noise Control Hierarchy" and this is discussed in more detail in the PEIR associated with this Airport Expansion Consultation. Within the control hierarchy, noise insulation will be relied upon where other higher priority mitigation is not practical or sustainable. To avoid significant adverse noise impacts, the Noise Insulation Policy will prioritise those properties and populations which will be newly exposed to noise levels above the SOAEL, including any properties which will be newly exposed to noise levels above UAEL.

2.9.3 The SOAEL values for aircraft noise, as identified in the PEIR, are daytime 63dB $L_{Aeq,16hr}$ and night-time 55dB $L_{Aeq,8hr}$ or one additional awakening. The daytime UAEL is 71dB $L_{Aeq,16hr}$ and the night-time UAEL is 66dB $L_{Aeq,8hr}$. All these values are 92-day summer averages. See Appendix A for a glossary of terms and Appendix B for references to night time aircraft noise and other noise sources.

2.9.4 As quoted above, Airports NPS (paragraph 5.245) explicitly reiterates public commitments for noise insulation made by Heathrow which are a key part of the strategy to avoid significant noise impacts for areas newly above the SOAEL.

2.9.5 This Noise Insulation Policy will meet or exceed the minimum requirements of the first aim of Airports NPS 5.68 for the following reasons:

- Homes that will be newly exposed above any SOAEL value in the opening year, will have insulation offered (and installed, if accepted) in advance of the new runway opening.
- As the number of aircraft movements increases after the opening year to a point when the airport's noise impact is forecast to be highest, homes that will

be newly exposed above the SOAEL values will have insulation offered (and installed, if accepted) in advance of the SOAEL value being exceeded.

- Heathrow will extend the offer of noise insulation to homes that are already exposed to levels above the SOAEL values and will continue to be exposed above the SOAEL values after the new runway opens and as the air traffic to and from the expanded airport increases.
- After opening of the new runway, full insulation (Scheme 1) will be progressively offered to homes out to the Action Level of 60dB $L_{Aeq,16hr}$. As this is lower than the 63dB SOAEL for aircraft, this means more people and properties will be eligible for insulation.
- We have also made a commitment to use a combined contour based on both full, single mode contours, namely the easterly and westerly mode contours. This will produce a noise contour area larger than the area for the actual averaged east-west operations and effectively will treat areas impacted by one mode as if it occurred for the entire year.
- As use of the new runway grows after its 2026 opening, further areas for insulation will be sequenced to treat homes in advance of any air traffic growth and any associated noise forecast to newly exceed SOAEL.

2.9.6 As described in the PEIR, the other two aims of para 5.68 will be addressed by other mitigations, compensations and outcomes.

2.9.7 The second aim to mitigate and minimise adverse impacts on health and quality of life from noise will be addressed by a whole spectrum of noise mitigation measures. These range from promoting the aircraft fleet at Heathrow as the newest and quietest aircraft possible, and operational procedures including runway and airspace alternation to minimise noise levels and maximise predictable respite for communities.

2.9.8 The third aim is to, where possible, contribute to improvements to health and quality of life will be best addressed by our commitment that the expansion programme will achieve fewer people impacted by significant noise than “today” (i.e., 2013, the noise ‘policy baseline’ set by the Airports NPS).

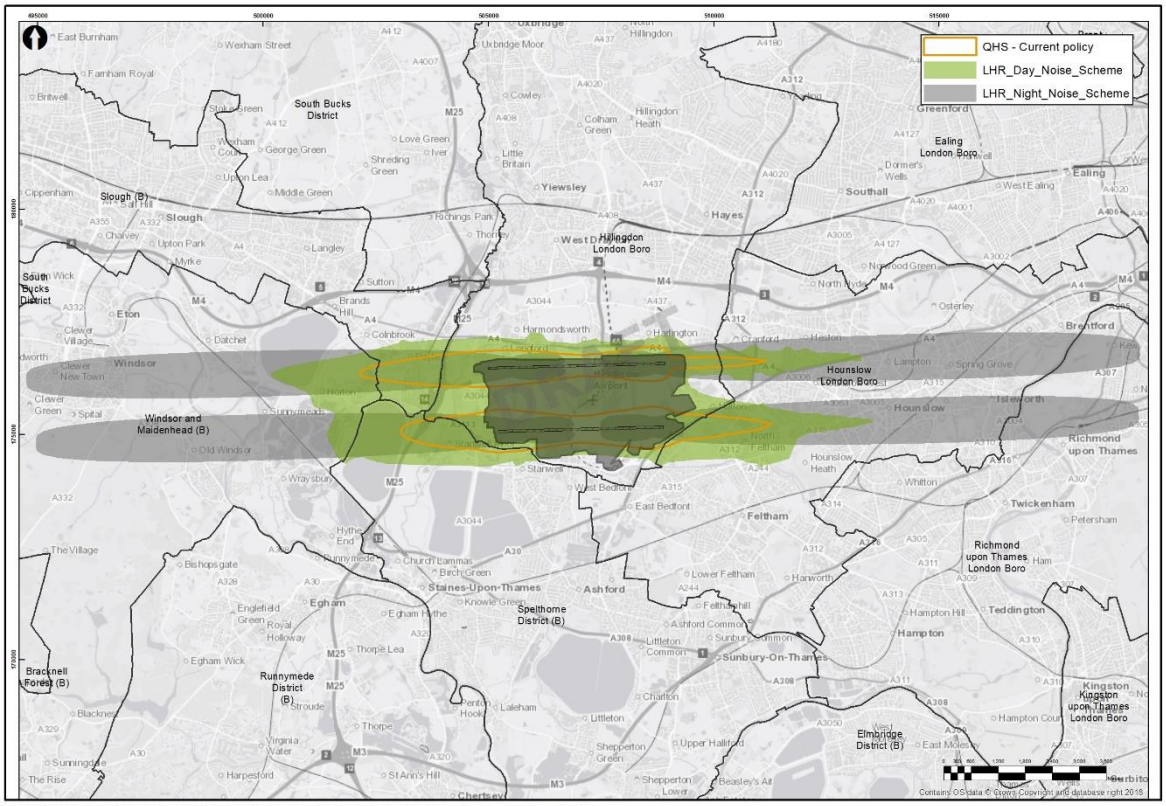
3. OUR NOISE INSULATION SCHEMES

3.1 Existing Noise Insulation Schemes

3.1.1 The new Noise Insulation Schemes associated with the Project will replace the existing noise home insulation schemes including the Quieter Homes Scheme, the Day Scheme and the Night Scheme. The existing scheme boundaries are shown in Figure 3.1 below.

- The Quieter Homes Scheme (QHS) applies to homes based on the 2011 69dB $L_{Aeq,16hr}$ contour. It covers the full cost of carrying out the work which can include loft and ceiling insulation, double-glazing or external door replacements and loft and ceiling over-boarding. (This is practically the same as the new Scheme 1.)
- The (Residential) Day Noise Insulation Scheme (or Day Scheme) is based on the 1994 69dB $L_{Aeq,18hr}$ contour and is designed to protect those homes exposed to the aircraft noise in the day, including in the early morning arrival period before 06:00. These properties are eligible to receive 50% of the cost of replacement windows and external doors, or free secondary-glazing, and free loft insulation and ventilation.
- The Night Noise Insulation Scheme (or Night Scheme) is designed to address the impact of night flights on local residents. The scheme boundary is based on the footprint of the noisiest aircraft regularly operating between 23:30 and 06:00. These properties are eligible to receive 50% of the cost of replacement bedroom or bedsitting room windows, or free secondary-glazing of bedroom or bedsitting room windows, and free loft insulation and ventilation.

Figure 3.1 Boundaries for Existing Noise Insulation Schemes



3.1.2 The Community Buildings Noise Insulation Scheme applies to noise-sensitive buildings around Heathrow that are exposed to a medium to high level of noise (within the 2002 63dB $L_{Aeq,16hr}$ noise contour). This includes hospitals, schools and colleges, nurseries attached to schools and hospices, nursing homes, registered nurseries, libraries and community halls. The scheme pays for buildings to make noise-insulating modifications such as double-glazing, replacement windows and ventilation. Eligible buildings are those in widespread use within the community, where people spend long periods of time, or where they are vulnerable.

3.1.3 Heathrow has two other schemes to assist home owners that are not directly related to noise insulation. The Home Relocation Assistance Scheme which offers financial help to eligible homeowners living in the noisiest areas around Heathrow to move away from the area if they wish. The Vortex Protection Scheme is designed to protect and repair homes around the airport damaged by wind currents from aircraft wing. These are discussed in more detail in Section 6.

3.2 Proposed New Residential Noise Insulation Schemes

3.2.1 The Noise Insulation Schemes are designed to ensure a suitable internal acoustic amenity for habitable rooms as summarised in the table below.

Table 3.1 New Residential Noise Insulation Schemes

Scheme	Noise Source	Description
Scheme 1	Aircraft noise	This includes a full package of noise insulation to habitable rooms, including bedrooms, living rooms, and dining rooms. This may include kitchens, toilets, bathrooms, but does not including porches, conservatories, out buildings and rooms solely for leisure activities. Windows may be upgraded to acoustic double glazing or by the addition of secondary glazing or both. External doors to habitable rooms may be upgraded. Ceilings or lofts may be over-boarded with additional lining. Acoustic thermal insulation batts (or equivalent) may be installed above ceilings in lofts. Suitable ventilation may be provided so that windows can be kept closed in warm weather. The scheme will be prioritised in the following order to: a) prevent exposure above UAEL due to the Project, b) avoid exposure newly above SOAEL due to the project, c) avoid exposure above SOAEL due to the project or existing operations, and d) deliver Heathrow's wider noise insulation commitments
Scheme 2	Road, rail and construction noise	Existing windows may be upgraded with replacement acoustic double-glazed units with "acoustic ventilation" or by the addition of secondary glazing, and external doors to habitable rooms may be replaced with doors that comply with the requirements of the Noise Insulation Regulations. Works are usually only to the façade (side) of the house that is closest to (or has line of sight of) the road or construction site.
Scheme 3	Aircraft noise	This is a £3000 contribution to a package of noise insulation treatment. For example, an owner might choose to replace certain windows or external doors, or install ventilation.

3.2.2 The Noise Insulation Schemes will provide additional noise insulation within properties that are exposed, or likely to be exposed, above the Action Levels set out below in Section 4.2.

3.2.3 Insulation aims to improve the internal acoustic amenity of the property in accordance with NPSE and the Airports NPS. The scheme is not intended to improve the noise environment outside of the property or building e.g. gardens.

3.2.4 To ensure the schemes are sustainable and will provide lasting benefit for people and properties, Heathrow will provide work packages from agreed suppliers with

suitable quality management procedures and aim to meet or exceed the minimum requirements of Airports NPS as set out above.

3.2.5 The schemes will provide “like for like” replacement of existing windows, doors etc, where reasonably practicable. This means that existing PVC windows will be replaced with PVC, aluminium with aluminium, and white with white. Approved contractors may be able to offer upgrades (e.g. timber effect or painted frames) as an extra cost option to the applicant. Cat flaps cannot normally be fitted to acoustic doors and windows but may be moved to doors or walls of non-habitable rooms.

3.2.6 The schemes will not be provided to properties that currently meet or exceed the benefit of the eligible package to avoid disruption without benefit, or even degradation, of existing properties.

3.2.7 Roofs are not replaced in the Noise Insulation Schemes and due to complications associated with existing roof conditions, it is not practical to replace roof windows or skylights. Generally, roof windows are replaced when a vortex protection roof is installed under the Vortex Protection Scheme. (See Section 6).

3.2.8 For practical reasons, ceiling over-boarding is usually undertaken by the home owner or their contractor with guidance provided and costs covered by the Noise Insulation Scheme.

3.3 Community Buildings Noise Insulation Scheme

3.3.1 The current community buildings scheme will be extended to cover community buildings impacted by expanded activity at Heathrow.

3.3.2 Community buildings include schools and colleges, hospitals, hospices and nursing homes, libraries and other public buildings where a large number of people will spend long periods of time or where the use is considered to be noise sensitive.

3.3.3 The scheme will identify potentially eligible community buildings within the contour whose owners will be invited to apply. Unsolicited applications will also be considered.

3.3.4 As per Airports NPS (5.245), the Action Level for schools will reduce to 60dB $L_{Aeq,16hr}$ (for a future operational scenario) compared to the current scheme based on the 2002 63dB $L_{Aeq,16hr}$.

3.3.5 A desktop or drive-by initial assessment may be used to determine if a site inspection is needed. Each eligible community building will receive an assessment to identify a suitable package of measures which will be carried out by an approved installer.

3.3.6 The scheme may include the provision of replacement acoustic double glazing or secondary glazing, external doors and ventilation. Eligible schools will also be invited to apply for grants for adobe buildings which provide outdoor noise-reducing shelter.

3.3.7 Insulation will only be offered if the building is not already insulated to an equivalent level to that of our scheme.

3.4 Impact on Existing Schemes

3.4.1 All residents entitled to claim for the existing schemes will be notified of the scheme closure with a period of at least 12 months during which claims may be lodged before closure.

3.4.2 The Quieter Homes Scheme (QHS) will be expanded to reflect any changes in Government policy before DCO is granted. If the DCO is granted and there is a decision to proceed with construction, then Scheme 1 will replace QHS. The Action Level for Scheme 1 will be lower than the existing QHS, so there will be expanded eligibility. This means homes eligible for the current QHS will be eligible for Scheme 1.

3.4.3 The Day and Night Schemes will be closed down if the DCO is granted and there is a decision to proceed with construction. Property owners in the areas of the schemes will be notified prior to the scheme closure and will also be advised if they are likely to be eligible for the new schemes. They will have the option to apply for the existing scheme before closure or apply for the new schemes when they open. Some areas of both schemes will become eligible for Scheme 1 which is a more complete treatment of the house but may not be delivered until after opening of the new runway. In some areas currently in the Night Scheme, furthest from the airport, night-time noise levels have decreased, and some homes may become eligible for Scheme 3 after the opening of the new runway.

3.4.4 The Community Buildings Noise Insulation Scheme (CBNIS) will be extended and no currently eligible building will lose eligibility.

3.4.5 The Home Relocation Assistance Scheme and the Vortex Protection Scheme will be refreshed to take the Project into account. See Section 6 of this document.

4. DEFINING ACTION LEVELS

4.1 Outline

4.1.1 Action Levels are the noise levels which can trigger the actions in the Noise Insulation Schemes. They are the threshold levels of eligibility for the Project's different schemes and noise sources. The Action Levels will be presented geographically as "contour lines" identifying the boundary of land where the Action Levels are exceeded.

4.1.2 In addition to aircraft noise, the Project will generate construction noise and noise from new or altered roads and railways that may cause potential adverse effects on communities. The Noise Insulation Schemes for each source vary and are described in more detail in Section 3.2.

4.2 Action Levels

4.2.1 The Action Levels for air, road, rail and construction noise, are provided below, based on metrics described in more detail in Appendix B and the PEIR.

Table 4.1: Action Levels for Aircraft, Road, Rail and Construction Noise

Noise Source	Action Level	Noise Insulation Scheme	Requirement Reference
Aircraft Noise	Unacceptable Adverse Effect Level (UAEL) Day time: 71dB $L_{Aeq,16hr}$ Night time: 66dB $L_{Aeq,8hr}$	Scheme 1 (with bespoke insulation package)	PEIR
	Initially, SOAEL values of 63dB $L_{Aeq,16hr}$ day, 55dB $L_{Aeq,8hr}$ night and one additional awakening per night (92-day summer averages). Then the full single mode easterly and westerly 60dB $L_{Aeq,16hr}$ noise contour of an expanded airport	Scheme 1	PEIR/ Airports NPS
	The full single mode easterly and westerly 57dB $L_{Aeq,16hr}$ or the full 55dB L_{den} noise contours of an expanded airport, whichever is the bigger	Scheme 3	Airports NPS
Road Noise	Day time: 63dB $L_{Aeq,16hr}$ Night time: 55dB $L_{Aeq,8hr}$ (and a change of at least 1dB from before expansion)	Scheme 2	PEIR
Rail Noise	Day time: 65dB $L_{Aeq,16hr}$ Night time: 55dB $L_{Aeq,8hr}$ >20 passbys per night: 80dB L_{Amax} <20 passbys per night: 85dB L_{Amax}	Scheme 2	PEIR

Noise Source	Action Level	Noise Insulation Scheme	Requirement Reference
	(and a change of at least 1dB from before expansion)		
Construction Noise	Refer to section 11 of the Draft Code of Construction Practice or Appendix B of this policy.	Scheme 2	CoCP and BS5228

4.3 Combined noise sources

4.3.1 The cumulative effect of different noise sources on health and quality of life is difficult to evaluate, especially where different noise metrics are used.

4.3.2 As a starting point, the noise level for each source (aircraft, road, rail, or construction) will be assessed separately using the relevant Action Level. Where a resident is affected by more than one noise source (for example construction noise and aircraft noise) a cumulative assessment will be undertaken that, as appropriate, will take account of when insulation may be triggered for the different sources and combined effects. Details of the assessment methodology will be defined in the Environmental Statement supporting the DCO application and this document will be updated.

4.3.3 Noise from natural sources, such as wind and rain, is not included in the NPSE definition of environmental noise. Furthermore, other noise sources that are not associated with the airport activity such as existing roads and railways are also excluded from this Noise Insulation Policy. When assessing a house site for noise insulation, any noise measurements or calculations will be undertaken or adjusted to exclude noise sources that are not caused by airport operations or expansion.

5. DELIVERY

5.1 Phasing and Transition from existing schemes

5.1.1 The new noise insulation schemes will replace the existing noise insulation schemes as described above. The stages of the Noise Insulation Policy are shown below in Table 5.1 below.

5.1.2 We will also consider options to assess the effectiveness of the new Noise Insulation Schemes, and to demonstrate our ability to deliver our schemes for subsequent stages.

5.1.3 The staged roll out of programmes may overlap and will ensure all properties likely to be significantly exposed to adverse noise effects will be offered noise insulation before the source of the noise effect is introduced. This staging will also help to avoid long waiting times between applications and fit outs.

Table 5.1 – The Staged Roll-out of Noise Insulation Schemes.

Stage	Period	Homes for Noise Insulation	Scheme
Stage 1	From late 2019 (subject to CAA approval) until DCO application is granted	Homes that are exposed to the highest noise with existing operations, in line with latest Government policy, and this includes homes that would also be exposed to the highest noise with the Project. Also homes potentially exposed to early construction noise as well as existing high aircraft noise. Homes will also be selected in this stage to develop and test our systems and suppliers. (Figure 5.1)	Scheme 1
Stage 2	Between DCO application granted and start of major construction phases	Homes identified as potentially impacted by construction noise, but outside forecast aircraft noise impacted areas. (Figure 5.2 shows the indicative construction noise study areas.)	Scheme 2
Stage 3	Between DCO application granted and new runway opening	Homes forecast to be newly exposed to high, or very high, noise levels from aircraft or the new or altered roads or rail, in stages as the Project progresses.	Scheme 1 and Scheme 2
Stage 4	New Runway opening onwards	Insulation provided in advance for homes forecast to exceed SOAEL for aircraft (i.e. 63dB $L_{Aeq,16hr}$ day and 55dB $L_{Aeq,8hr}$ night) as traffic using the expanded airport grows to a point where the airport's noise impact is forecast to be highest (the peak year as defined in the Environmental Statement). There will also be progressive roll-out of offers to homes at aircraft noise levels from SOAEL down to the 60dB Action Level as airport movements grow.	Scheme 1

Stage	Period	Homes for Noise Insulation	Scheme
		Figure 5.3 has the current estimate of the predicted noise contour for 2027, but revised noise contour forecasts will be published every 5 years. (This is referred to as the Inner Area in the PEIR. We expect this stage to be completed by 2040).	
Stage 5	New Runway opening onwards	There will be progressive roll-out of offers to homes at noise levels down to the 57dB $L_{Aeq,16hr}$ and 55dB L_{den} Action Levels as airport movements grow. Revised noise contour forecasts will be published every 5 years. (This is referred to as the Outer Area in the PEIR.)	Scheme 3

5.2 *Identification of eligible buildings*

5.2.1 At each stage, the relevant existing or predicted noise contour will be used to identify the properties that may be eligible for the Noise Insulation Schemes. Noise contours will be calculated based on expected air, road, rail and construction traffic movements and the modelling of construction plant noise.

5.2.2 For this consultation, preliminary noise contours are available below and in Chapter 17 of the PEIR. The aircraft noise contours have been developed based on indicative flight paths. These contours are presented to provide an indication of the scope of the Noise Insulation Schemes.

5.2.3 For the DCO application in 2020, updated noise contours will be provided in the Environmental Statement.

5.2.4 The predicted aircraft noise contours will also be updated as part of the statutory airspace flight path options consultation for an expanded Heathrow, currently planned for 2022, and further again in 2023 when the final flights paths are defined.

5.2.5 This will mean that the aircraft noise contours are expected to evolve and be updated as the Expansion scheme design and airspace change process continues to evolve and develop. This may result in some changes to the predicted future contours so that some homes indicated as being within a certain noise contour may later fall outside that contour and vice versa. The aim at each stage will be to reduce the noise impact, in line with the Airports NPS and the ICAO “balanced approach”, which would also reduce or change the homes within the contours, as far as reasonably practicable.

5.2.6 Subsequently, the current noise contours will be published every year (for the previous year), and projected noise contours will be updated every 5 years in conjunction with developments of the Noise Envelope.

5.2.7 This will mean that future eligibility for noise insulation schemes will be continually reviewed and residents will be informed if they are likely to be eligible within 5 years. Where a 5-year review identifies that a contour may reduce and properties may not be eligible in future, the scheme will remain open for at least 12 months after the property ceases to be within a relevant contour.

5.2.8 In densely developed areas such as those with terraced homes, there are likely to be adjacent properties exposed to similar noise levels with one property inside the contour whilst its neighbour outside. For this policy any residential property with any part of its curtilage within the contour will be assessed to be within the contour.

Figure 5.1 – Stage 1 – Prior to DCO Grant

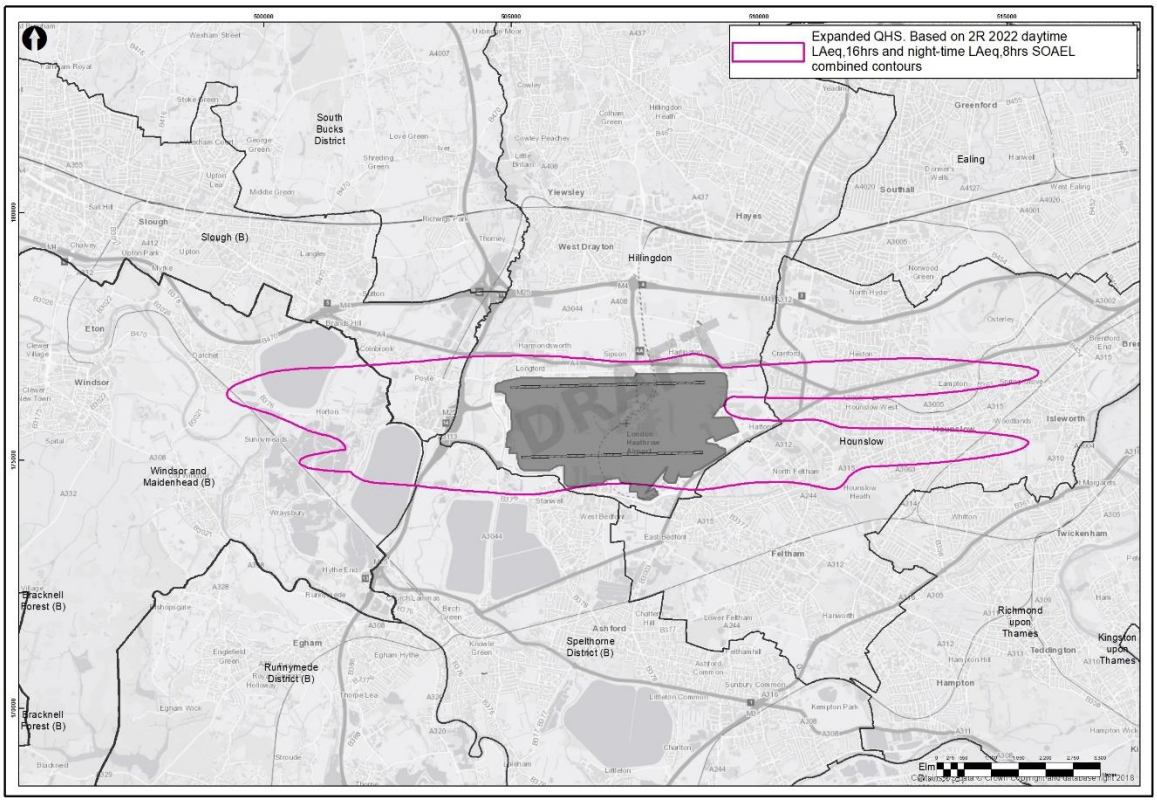


Figure 5.2 – Stage 2 – Indicative Construction Noise Study Area

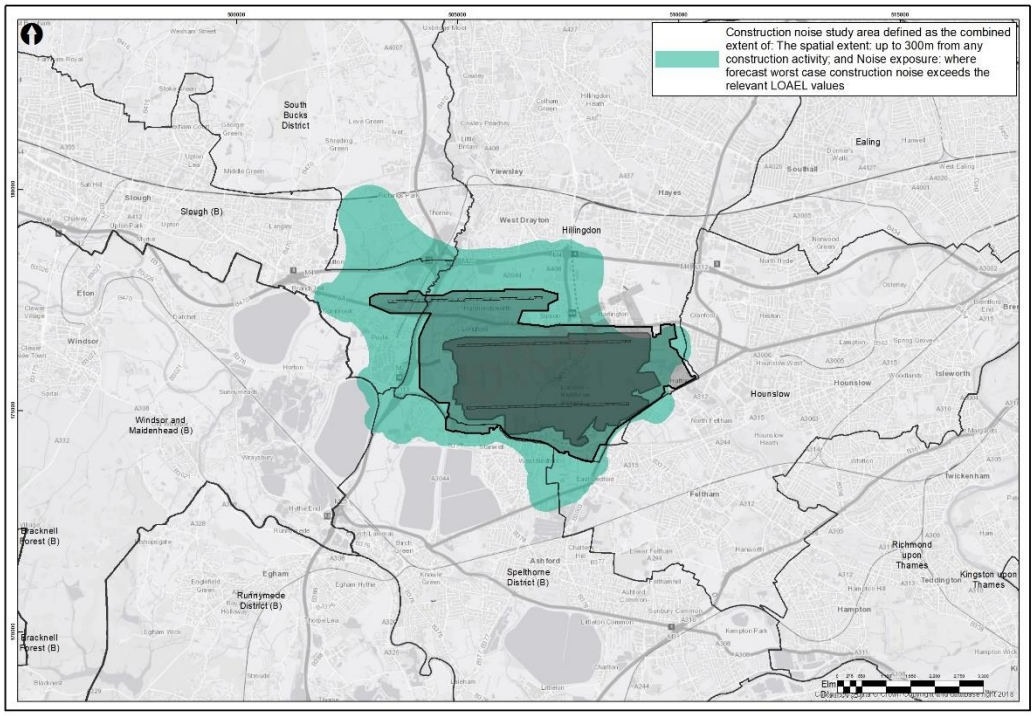
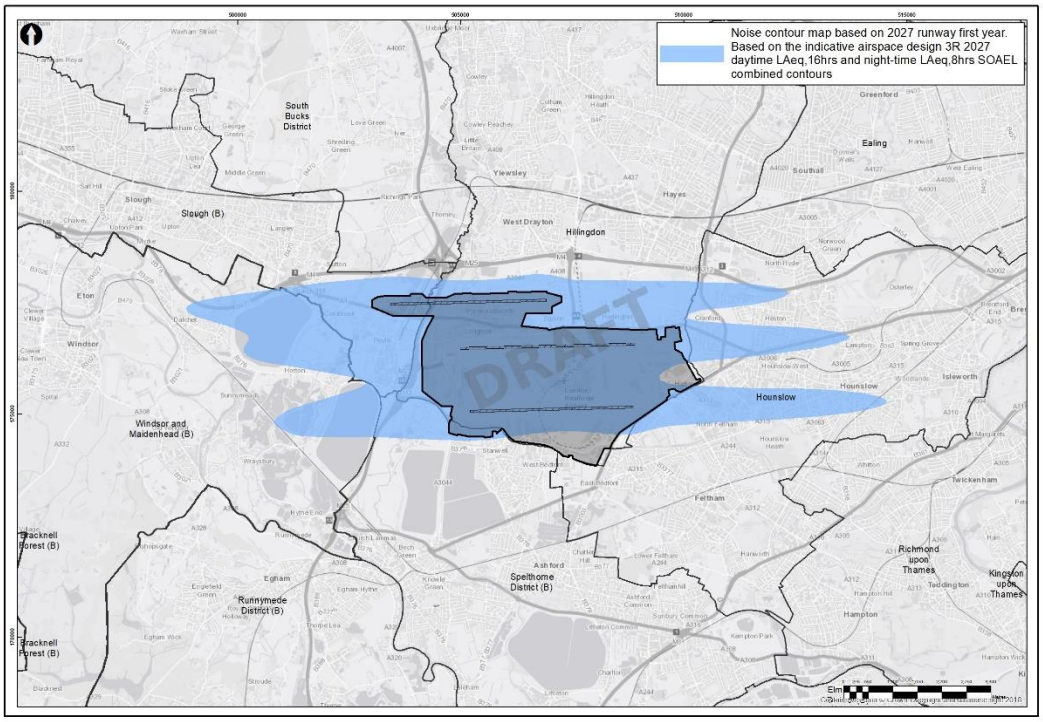


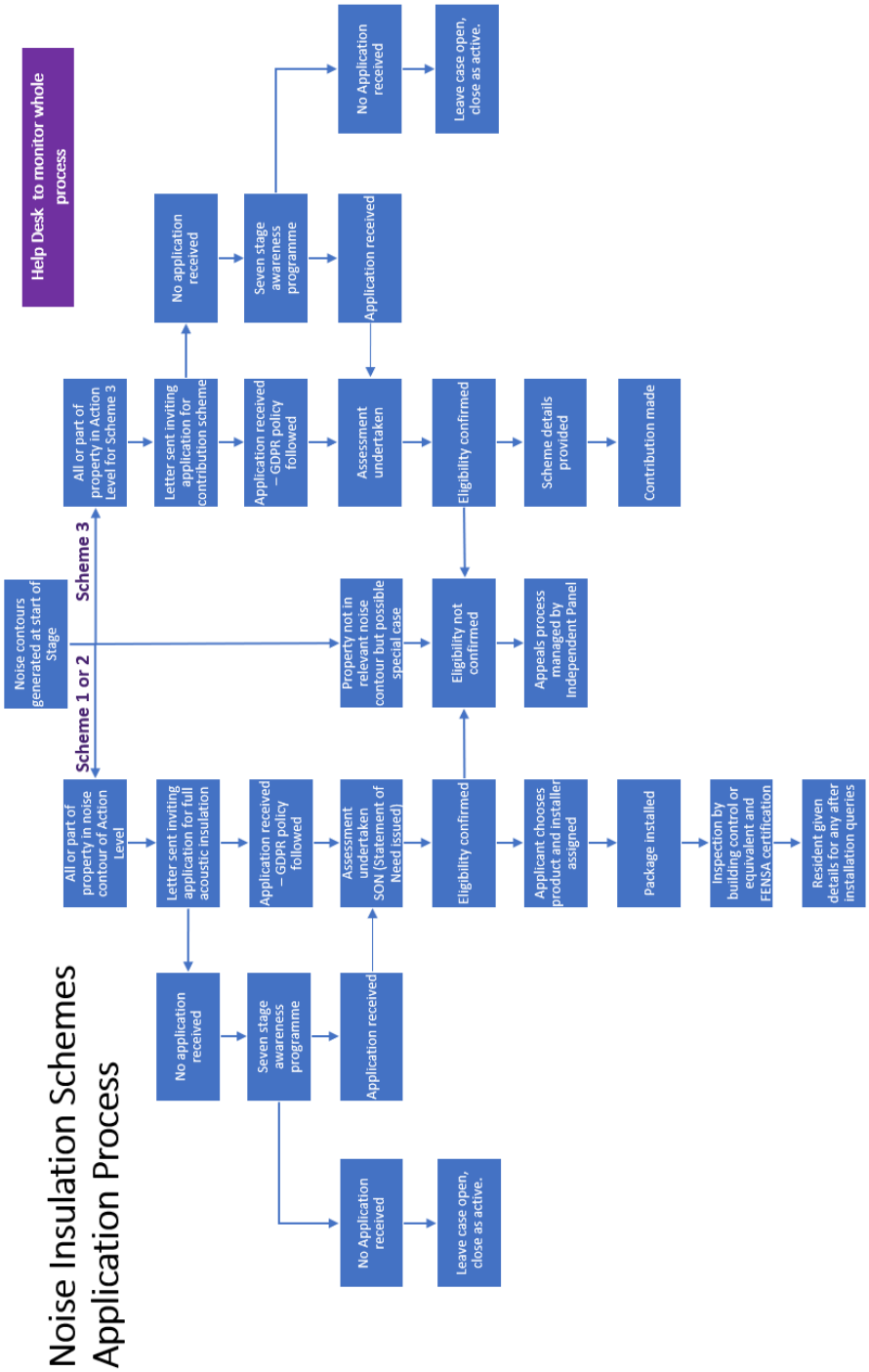
Figure 5.3 – Stage 3 – Indicative Noise contour map based on 2027 runway opening year



5.3 Application Process

5.3.1 The process for delivering the Noise Insulation Schemes is summarised in a flow chart in Figure 5.4.

Figure 5.4 – Application Process Flow Chart



5.3.2 At each stage, or at intervals within a stage, the owners of properties identified as within the relevant noise contour will be contacted by post and advised that they are eligible to apply for the scheme.

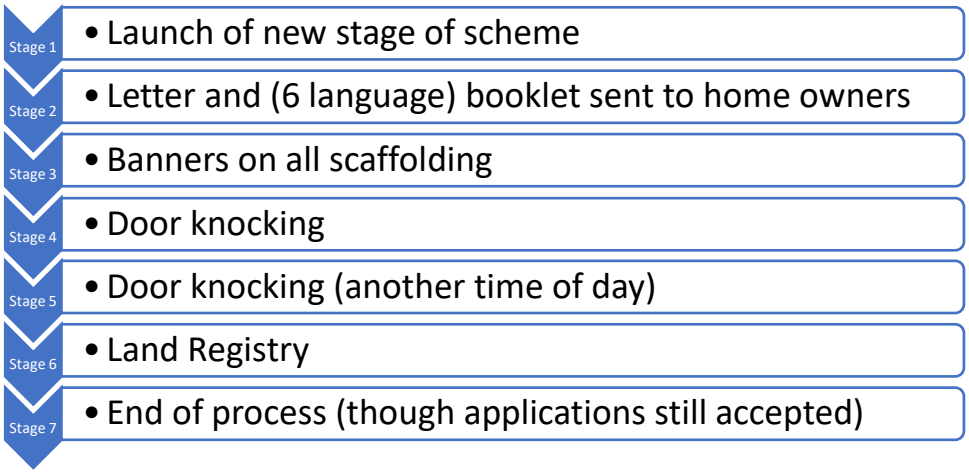
5.3.3 Where a property is rented, the tenant must obtain the permission of the property owner to apply for the scheme. This is for legal reasons.

5.3.4 Although Heathrow will seek to identify all eligible people and invite them to apply, a helpdesk will be available for people to check if they are eligible to apply.

5.3.5 The invitation to property owners will be supported by a seven-stage programme that is designed to promote awareness of the scheme and encourage applications. The seven-stages are outlined in a flow chart in Figure 5.5 and Appendix C.

5.3.6 If the homeowner does not respond during this seven-stage process, the application will be marked as dormant unless the property is within the UAEL contour. The homeowner may apply at a later date (if still eligible) but we cannot then guarantee that the insulation will be installed before the noisy activity starts.

Figure 5.5 Seven-stage awareness programme



5.3.7 Once an application has been received and a property owner has registered for the scheme, an assessment of the property will be carried out by the Assessor, a third-party organisation appointed by Heathrow. An initial desktop or drive-by assessment may be used to identify if a detailed inspection is required.

5.3.8 The initial assessment will address the following questions:

- Is the applicant entitled to apply for the property (the homeowner or appointed agent)?
- Is the property within a relevant noise contour?
- What is the relevant scheme and is there a priority for delivery?

- Has the property benefited from a previous scheme? What is the condition of the property?
- What works or options would be offered under the relevant scheme?
- Are any consents required for the works?
- Are there any special considerations?

5.3.9 Once the Assessor confirms eligibility, the property owner will be provided with scheme details and a list of approved installers or processes to enable work to take place. For Scheme 1 this will normally be summarised in a Statement of Need (SON) based on the house construction external noise levels, and priority.

5.3.10 Records will be made of all properties contacted as eligible, persons making applications under the scheme, the outcome of the assessment, and the satisfactory completion of the package, if provided.

5.3.11 Heathrow will seek to provide information to home owners, house purchasers or their agents and tenants, on request, concerning the eligibility of properties for noise insulation schemes, subject to data protection and confidentiality requirements. It is for this reason the database of information is managed by an address rather than the owner's or resident's name.

5.3.12 Properties eligible for the Scheme 3 contribution to noise insulation will be required to use a supplier approved by Heathrow to ensure suitable quality management.

5.3.13 After the completion of works, auditing will be conducted to demonstrate compliance. This will include performance inspection or tests of a sample range of properties.

5.3.14 A dedicated support team will be provided to assist applicants throughout the process, including people needing special assistance, and to investigate any complaints during and after completion. Applicants will also be able to appeal to the Independent Panel. (See Section 5.4.)

5.3.15 Reasonable time needs to be allowed for applicants to be identified, for applicants to consider and apply for the scheme, to receive applications and determine eligibility, and to carry out the works. Therefore, the Noise Insulation Schemes will open in advance of the relevant expected noise change. It is also possible that applicants may defer, perhaps hoping that they will find the noise acceptable and avoid the disruption of the works. The schemes will therefore remain open for at least a year after the relevant expected noise change occurs.

5.3.16 Where consents are required for the installations proposed by the Noise Insulation Schemes, for example, planning, listed building or conservation area consents, and building control, the appointed contractor and the Heathrow support team will

assist the applicant in obtaining the necessary consents[1]. It is normally the responsibility of the homeowner to obtain these consents, but in some circumstances support with consent applications could be provided.

5.4 Appeals and Exceptions

Applications from non-eligible properties

5.4.1 Although Heathrow will seek to identify all eligible home owners and invite them to apply, a help desk will support other people who wish to check eligibility to apply. These may be people who are not in the current stage, or who are outside the contours, or who have a special case for consideration.

Appeals

5.4.2 An independent appeal process will be available to applicants who do not accept an eligibility or Statement of Need (SON) decision. After the initial response by the Assessor, an appeal may be made to an Independent Panel who will carry out an initial review, consider if further action is appropriate and advise the complainant of their decision.

5.4.3 Heathrow will set up and fund the Independent Panel in consultation with other community and local authority stakeholders, modelled on that set up for the Thames Tideway project.

Exceptions

5.4.4 The policy and schemes described above meet or exceed the minimum requirements of the Airports NPS and NPSE, and provide sustainable and practical schemes for the majority of people and properties. However, there may be exceptional cases where a bespoke alternative performance standard to meet the requirements could be considered. Examples may be:

- a person with a specific health or disability issue associated with noise,
- a property which is not suitable for the standard schemes, such as some listed or historic buildings,
- a property exposed to very high noise levels above the UAEL of 71/66dB $L_{Aeq,16/8hr}$ for aircraft noise.

5.4.5 Bespoke assessments and schemes are inherently costly and can be disproportionate in the effort and funds required for assessment and design compared to delivery and therefore may not be considered practicable or

[1] Normally the property owner or resident will apply for the consent and retain the benefit of any permissions granted.

sustainable but can be appropriate in exceptional circumstances. The Independent Panel would review cases where bespoke assessments may be justified and recommend the most appropriate treatment options. Where substantial works are required, temporary relocation may be offered on a similar basis to that offered for construction noise.

5.4.6 For the very few properties that will be newly exposed above the UAEL, where an application is not received or an offer accepted, we may need to obtain compulsory rights to provide bespoke treatments to prevent exposure above UAEL. Such treatments may also need to include temporary rehousing to allow the work to be done to those homes. This will be addressed in the DCO application.

6. OTHER SCHEMES BEYOND THE NOISE INSULATION POLICY

In addition to the noise insulation schemes in this draft Noise Insulation Policy, Heathrow has two other existing noise and vortex related schemes that will be refreshed. These are the Home Relocation Assistance Scheme which offers financial help to eligible homeowners living in the noisiest areas around Heathrow to move away from the area if they wish; and the Vortex Protection Scheme which is designed to protect and repair homes from around the airport damaged by wind currents from aircraft wings.

Heathrow will also introduce a Temporary Rehousing Scheme for those most impacted by short term construction noise. These schemes are summarised in this section for reference.

6.1 Proposed Temporary Home Relocation Scheme

6.1.1 This section sets out a draft proposal for a Temporary Home Relocation Scheme for those most impacted by short term construction noise.

6.1.2 Where, after applying best practical means mitigation, construction noise at any residential receptor is predicted to exceed the construction noise insulation Action Levels for a temporary period, Heathrow would offer an option of temporary re-housing for the duration of the works. The Action Level will be based on the UAEL for construction noise of around 75 to 85dB $L_{Aeq,T}$, as detailed in Appendix B.

6.1.3 Heathrow will contact the owners or occupiers of properties affected before the works are due to start to allow residents to find alternative property and move before the noisy works begin. Temporary re-housing could be a similar rental property or a hotel.

6.1.4 Heathrow will provide a help desk and work with local property agents to identify suitable temporary accommodation and support applicants who choose to find their own temporary housing. Applications will be assessed for:

- Property location and eligibility
- Ownership/occupancy
- Accommodation requirements including any special needs or adaptations

6.1.5 Eligible applicants will receive a Statement of Need (SON) setting out what range of temporary accommodation will be provided within the scheme, details of local letting agents, removal and storage companies, and the Heathrow helpdesk support.

6.1.6 Subject to eligibility, Heathrow would pay the reasonable costs of:

- Equivalent temporary accommodation based on reasonable market rates,
- Packing and removal costs, and storage of personal goods if required
- Kennel/cattery or equivalent housing for pets,
- Works to secure the vacated property when empty, including disconnection and re-connection of services, and
- Additional insurance for temporary accommodation and vacated property.

6.1.7 Applicants will be able to make their own arrangements, but payments will be audited and claimants must receive approval from Heathrow of the supplier and of the costs before using suppliers not previously audited by the scheme.

6.1.8 Heathrow will usually seek to support temporary accommodation as close as practical to the vacated property, but sufficiently distant to avoid significant noise impacts. Where temporary accommodation is a significant distance from the permanent location, assistance with travel costs (e.g. workplace or school) may be provided.

6.2 Home Relocation Assistance Scheme (HRAS)

6.2.1 Since 2002, Heathrow has offered the Home Relocation Assistance Scheme to offer financial help to eligible homeowners living in the noisiest areas around Heathrow to move away from the area if they wish. It was developed in consultation with local residents, businesses, campaign groups and local authorities. People who meet the criteria can get financial assistance with the costs of moving.

6.2.2 This current HRAS scheme applies to residential properties around Heathrow that are exposed to a high level of noise defined for this scheme as lying within the 2002 69dB $L_{Aeq,16hr}$ noise contour.

6.2.3 The criteria for eligibility including the following:

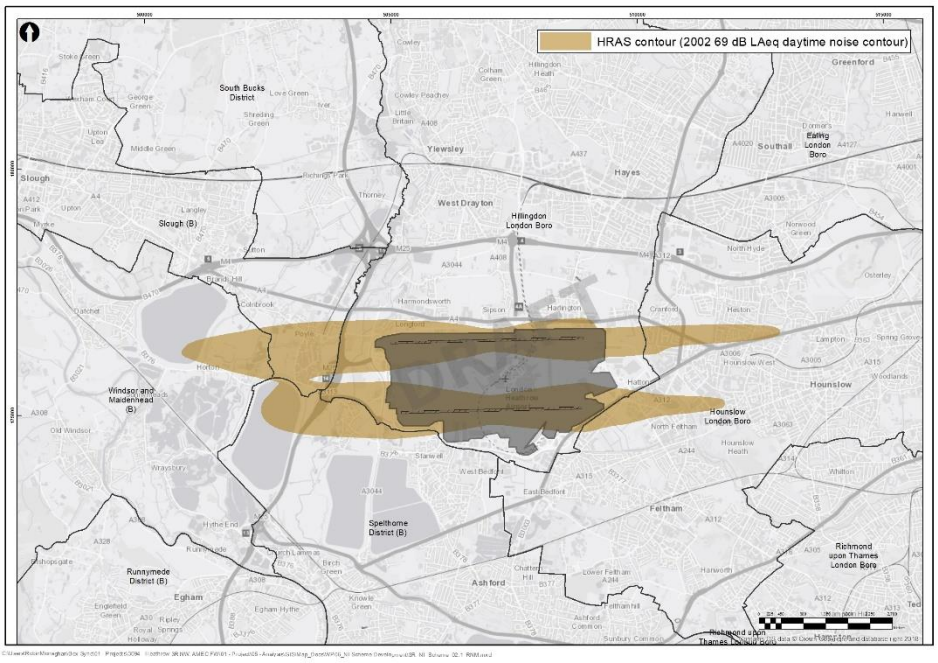
- The applicant must own the property when applying. (If the applicant lives elsewhere, it must be the only property in the UK that is owned by the applicant.)
- The applicant must be planning to move to a quieter area outside the boundaries of the scheme.
- The applicant must not retain a beneficial interest in, or right of occupation to, the property after moving.

- Residents must have owned or be living in the property prior to February 2005.
- Long-term tenants (with at least three years remaining on their lease) may also be eligible for assistance if the property they are renting is being sold. However, short-term tenants are not eligible for the scheme.

6.2.4 Homeowners receive a lump sum of £5,000, plus 1.5% of the sale price of the property (up to a maximum of £12,500). There is only one payment per property. No other assistance is provided and the property is no longer eligible for a Noise Insulation Scheme[2]. The property is sold in the open market by the owner.

6.2.5 More information on this current scheme and its eligibility criteria are provided by a Noise Helpdesk (0800 344844) or email communityschemes@heathrow.com

Figure 6.1 – Boundary for Existing HRAS



6.2.6 Heathrow is taking the opportunity to enhance the Home Relocation Assistance Scheme. The eligibility criteria will remain the same.

6.2.7 The compensation values are under review. Under the refreshed HRAS, eligible homeowners would receive the same lump sum of £5,000 and an additional 5% of the sale price of the property, up to a new higher maximum cap. There is only one payment per property.

[2] Under the "agent of change" and "caveat emptor" principles, the open market buyer of a property should consider any noise insulation requirements within their purchase price offer. For houses purchased by Heathrow, any noise insulation scheme would normally be provided before the property is returned to the market.

6.2.8 HRAS will apply to the areas to east, west and possibly south of the existing two runways based on the $L_{Aeq,16hr}$ 69dB noise contour. (See below for discussion of the year of the applicable contour.)

6.2.9 As with the Noise Insulation Schemes, HRAS eligibility will require that some part of a property lies within the relevant, calculated noise contour.

6.2.10 More information about a refreshed HRAS will be available later this year. Eligibility for HRAS will continue to be based on the 69dB $L_{Aeq,16hr}$ contour from 2002. It can be noted that since 2002, the annual noise contour at Heathrow has continually decreased is size, which means that some houses that qualified for HRAS in the past, now lie outside the current 69dB contour.

6.2.11 In 2021, if the DCO is granted and there is a decision to proceed with construction, HRAS will be based on the 69dB $L_{Aeq,16hr}$ contour for 2020 (because the 2021 contour will not be available). With expansion, however, there may be years when the noise contour could be different to the previous year. Therefore, the intention is that HRAS will be based on the noise contour for 2020 or the projected contours for 2025, whichever is larger. Subsequently, from 2026, HRAS will be based on noise contour for 2025 and the projected contours for 2030, whichever is larger.

6.2.12 In this manner, a homeowner will be able to make a decision on selling and claiming the HRAS scheme, based on the highest noise levels expected for five years.

6.2.13 If with the publication of a new HRAS contour, a property newly falls outside, previous eligibility for the scheme will be considered for 12 months.

6.3 Vortex Protection Scheme

Existing Vortex Protection Scheme

6.3.1 A vortex is a circulating current of air generated by the wings of an aircraft. It can sometimes strike and damage the roofs of houses located under a flight path. Pitched roofs with loose-laid tiles are prone to vortex damage. For many years, Heathrow has had a Vortex Protection Scheme to both repair and protect homes around the airport.

Damage Repair

6.3.2 If a home has been damaged by a vortex strike, Heathrow operates a 24-hour emergency service and will repair it. Although legal liability for vortex damage rests with the airlines, Heathrow voluntarily funds this scheme as part of its commitment to its local communities.

6.3.3 Every house, school, church or hospital affected by a vortex strike is eligible for the Vortex Protection Scheme. This includes home situated above commercial properties. However, the scheme does not cover damage to other property, such as cars, from roof tiles dislodged by a vortex.

6.3.4 An assessor will inspect a roof reported as damaged. The damage caused by vortex strikes is very specific and the assessor will quickly be able to confirm whether one has occurred. Once approved, remedial repairs to the roof are carried out at no cost to the home owner.

Vortex Protection

6.3.5 If a roof is repaired under the Vortex Protection Scheme, the property is eligible for permanent protection. This involves strengthening the roof by fixing down tiles with metal clips that have passed stringent wind tunnel tests – this has proven to be the most effective way to protect roofs from vortex damage. This work will be completed as soon as possible and free of charge.

6.3.6 Because the majority of vortex strikes are concentrated in small areas near the end of runways, Heathrow offers blanket vortex protection for homes in these high-risk areas. This currently includes streets where 50% of the homes on a given road have been struck, where all of the homes are invited to register under a blanket scheme.

6.3.7 To date, no further vortex damage has been recorded at any home that has had its roof strengthened under the Vortex Protection Scheme.

6.4 Expanded Vortex Protection Scheme

6.4.1 For the Project, a new blanket area based on the new runway layout has been defined that identifies homes where vortex damage may occur. After granting of the DCO and a decision to proceed, Heathrow will undertake vortex protection of all of the roofs in the defined area that are eligible within a blanket roll out.

6.4.2 After opening of the new runway expected in 2026, the Vortex Protection Scheme will continue as it does today. We will respond to reports of vortex damage, and areas with many confirmed reports of damage will be considered for blanket protective treatments.

APPENDIX A: GLOSSARY

Term	Definition
Airports NPS (or ANPS)	Airports Noise Policy Statement (2018)
APF	Airports Policy Framework
BS 5228	British Standard 5228 (2014): Code of practice for noise and vibration control on construction and open sites Part 1: Noise.
BS8233	British Standard 8233 (2014): Guidance on sound insulation and noise reduction for buildings
CAA	Civil Aviation Authority
CoCP	The Draft Code of Construction Practice included in the current consultation documents.
CRTN	Calculation of Road Traffic Noise – a guidance document for road noise referred to in the Noise Insulation Regulations
CRN	Calculation of Railway Noise – a guidance document for rail noise referred to in the Noise Insulation Regulations
dB (or dBA)	Decibel (usually A-weighted to approximate the response of the human ear.) is used to measure noise level on logarithmic scale (relative to a standard reference.)
DCO	Development Consent Order
DfT	Department for Transport
Double glazing	This is a window pane with two sheets of glass giving better noise insulation (and thermal insulation) performance than a pane of single glazing. The double glass units are factory sealed and installation will usually require the removal of the existing windows and frames. Acoustic double glazing, for example using laminated glass, can provide better noise reduction than standard thermal double glazing.
ENG	Environmental Noise Guidelines for the European Region (2018)
GCN	Guidelines for Community Noise (WHO 1999)
The Project	Heathrow Expansion Programme
HRAS	Home Relocation Assistance Scheme
ICCAN	Independent Commission on Civil Aviation Noise
L_{A10} or L_{10}	The noise level exceeded for 10% of a measurement period. This is traditionally used to measure road traffic noise.
$L_{Aeq,16hr}$	The noise level averaged over the 16-hour day period (07:00-23:00) and over the 92-day summer period. This day time aircraft noise metric has been used in the UK since the 1980's.
$L_{Aeq,8hr}$	The noise level averaged over the 8-hour night period (23:00-07:00) and over the 92-day summer period. This night time aircraft noise metric has been used in the UK since the 1980's.
$L_{Aeq,T}$ or $L_{eq,T}$	The energy equivalent noise level over a specified period, T, and A-weighted to approximate the response of the human ear.
L_{den}	The annual average energy equivalent noise level, A weighted to approximate the frequency response of the human ear and time weighted for day, evening and night time periods. This annual aircraft noise metric was adopted as the standard noise metric in the EU in 2002.

L_{Amax} or L_{max}	The maximum noise level occurring during a measurement period, A weighted to approximate the frequency response of the human ear.
L_{night}	The A-weighted noise level averaged over the 8-hour night period (23:00-07:00) and over the calendar year.
LOAEL	Lowest Observable Adverse Effect Level
NNG	Night Noise Guidelines (WHO 2009)
Noise Insulation Policy	The policy set out in this document to address the Airports NPS requirements for the Heathrow Expansion Programme, The Project.
Noise Insulation Regulations	Noise Insulation Regulations (1974) as amended by Noise Insulation Regulations (Amended) 1988 and The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996
Noise Insulation Schemes	The 3 schemes or levels of acoustic treatment for aircraft, road, rail and construction noise set out in this Policy.
Noise Insulation Strategy	Heathrow's wider and long-term approach to the insulation of homes and community buildings for existing activities, airspace changes and the Expansion Project.
NPPF	National Planning Policy Framework (2019)
NPSE	Noise Policy Statement for England
PPG or PPGN	Planning Practice Guidance-Noise (2014)
The Project	The Heathrow Expansion Programme
Secondary glazing	This is an upgrade of the acoustic performance of an existing window, by the installation an addition glazing pane in its own frame on the existing sill of the window.
SOAEL	Significant Observable Adverse Effect Level
SON	Statement of Need
UAEL	Unacceptable Adverse Effect Level
WHO	World Health Organisation

APPENDIX B: NOISE METRICS AND ACTION LEVELS

Aircraft Noise [92-day summer average levels unless noted otherwise]				
Level	Daytime dB $L_{Aeq,16\ hr}$	Night time dB $L_{Aeq,8\ hr}$	Event dB L_{Amax}	Policy Source
"*approximate onset of significant community annoyance*"	54			APF (2013) as amended by Consultation Response on UK Airspace Policy (2017)
LOAEL	51	45		Air Navigation Guidance (2017) and PEIR
Financial assistance toward insulating homes and schools	63			Consultation Response on UK Airspace Policy (2017)
SOAEL	63	55	One additional awakening per person, per night	PEIR
Proposed new expectation for financial assistance toward insulating homes and schools	60			Draft Aviation Strategy 2018
UAEL	71	66		PEIR
Action Level for Scheme 1	The full single mode easterly and westerly 60dB $L_{Aeq,16hr}$ noise contour of an expanded airport		One additional awakening per night	
Action Levels for Scheme 3	The full single mode easterly and westerly 57dB $L_{Aeq\ 16hr}$ or the full 55dB L_{den} noise contours of an expanded airport, whichever is the bigger		One Additional awakening per night	Airports NPS (5.245)
Proposed Govt new expectation for financial assistance toward insulating homes	An increase of 3dB compared to before expansion which leaves a household in the 54dB $L_{Aeq,16hr}$ contour			Draft Aviation Strategy 2018

 © Heathrow Airport Limited 2019

Road Noise				
Level	Daytime $L_{Aeq,16\ hr}$	Night time $L_{Aeq,8\ hr}$	Event	Source
LOAEL	50	40		PEIR
SOAEL	63	55		PEIR
UAEL	71	66		PEIR
Action Levels for Scheme 2	63/55dB $L_{Aeq\ 16/8\ hr}$ (and a change of at least 1dB from before expansion)			PEIR and Noise Insulation Regulations
Rail Noise				
Level	Daytime $L_{Aeq,16\ hr}$	Night time $L_{Aeq,8\ hr}$	Event L_{Amax}	Source
LOAEL	50	40	60	PEIR
SOAEL	65	55	80 (>20 events) or 85 (<20 events)	PEIR
UAEL	71	66		PEIR
Action Levels for Scheme 2	65/55dB $L_{Aeq\ 16/8\ hr}$ (and a change of at least 1dB from before expansion)			PEIR and Noise Insulation Regulations

Construction Noise

In line with Section 11 of the draft CoCP, to be eligible the dwelling must be one in which the predicted or actual noise exceeds any of the relevant thresholds in CoCP Table 11.1 for:

- A period of 10 or more days of working in any 15 consecutive days during construction, or
- A total of 40 days or more in any 6 consecutive months during construction

The noise thresholds for both construction and noise insulation are set out in the Table below:

Day	Time (hours)	Averaging Period, T	Noise Insulation Action Level $L_{Aeq,T}$ (dB)*	Construction Temporary Rehousing Action Level $L_{Aeq,T}$ (dB) *
Monday to Friday	0700 – 0800	1 hour	70	80
	0800 – 1800	10 hours	75	85
	1800 – 1900	1 hour	70	80
	1900 – 2200	1 hour	65	75
Saturday	0700 – 0800	1 hour	70	80
	0800 – 1300	5 hours	75	85
	1300 – 1400	1 hour	70	80
	1400 – 2200	1 hour	65	75
Sunday & Public Holiday	0700 – 2200	1 hour	65	75
Any night	2200 – 0700	1 hour	55	65

*	DCO Project construction noise only. Trigger levels are defined as 1m in front of the closest façade of a habitable room. Where measurements are used, they will be taken either at the façade or in free-field. A façade correction will be applied to any free-field measurements to establish the façade level.
*	Where the current ambient noise level is greater than the noise insulation trigger level: 1. the ambient noise level will be used as the noise insulation trigger level 2. the temporary rehousing trigger level will be the ambient noise level +10dB.

APPENDIX C: SEVEN-STAGE AWARENESS PROGRAMME TO INFORM AND ENCOURAGE APPLICANTS

Stage 1: Launch of New Stage

Public awareness of the launch of a new stage of noise insulation will be driven through notices posted at the following – Community Centres, Churches, Local MP's and Schools.

Stage 2: How individual residents are made aware of Heathrow's Noise Insulation Scheme

All property owners that qualify for Heathrow's current stage are individually written to explaining the scheme in detail. A comprehensive booklet written in six languages will be sent to all homes identified within the relevant contour – English, Arabic, Hindi, Polish, Punjabi and Urdu.

Every effort is made to ensure that qualifying residents are able to understand the booklets that outline the scheme, key facts, explain proposed works and most importantly who to contact should further information be required to clarify what is in the booklet and answer any questions.

Stage 3: Banners on all scaffolding

During works on a property, scaffolding set up at a home being fitted out will include a banner displaying. Neighbouring properties will be able to that it is a Heathrow related scheme and neighbours will be encouraged to phone up, investigate their eligibility and register for the scheme.

Stage 4: Door knocking

Staff 'door knock' resident's properties that are eligible for the scheme to speak directly with them and hand over another booklet that explains the scheme in detail. This will give the residents the opportunity to ask any questions that they may have as a result of the scheme being discussed. In the event that there is nobody home at the time of the visit, another booklet will be posted to drive awareness of the Noise Insulation Scheme.

Stage 5: Door knocking

Stage 4 is repeated at a different time of day. If, for example, a property was originally visited in the morning then the second visit would be in the afternoon to make every effort to speak with the resident.

Stage 6: Land Registry

Heathrow contact the Land Registry with a view to contacting landlords whose homes qualify for NIS. A comprehensive booklet will be posted to further drive awareness of NIS to help drive registrations.

Stage 7: End of process

Make a record that all awareness processes have been completed. The residents/ landlords still have the opportunity to come forward as long as they are still within the specified noise contour. The purpose of documenting is to demonstrate that all seven stages have been processed.

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There are lots of ways you can contact us or find out more

Find all the consultation information on our website aec.heathrowconsultation.com

Email any questions about the consultation to info@heathrowconsultation.com

Follow @LHRconsultation to stay up to date on event details

Call our freephone number 0800 307 7996 (open Monday to Friday, 9am-6pm)

If you would like a large text or alternative format of this document, please contact 0800 307 7996 or email info@heathrowconsultation.com

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AIRPORT EXPANSION CONSULTATION

Heathrow

YOUR LONDON AIRPORT
Gatwick

GATWICK AIRPORT LIMITED

Environmental Noise Directive

Noise Action Plan 2019 – 2024

Annex Document

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GLOSSARY OF TERMS

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AAL	Above Aerodrome Level
AMSL	Above Mean Sea Level
ACARE	Advisory Council for Aeronautical Research in Europe
ACOP	Arrivals Code of Practice
ACP	Airspace Change Proposal
AEF	Aviation Environment Federation
AIP	Aeronautical Information Publication
ANASE	Attitudes to Noise from Aviation Sources in England
ANEG	Airspace and Noise Engagement Group
ANMAC	Aircraft Noise Monitoring Advisory Committee. The committee is chaired by the Department for Transport and comprises, among others, representatives of the airlines, Heathrow, Gatwick and Stansted airports and airport consultative committees at these airports.
ANS	Air Navigation Solutions Ltd
AONB	Area of Outstanding Natural Beauty
APU	Auxiliary Power Unit. A power unit located on the aircraft.
APF	Aviation Policy Framework
ATC	Air Traffic Control
ATWP	Air Transport White Paper
BAA	BAA Ltd, the company which previously owned Gatwick, Stansted and Edinburgh airports. Now known as Heathrow Airport Holdings Ltd.
CAA	Civil Aviation Authority
CDO	Continuous Descent Operations
CNG	Community Noise Group (attends the Noise Management Board)
dB (A)	A unit of sound pressure level, adjusted in accordance with the A weighting scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Decibel (dB)	The decibel (dB) is a logarithmic unit of measurement that expresses the magnitude of a physical quantity relative to a specified or implied reference level. Its logarithmic nature allows very large or very small ratios to be represented by a convenient number. Being a ratio, it is a dimensionless unit. Decibels are used for a wide variety of measurements including acoustics, and for audible sound A-weighted decibels (dB (A)) are commonly used.
DEFRA	Department for Environment Food and Rural Affairs (UK Government)
DfT	Department for Transport (UK Government)
ECAC	European Civil Aviation Conference
EHSOR	Environment, Health, Safety and Operational Resilience (committee)

ANNEX ONE

GLOSSARY OF TERMS

EMB	Executive Management Board (of Gatwick Airport)
END	Environmental Noise Directive
EPNdb	Effective Perceived Noise Decibels (EPNdB). It refers to the metric 'EPNL' (Effective Perceived Noise Level) which is used for noise certification and takes account of tones and duration.
ERCD	Environmental Research and Consultancy Department of the Civil Aviation Authority
FAS	Future Airspace Strategy
EHO	Environmental Health Officer
FEGP	Fixed Electrical Ground Power
FLOPSC	Flight Operations Performance & Safety Committee
FPT	Flight Performance Team (previously known as the Flight Evaluation Unit)
GAL	Gatwick Airport Limited, the owner and operator of London Gatwick Airport
GATCOM	Gatwick Airport Consultative Committee
GNC	Ground Noise Committee
GNMG	Gatwick Noise Monitoring Group
GPU	Ground Power Unit
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
LAMP	London Airspace Management Programme
LOAEL	Lowest Observable Adverse Effect Level
LP/LP	Low Power / Loew Drag
L_{A90}	A-weighted sound level exceeded for 90% of the time
$L_{Aeq, 16h}$	The A-weighted average sound level over the 16 hour period of 07:00 – 23:00
$L_{Aeq,T}$	The notional A-weighted equivalent continuous sound level which, if it occurred over the same time period, would give the same noise level as the actual varying sound level. The T denotes the time period over which the average is taken, for example LAeq,8h is the equivalent continuous noise level over an 8 hour period.
L_{day}	The A-weighted average sound level over the 12 hour day period of 07:00 - 19:00
L_{den}	The day, evening, night level, Lden is a logarithmic composite of the Lday, Levening, and Lnight levels but with 5 dB(A) being added to the Levening value and 10 dB(A) being added to the Lnight value.
L_{eq}	Equivalent sound level of aircraft noise in dB(A), often called equivalent continuous sound level. For conventional historical contours this is based on the daily average movements that take place in the 16 hour period (07:00 - 23:00 LT) during the 92 day period 16 June to 15 September inclusive.
$L_{evening}$	The A-weighted average sound level over the 4 hour evening period of 19:00 - 23:00

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L_{night}	The A-weighted average sound level over the 8 hour night period of 2300 – 0700
MCR	Managing Corporate Responsibility (committee)
NADP	Noise Abatement Departure Procedure
NAP	Noise Action Plan
NATMAG	Noise and Track Monitoring Advisory Group
NATS	Formerly known as National Air Traffic Services Ltd. NATS is licensed to provide en-route air traffic control for the UK and the Eastern part of the North Atlantic, and also provides air traffic control services under contract at several major UK airports.
Noise Contour	Map contour line indicating noise exposure in dB for the area that it encloses
NM	Nautical mile
NMB	Noise Management Board
NOAEL	No Observable Adverse Effect Level
NPR	Noise Preferential Route
NPS	National Policy Statement
NTK	Noise and Track Keeping monitoring system. The system associates radar data from air traffic control radar with related data from noise monitors at prescribed positions on the ground.
PNdB	Perceived Noise Level, measured in PNdB. Its measurement involves analyses of the frequency spectra of noise events as well as the maximum level.
QC	Quota Count - the basis of the London airports Night Restrictions regime.
QNH	Barometric altimeter setting which will cause the altimeter to read altitude above mean sea level.
SA	Sustainable Aviation - a UK aviation industry initiative aiming to set out a long term strategy for the industry to address it sustainability issues.
SOAEL	Significant Observed Adverse Effect Level - this is the level above which significant adverse effects on health and quality of life occur.
S.106	Section 106 (S106) Agreements are legal agreements between Local Authorities and developers; these are linked to planning permissions and can also be known as planning obligations.
WHO	World Health Organisation

EXTRACT FROM THE GUIDANCE FOR AIRPORT OPERATORS BY DEFRA

WHAT NEEDS TO BE INCLUDED IN AN ACTION PLAN?

An Action Plan must be drawn up for places near the airport which are affected by noise from airport operations as shown by the results of the noise mapping and meet a number of requirements set out in the Regulations:

- a description of the airport and any other noise sources taken into account;
- the authority responsible;
- legal context;
- any limit values in place;
- a summary of the results of the noise mapping, including an evaluation of the estimated number of people exposed to noise;
- identification of problems and situations that need to be improved;
- a record of the public consultations that have taken place;
- any noise reduction measures already in force and any projects in preparation;
- long term strategy;
- actions which the airport operator intends to take in the next five years, including measures to preserve quiet areas;
- financial information (if available): budgets, cost-effectiveness assessment, cost-benefit assessment;
- provisions envisaged for evaluating the implementation and the results of the Action Plan; and
- estimates in terms of the reduction of the number of people affected (annoyed, sleep-disturbed, or other).

REVISING AN EXISTING ACTION PLAN

The current plan should be reviewed and revised to include, as necessary:

- updated details about the airport and its operation;
- the results of the noise mapping completed in 2017;
- the progress made against the actions described in the current Action Plan;
- updated information about relevant legislation and standards;
- updated relevant national and local policies;
- information about on-going actions; and
- information about any proposed new actions.

It is envisaged that once the plan has been revised it will be presented to the Airport's Consultative Committee for comment, and any other appropriate bodies depending on the extent and nature of the revisions. The Airport Operator should summarise the comments received in the revised plan together with their response to the issues raised.

SUBMITTING AN ACTION PLAN FOR FORMAL ADOPTION

Once the plan has been updated and finalised, the Regulations require that it be sent to the Secretary of State for DEFRA for formal "adoption". This document can be sent to DEFRA via the noise@DEFRA.gsi.gov.uk email address and must include prominently displayed wording identifying it as a draft subject to formal adoption and approval.

The Secretary of State for DEFRA, in liaison with the Department for Transport, will form a view regarding whether or not the submitted revised plan meets the requirements of the Regulations and, therefore, whether or not the plan is appropriate for adoption.

- If the Secretary of State for DEFRA considers that the

EXTRACT FROM THE GUIDANCE FOR AIRPORT OPERATORS BY DEFRA

requirements set out in the Regulations are met, they will notify the airport accordingly that the Action Plan has been adopted. The Action Plan should then be published by the Airport Operator as a public document in an electronic format within 28 days.

- If the requirements set out in the Regulations are not met, the airport operator will be required to make the necessary changes to the plan. Following revision, the revised plan will need to be resubmitted to the Secretary of State for DEFRA by an agreed date for further consideration.

ONGOING REQUIREMENT TO REVIEW NOISE ACTION PLANS

The Regulations contain a continuing obligation on Airport Operators to review (and revise, if necessary) the Noise Action Plan every 5 years or sooner where a major development occurs.

Airport Operators may wish to agree to carry out an informal review of the progress being made on the implementation of the Action Plan as part of their continuing engagement with the local airport consultative committee or other stakeholders. The process and timing for any informal review should be jointly agreed between the Airport Operator and the committee, or other stakeholders, as appropriate. Such reviews could form part of any regular environmental reporting that is already undertaken.

It should be noted that the Regulations give the Secretary of State the power to take action should they believe that a requirement of these Regulations is not being met due to any act or omission by the Airport Operator.

UPDATE FROM DEFRA AND DFT

On 9 February 2018, Gatwick Airport Ltd received an update from DEFRA and the DfT in light of queries raised of those departments and also changes to Government's aviation noise policy.

The following is extracted from the update from DEFRA and DfT:

The purpose of this is to highlight these changes [to the Government's aviation noise policy] and draw your attention to some other points that have been raised in discussion and should be taken into account in preparing Action Plans.

On 24 October 2017, the Department for Transport published its Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace. You should consider how these changes to government policy need to be reflected in your Noise Action Plans.

Key changes in the policy to consider are:

- The creation of an Independent Commission on Civil Aviation Noise (ICCAN) – This body will be established this spring to help ensure that the noise impacts of airspace changes are properly considered and give communities a greater stake in noise management. ICCAN may issue best practice guidance in relation to noise management, and you should consider the process through which this will be taken into account in your Action Plan.
- Important changes to aviation noise compensation policy, to improve fairness and transparency. Airspace changes have been incorporated into the existing compensation policy so that compensation policy is the same for all changes which affect noise impacts, regardless of whether they are a result of infrastructure change or airspace change.
- A new requirement for options analysis in airspace change, to enable communities to engage with a transparent airspace change process and ensure options such as multiple routes are considered. The Civil Aviation Authority's airspace change process has been revised to take account of this change.

EXTRACT FROM THE GUIDANCE FOR AIRPORT OPERATORS BY DEFRA

- New metrics and appraisal guidance to assess noise impacts and their impacts on health and quality of life. In particular this will ensure noise impacts are considered much further away from airports than at present. These adverse effects should be assessed using a risk-based approach above the lowest-observed adverse-effect level (LOAEL), using the DfT's transport appraisal guidance WebTAG. Supplementing this risk-based approach with frequency-based noise metrics will ensure that aircraft noise and its impacts can be accurately factored into decisions.

Over the past six months DEFRA has also held a number of discussions about the action planning process with individual airport operators and community groups. In the light of issues raised in those discussions, DEFRA would like to draw to your attention that, when reviewing the Plans submitted for adoption, the Government will pay particular attention to the following aspects set out in the previously circulated guidance:

- "A record of the public consultations that have taken place" (page 11). Some airports have already been in touch with DEFRA to highlight other engagement work that is taking place in parallel to their Noise Action Plan consultations. It is important that the Action Plan process does not contribute to an "overload" in community engagement, and that the consultation is sufficiently long for interested parties to formulate their responses, taking account of other consultations which may be taking place over the same time period and placing a burden on consultees' resources. It is also important that the issues raised by consultees are demonstrably given thorough consideration by airport operators. We shall be looking for evidence of how you have ensured this is the case in your submitted Plans.
- "Estimates in terms of the reduction of the number of people affected (annoyed, sleep disturbed, or other)… as a result of [the measures in] this Action Plan" (p13). Your plans should include evidence that the measures are challenging, objective, quantified (where reasonably practicable), subject to specific timescales, and have taken full account of the views of local communities.
- Where noise reduction measures need the support and active participation of other parties (such as NATS & CAA), please include information on how the airport intends to achieve such co-operation.

STRATEGIC NOISE MAPS 2016

Figure 1: DEFRA Strategic noise maps, L_{den} 2016

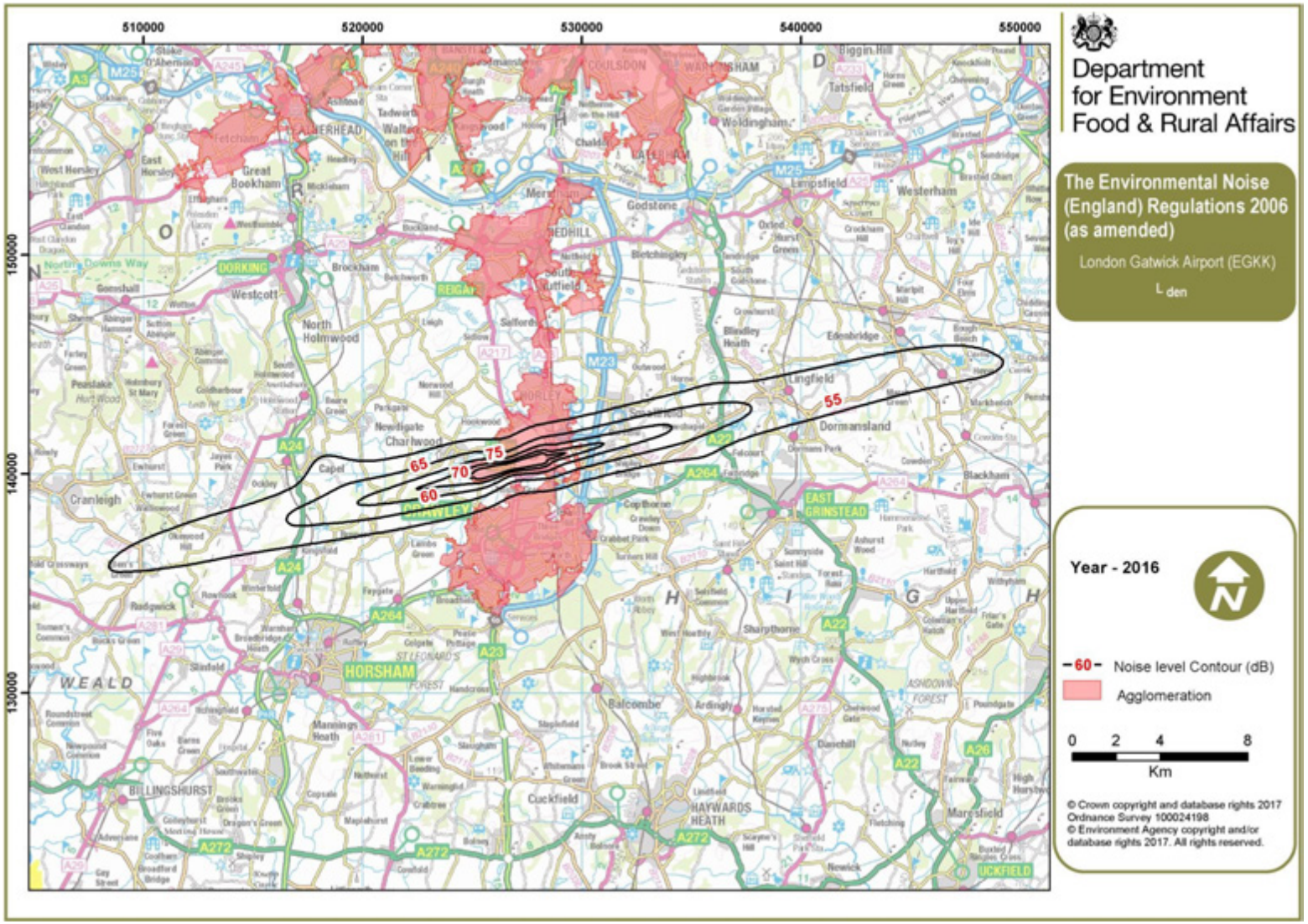
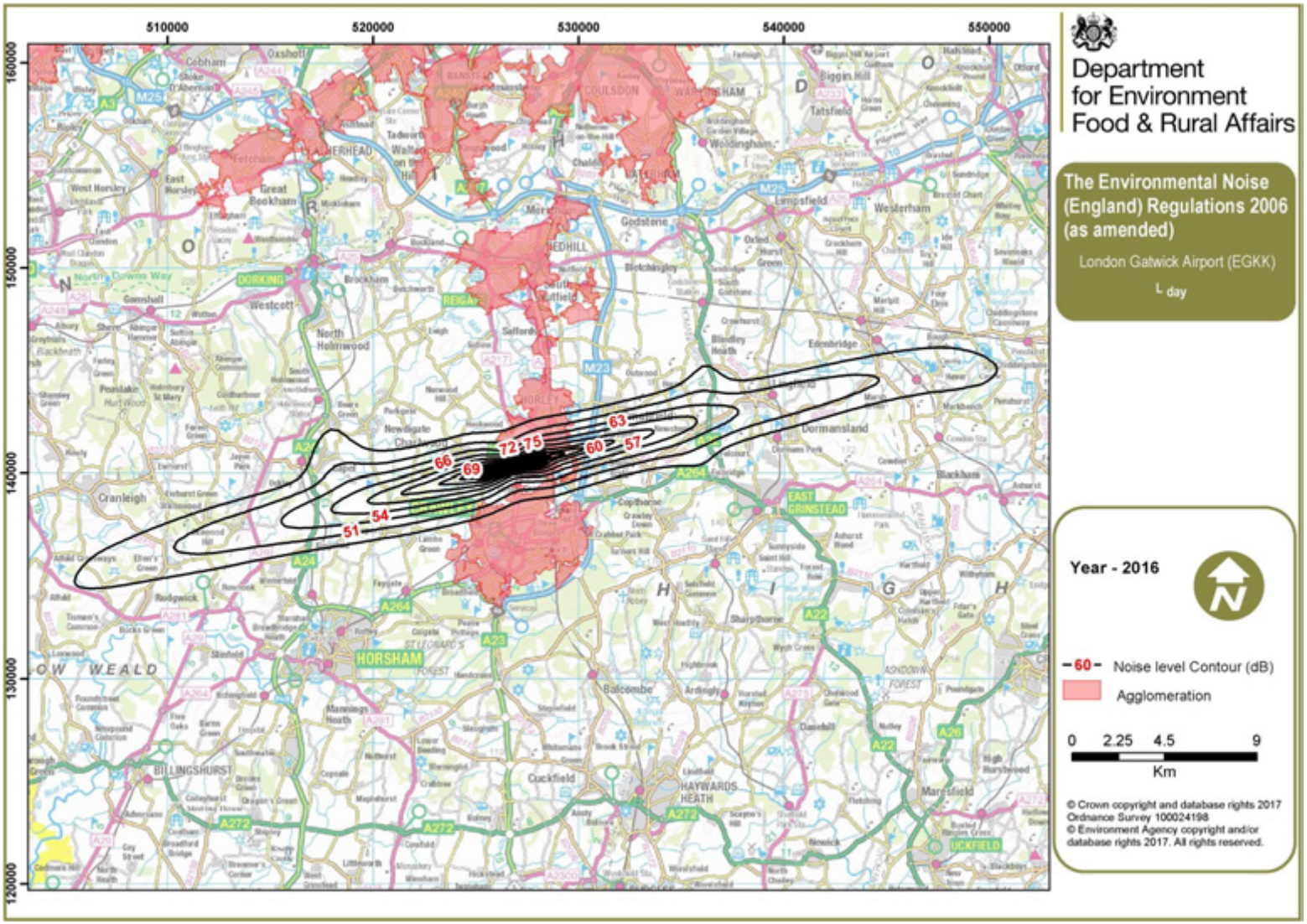


Figure 2: DEFRA Strategic noise maps, L_{day} 2016



STRATEGIC NOISE MAPS 2016

Figure 3: DEFRA Strategic noise maps, $L_{evening}$ 2016

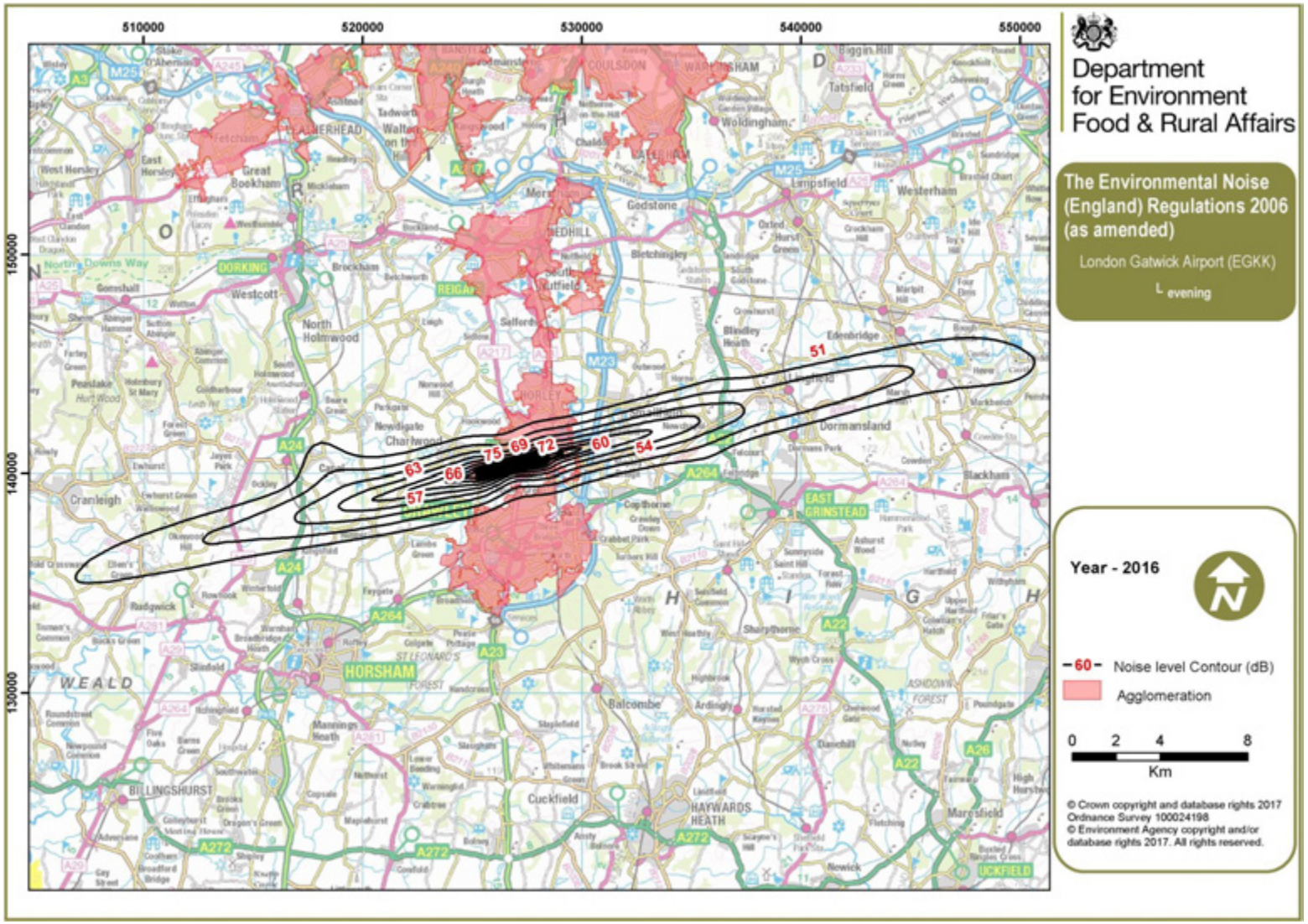
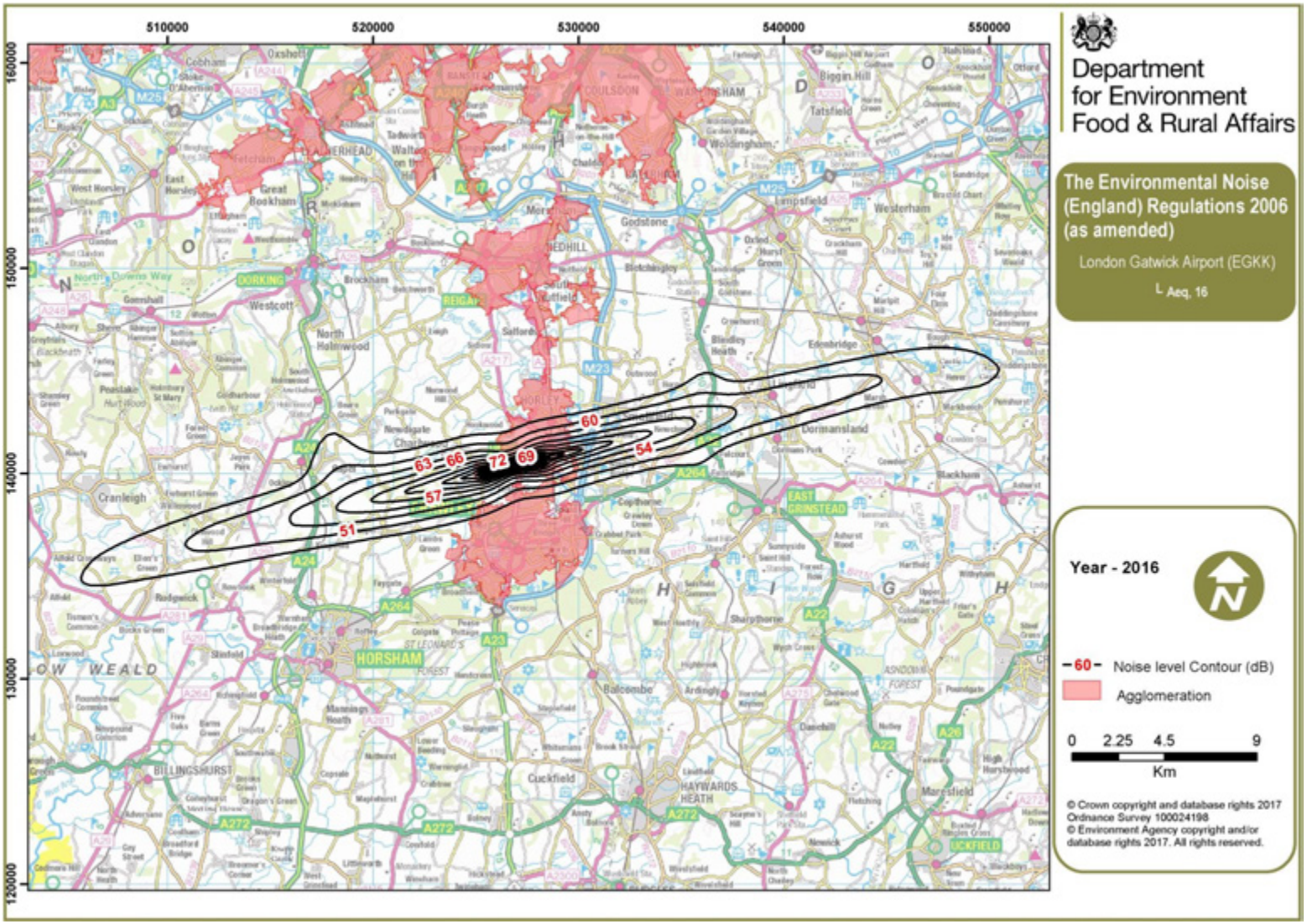
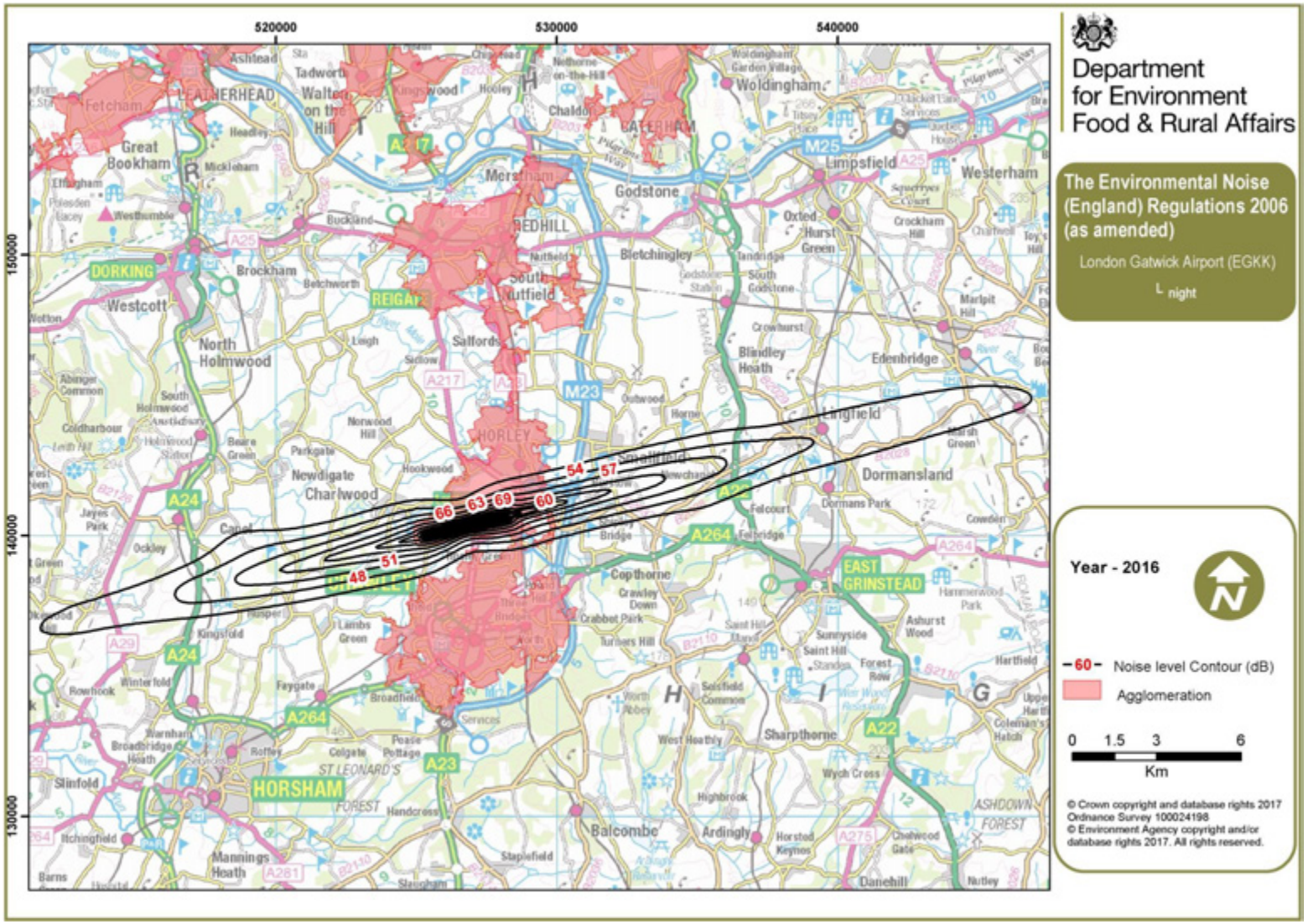


Figure 4: DEFRA Strategic noise maps, $L_{Aeq\ 16}$ 2016



STRATEGIC NOISE MAPS 2016

Figure 5: DEFRA Strategic noise maps, L_{night} 2016



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ANNEX FOUR

STATISTICAL INFORMATION

Figure 6: Statistical information in support of the Noise Action Plan

NOISE MITIGATION MEASURES	2010	2011	2012	2013	2014	2015	2016	2017
Aircraft runway movements	240,462	251,019	246,792	250,527	259,974	267,777	280,089	286,271
West/east runway split	64/36	67/33	71/29	63/37	67/33	70/30	67/33	78/22
Standby runway movements	1,012	2,444	14,836	4,473	1,496	2,498	2,567	3,722
Track keeping performance	96.98%	97.42%	97.63%	98.04%	99.28%	99.71%	98.56%*	98.06%
24 hour CDO performance	89.73%	90.49%	88.56%	91.37%	92.61%	89.75%	88.58%**	90.48%
Day/shoulder CDO performance	89.31%	90.38%	88.72%	91.13%	92.43%	89.21%	88.18%**	90.56%
Core night CDO performance	93.94%	93.96%	85.27%	94.04%	95.25%	95.32%	92.90%**	89.60%
1,000ft infringements	6	3	2	0	0	0	0	0
Departure day noise infringements	0	0	0	0	0	0	0	0
Departure night & shoulder noise infringements	0	4	0	0	0	0	1	2
% Night arrivals joining below 3,000ft (2,598ft)	0.15%	0.13%	0.65%	0.46%	0.16%	0.14%	0.21%	0.14%
% Night arrivals joining below 3,000ft (2,798ft)	6.35%	7.41%	16.12%	4.61%	3.08%	2.42%	2.57%	2.60%
Total night arrivals joining at less than 10nm	3.04%	2.86%	5.87%	2.17%	2.46%	1.91%	4.25%	7.39%
% of arrivals performing go-arounds	0.30%	0.31%	0.42%	0.38%	0.39%	0.39%	0.46%	0.43%

NOISE MITIGATION MEASURES	2010	2011	2012	2013	2014	2015	2016	2017
Night jet movements used (Summer)	9,875	9,859	9,837	10,003	11,147	11,149	11,303	11,070
Night jet movements used (Winter)	2,251	1,473	1,656	1,510	1,756	1,872	2,022	1,939
Night jet quota count used (Summer)	4,824	4,998.5	4,993.5	4,821.5	4,943.75	4,765.5	4,912.75	4,527.75
Night jet quota count used (Winter)	1,280.75	920.25	1,044	828.5	852.75	953	1,198.25	1,052.25
Dispensations granted	257	0	0	22	155	435	648	495
Use of 26 WIZAD during night period	1	1	0	0	0	4	0	0
Percentage of Chapter 4 aircraft	98%	96%	99%	99%	99%	99%	99%	99%
57Leq day noise contour area (km²) (actual)	39.6	40.4	41.2	40.9	42.2	42.8	44.2	42.7
57Leq day noise contour population affected (actual)	2,850	3,050	3,650	3,250	3,300	3,650	4,150	4,050
57Leq day noise contour households affected (actual)	1,250	1,350	1,600	1,350	1,350	1,450	1,700	1,650

* Track Keeping performance monitoring changed on 26th May 2016 to include all SIDs.
** The point at which CDO performance measurement commenced changed on the 1st August 2016 from 6,000ft to 7,000ft.

ANNEX FIVE

COMPLAINT DATA

Airports bring positive economic and social benefits as well as environmental impacts. They are important to the economy, providing jobs, encouraging inward investment, and boosting local tourism. However, they can also have an impact for those communities that exist around airports. Noise remains a significant issue for people living or working close to airports or under flight paths. Complaint statistics can be extremely difficult to interpret as a large proportion of all our complaints originate from a very small group of individuals.

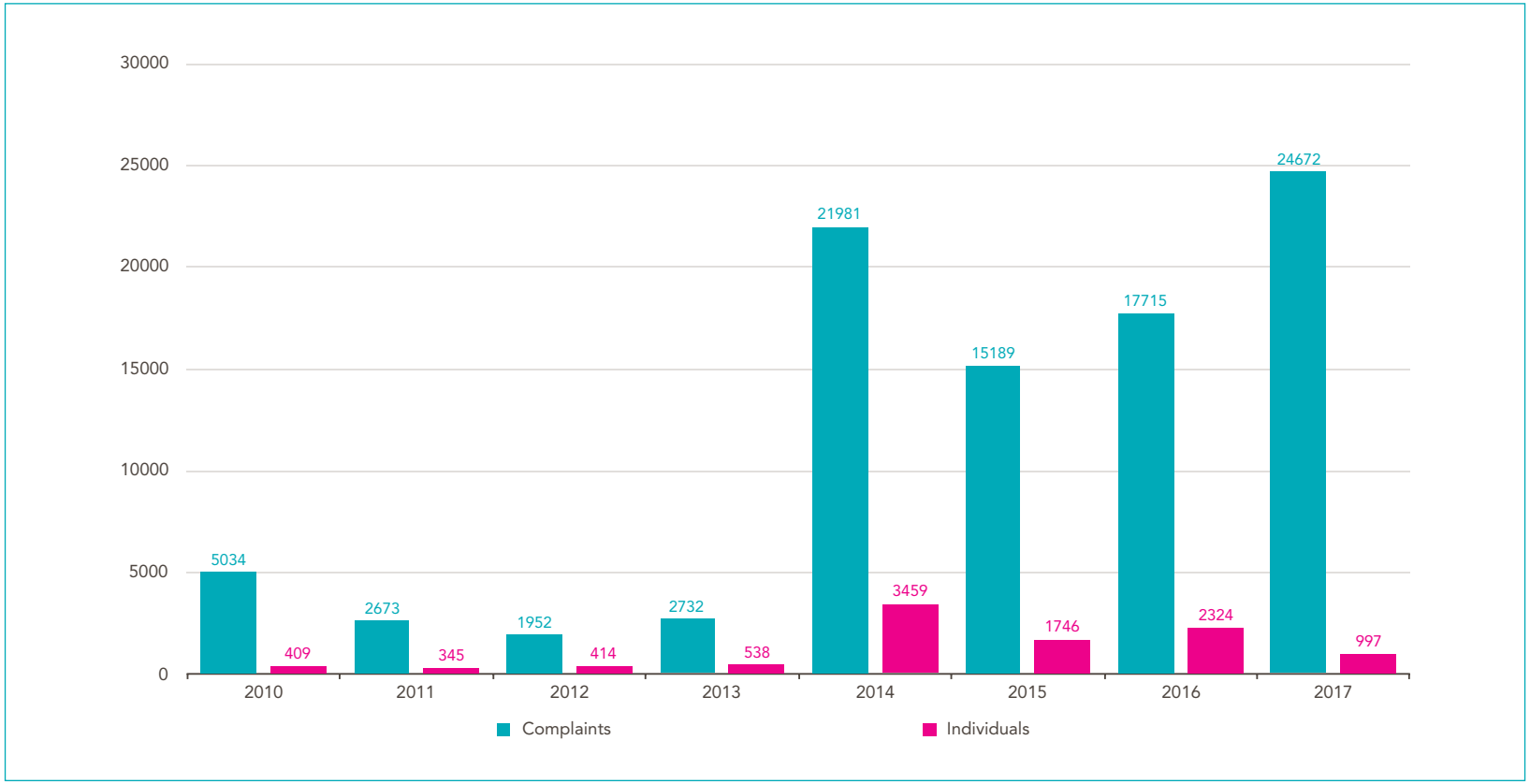
The last UK study on aviation noise Attitudes to Noise from Aviation Sources in England (ANASE) concluded that:

> *"There is common agreement that people today have higher expectations of a peaceful living environment, are less tolerant of environmental intrusion, and might consequently be less accepting of aircraft noise. This view is supported by social trend data. While both income and taste effects are likely to be important, it is not possible to identify their relative strength from [the ANANSE] research: they are, of course, closely correlated."*

All aircraft noise complaints and enquiries are handled by the Flight Performance Team at Gatwick Airport. This team is responsible for recording, investigating and where applicable responding to aircraft noise complaints and to do so, a specialised complaint handling system is used, combining a database, mapping system and flight and noise records from the Airport Noise and Track Keeping system.

Figure 7 below shows the number of individual callers compared to the number of complaints made between 2010 and 2017. This illustrates one of the difficulties in studying the effects of noise, as people's tolerance of noise and their perception of what causes annoyance varies widely. It is highly subjective and differs not only between neighbours, but also between socio-economic groups.

Figure 7: The Number of Individual Complainants and Recorded Complaint Numbers in 2017



COMPLAINT DATA

Figure 8: The Top 20 Locations for Complaints In 2017

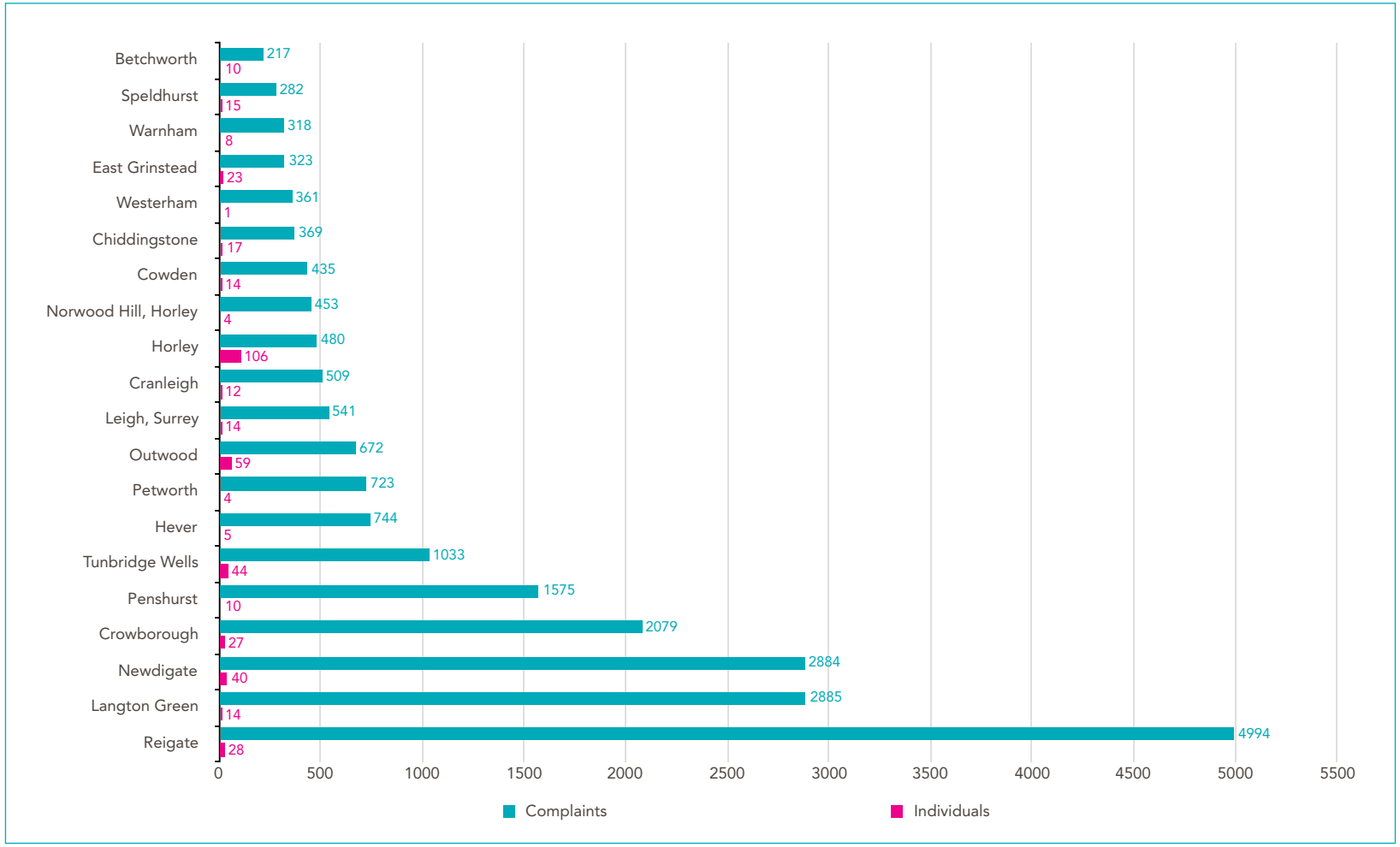


Figure 9: The Analysis of the Distribution of Complaints against Aircraft Types Compared to Total Movements 2017

Our Noise and Track Keeping System has the ability to can also automatically assign a specific aircraft noise complaint with a Gatwick Airport related air traffic movement and therefore enables the airport to provide statistics on the various stages of flight that are the cause for complaint.

The system also categorises the aircraft types that result in the majority of aircraft noise complaints as illustrated in the figure overleaf.

Study of these figures would suggest that aircraft noise is not always the primary issue as it appears it is the frequency of the aircraft that provokes more complaints. The most common aircraft types operating at Gatwick receive the most complaints.

Figure 10 overleaf shows aircraft types classified by their comparable size and the percentage of complaints received per movement.

TYPE	TOTAL NUMBER OF MOVEMENTS	TOTAL COMPLAINTS	% OF MOVEMENTS PER TYPE	% COMPLAINTS PER TYPE
Airbus A320	94,363	2,876	33.00%	24.70%
Airbus A319	87,821	2,686	30.71%	23.07%
Boeing 737	47,074	1,995	16.46%	17.13%
Airbus A380	2,094	801	0.73%	6.88%
Boeing 747	3,159	632	1.10%	5.43%
Airbus A321	13,650	570	4.77%	4.89%
Boeing 777	8,232	563	2.88%	4.83%
Airbus A330	3,907	414	1.37%	3.56%
Boeing 757	6,433	190	2.25%	1.63%
Other Light Aircraft	241	175	0.08%	1.50%
Boeing 787	6,738	155	2.36%	1.33%
Boeing 767	2,170	152	0.76%	1.31%
Embraer	6,308	139	2.21%	1.19%
Helicopter	38	130	0.01%	1.12%
Airbus A310	440	44	0.15%	0.38%
Cessna Citation	168	42	0.06%	0.36%
ATR	1,362	20	0.48%	0.17%
Airbus A340	16	11	0.01%	0.09%
McDonnel Douglas	82	10	0.03%	0.09%
Airbus A350	618	9	0.22%	0.08%
Lockheed	6	9	0.00%	0.08%
Beechcraft Jet	16	8	0.01%	0.07%
Gulfstream	108	5	0.04%	0.04%
Dash 8 Prop	8	3	0.00%	0.03%
Airbus A318	15	2	0.01%	0.02%
Dassault Falcon	70	2	0.02%	0.02%
Canadair Regional Jet	28	1	0.01%	0.01%
Bombardier	766	1	0.27%	0.01%
Fokker 100	26	0	0.01%	0.00%

COMPLAINT DATA

Figure 10: The Analysis of Complaints against Aircraft Type by Comparative Size 2017

CLASS	TYPE	TOTAL NUMBER OF MOVEMENTS	TOTAL COMPLAINTS	% OF COMPLAINTS PER CLASS	% OF MOVEMENTS PER CLASS
Medium	Airbus A320	94,363	2,876	25.15%	33.07%
Medium	Airbus A319	87,821	2,686	23.49%	30.78%
Medium	Boeing 737	47,074	1,995	17.44%	16.50%
Large	Airbus A380	2,094	801	7.00%	0.73%
Large	Boeing 747	3,159	632	5.53%	1.11%
Medium	Airbus A321	13,650	570	4.98%	4.78%
Large	Boeing 777	8,232	563	4.92%	2.88%
Large	Airbus A330	3,907	414	3.62%	1.37%
Medium	Boeing 757	6,433	190	1.66%	2.25%
Small	Other light aircraft	241	175	1.53%	0.08%
Large	Boeing 787	6,738	155	1.36%	2.36%
Large	Boeing 767	2,170	152	1.33%	0.76%
Small	Embraer	6,308	139	1.22%	2.21%
Small	Cessna Citation	168	42	0.37%	0.06%
Small	ATR	1,362	20	0.17%	0.48%
Small	McDonnell Douglas	82	10	0.09%	0.03%
Large	Airbus A350	618	9	0.08%	0.22%
Small	Gulfstream	108	5	0.04%	0.04%
Small	Dassault Falcon	70	2	0.02%	0.02%
Medium	Bombardier	766	1	0.01%	0.27%

This figure also confirms that there are more complaints for the more common aircraft types at Gatwick Airport rather than related to the size of the aircraft. The aircraft with the greatest numbers of movements are classed as medium sized aircraft and these appear to have the greatest number of complaints.

We should point out that helicopters are also a source of complaint, however very few operate from Gatwick, and the majority of our complaints on this subject relate to either police/air ambulance flights from Redhill Aerodrome or military flights.

Gatwick Airport remains dedicated to reducing the noise impact of its operations on local communities. In line with current Government guidance, we are actively looking at new innovative ways of reducing the number of people impacted by Gatwick traffic.

To this end, we will continue to work with our airlines, Air Traffic Control and local community representatives to continue to improve the noise environment in and around the airport.

Complaint location maps are included in Annex 7 – General Maps.

ANNEX SIX

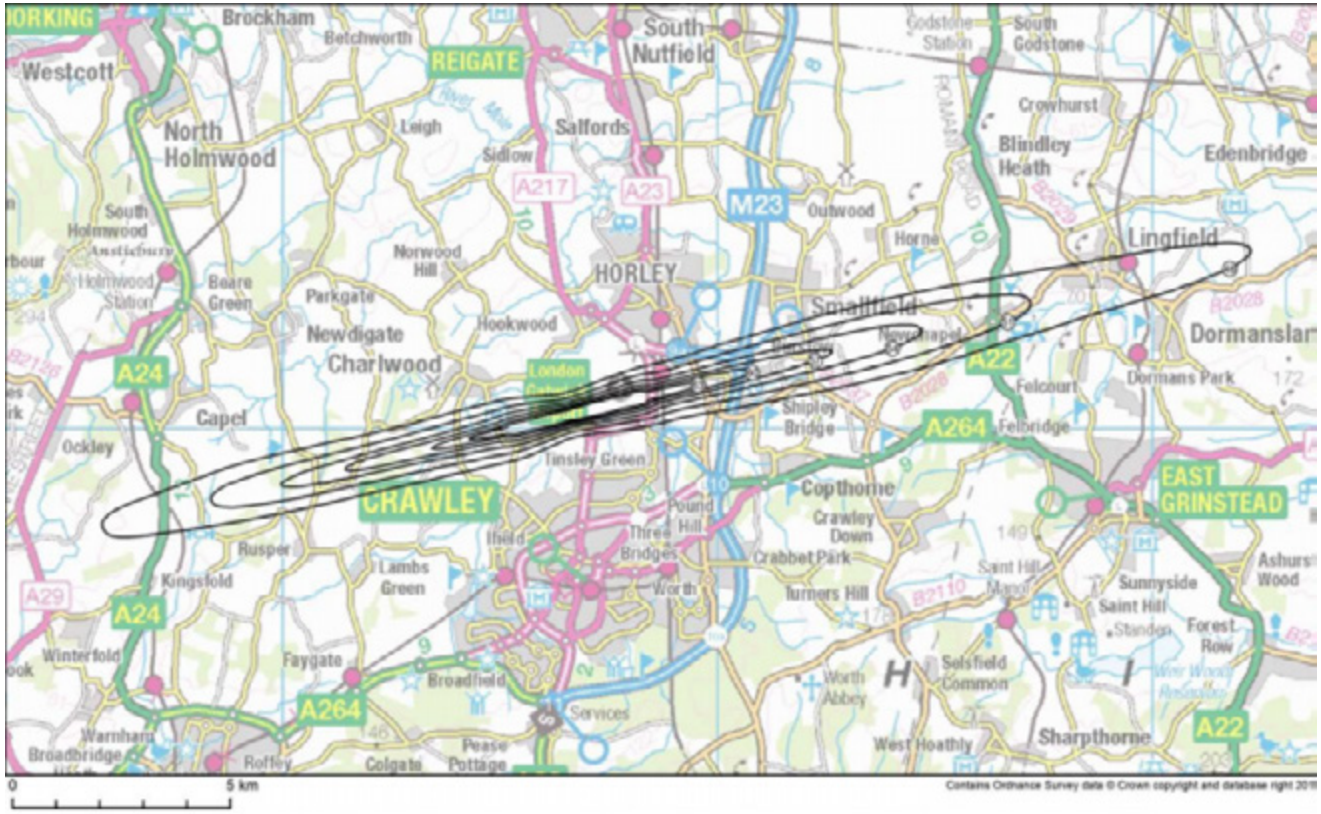
SUMMARY OF LIMIT VALUES IN PLACE

LOCAL AUTHORITY PLANNING CONDITIONS

Limit the 6.5 hour, 48 dB(A) L_{eq} contour (for the winter and summer seasons combined) to 47km² by 2011/2012. At Gatwick in 2011/2012 the 6.5 hour 48dBA L_{eq} contour (for the winter and summer seasons combined) was 34.1 km². In 2002-2003 it was 41.3 km².

The contours below have been calculated using data recorded between March 2015 and March 2016 (a full summer and winter season as described in the current night restrictions regime). The areas, population and household data are also provided for each contour level, on a cumulative basis, in accordance with normal practice. Night Movement and Quota Count Restrictions between 23:00 and 06:00 local.

Figure 11: Gatwick Summer 2015 and Winter 2016/17 $L_{Aeq\ 6.5\ hr}$ night contours and supporting population/household count.



	Gatwick 2015-16 $L_{Aeq\ 6.5hr}$ night (actual usage)		
CONTOUR (dBA)	AREA (sq km)	POPULATION (1000s)	HOUSEHOLDS (1000s)
48	35.2	4.3	1.6
51	18.0	1.3	0.5
54	9.0	0.5	0.1
57	4.6	0.3	0.1
60	2.3	0.1	<0.1
63	1.2	0.0	0.0

NIGHT QUOTA COUNT AND AIR TRAFFIC MOVEMENTS LIMITS

Figure 12: Historic and current Night Quota and air traffic movement limits for the summer and winter

WINTER	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Movements limits	3,250	3,250	3,250	3,250	3,250	3,250	3,250	3,250
Quota points	2,060	2,000	2,000	2,000	2,000	2,000	2,000	2,000

SUMMER	2010	2011	2012	2013	2014	2015	2016	2017
Movements limits	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,200
Quota points	6,400	6,300	6,200	6,200	6,200	6,200	6,200	6,200

The Night flying restrictions[1] at Gatwick Airport are set by the Department for Transport, with the current restrictions due to expire in October 2017. The Government published its decision on the next night flights regime for Gatwick in July 2017 and this will be in place for the period October 2017 to October 2022.

[1] Department for Transport Night Flight Restrictions at the time the 2019-2024 Noise Action Plan was revised

SUMMARY OF LIMIT VALUES IN PLACE

The movements limit remains unchanged however the night quota limit will be reduced. This is summarised in the table below:

Figure 13: The DfT's new night flight regime limits

WINTER	2017/18	2018/19 TO 2021/2022
Movements limits	3,250	3,250
Quota points	2,000	1,785

SUMMER	2018	2022
Movements limits	11,200	11,200
Quota points	6,200	5,150

In addition, a new quota count of 0.125 has been introduced for aircraft with an EPNdB of between 81 and 83.9. The combination of the new limits and this new QC category will further incentivise the use of quieter aircraft by encouraging industry to plan its operations with sufficient headroom to ensure the limits can still be complied with in the event of unplanned disruption or changes to their schedules.

DEPARTURE NOISE LIMITS FROM THE UK AIP

The noise abatement procedures contained within the UK AIP (see Section 7):

- Daytime (07:00-23:00) departure noise limit of 94dB(A) L_{max} at 6.5km from start of roll.
- Night Shoulder (23:00-23:30 & 06:00-07:00) departure noise limit of 89dB(A) L_{max} at 6.5km from start of roll.
- Night (23:30-06:00) departure noise limit of 87dB(A) L_{max} at 6.5km from start of roll.

Figure 14: 24 Hour Period Of Easterly Operations (Runway 08R) Illustrating Arriving Aircraft (Red Tracks) and Departing Aircraft (Green Tracks) Only

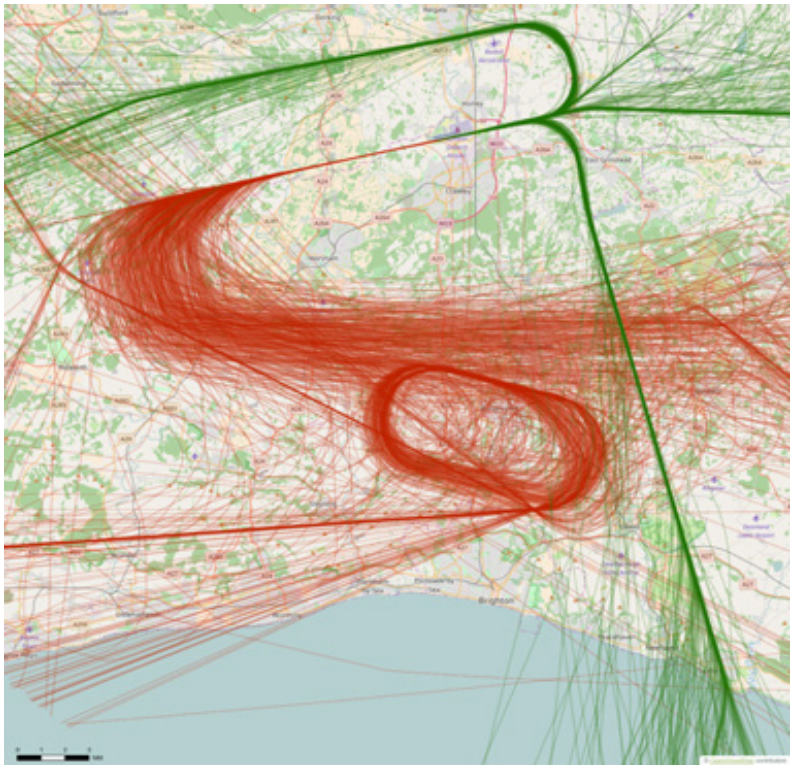
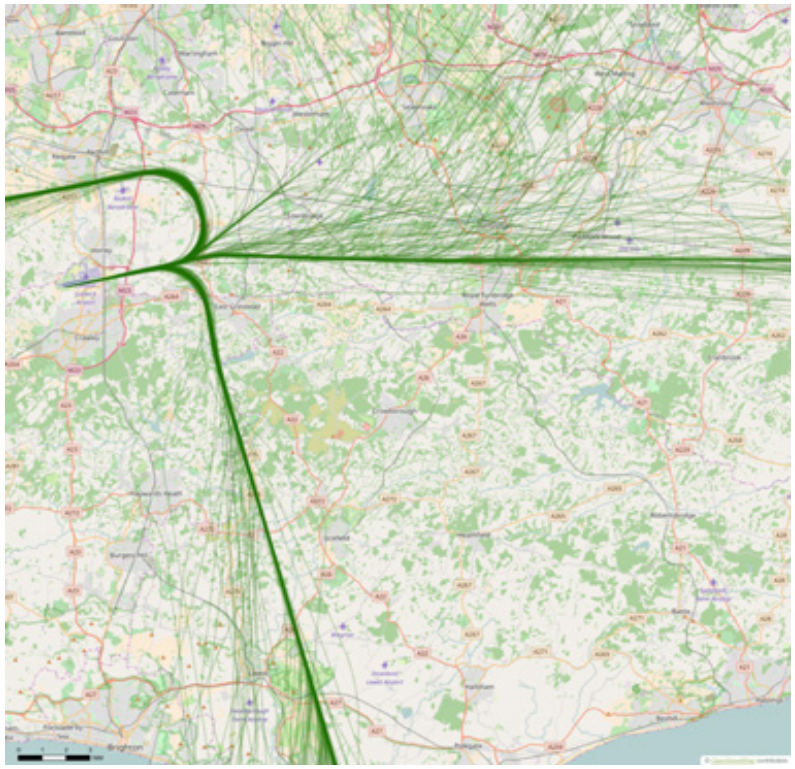


Figure 15: 24 Hour Period Of Easterly Operations (Runway 08R) Showing Departures Only – Map 1 of 2



GENERAL MAPS

Figure 16: 24 Hour Period Of Easterly Operations (Runway 08R) Showing Departures Only – Map 2 of 2

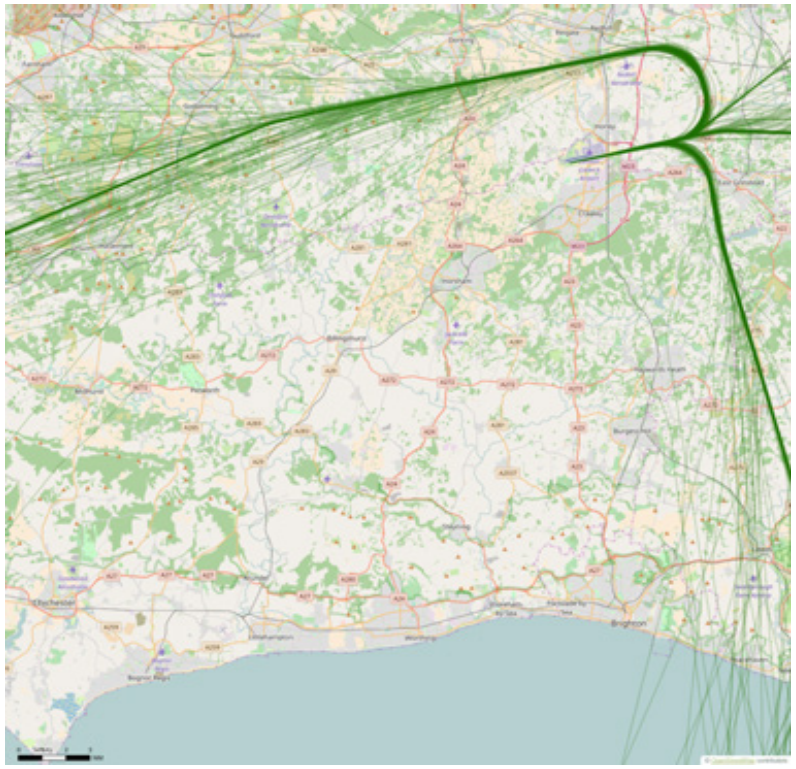


Figure 17: 24 Hour Period Of Easterly Operations (Runway 08R) Showing Arrivals Only - Map 1 of 2

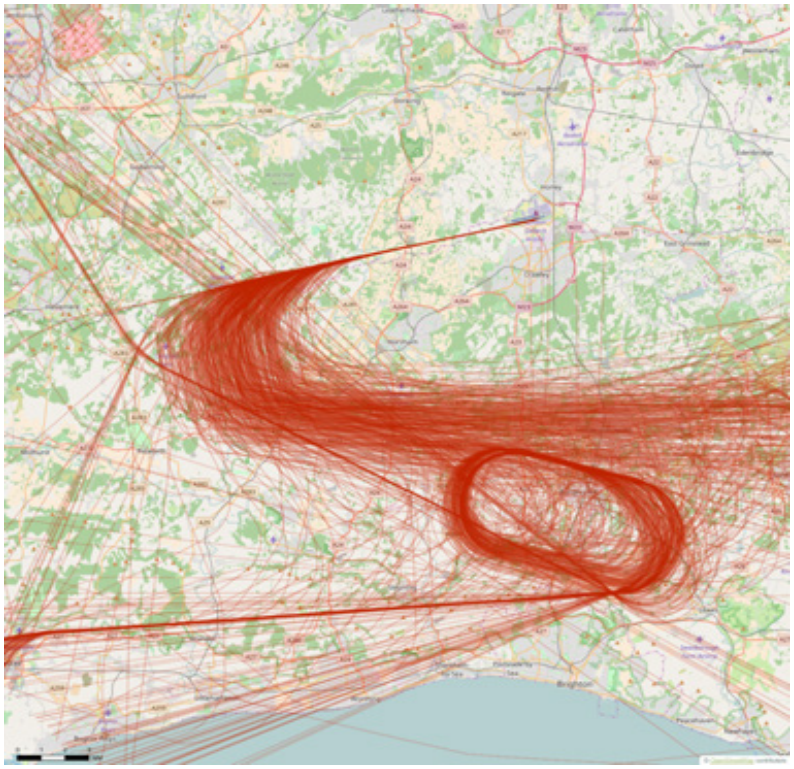


Figure 18: 24 Hour Period Of Easterly Operations (Runway 08R) Showing Arrivals Only - Map 2 of 2

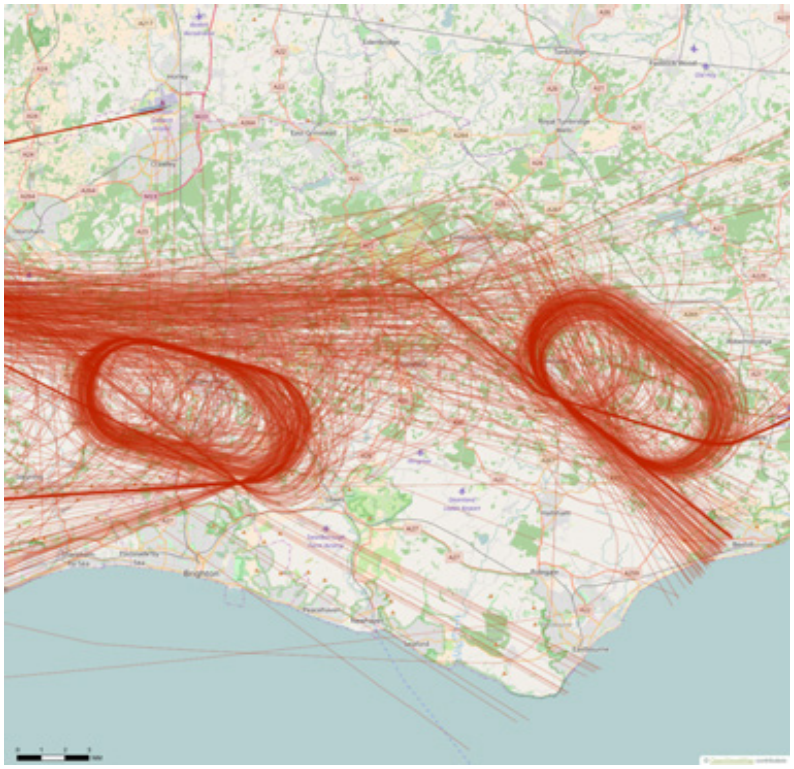
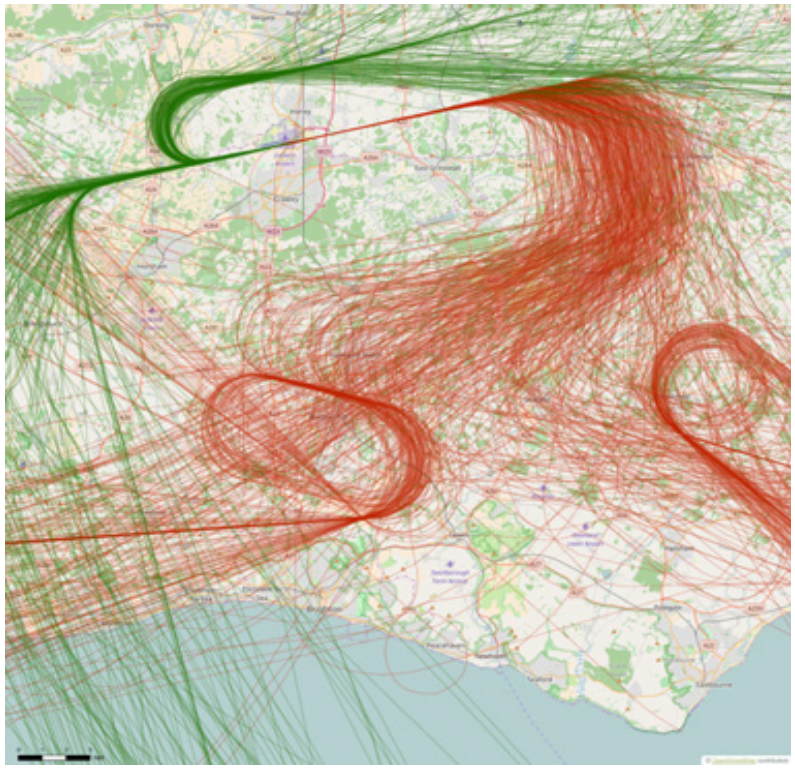


Figure 19: 24 Hour Period Of Westerly Operations (Runway 26L) Illustrating Arriving Aircraft (Red Tracks) and Departing Aircraft (Green Tracks) Only



GENERAL MAPS

Figure 20: 24 Hour Period Of Westerly Operations (Runway 26L) Showing Departures Only – Map 1 of 2

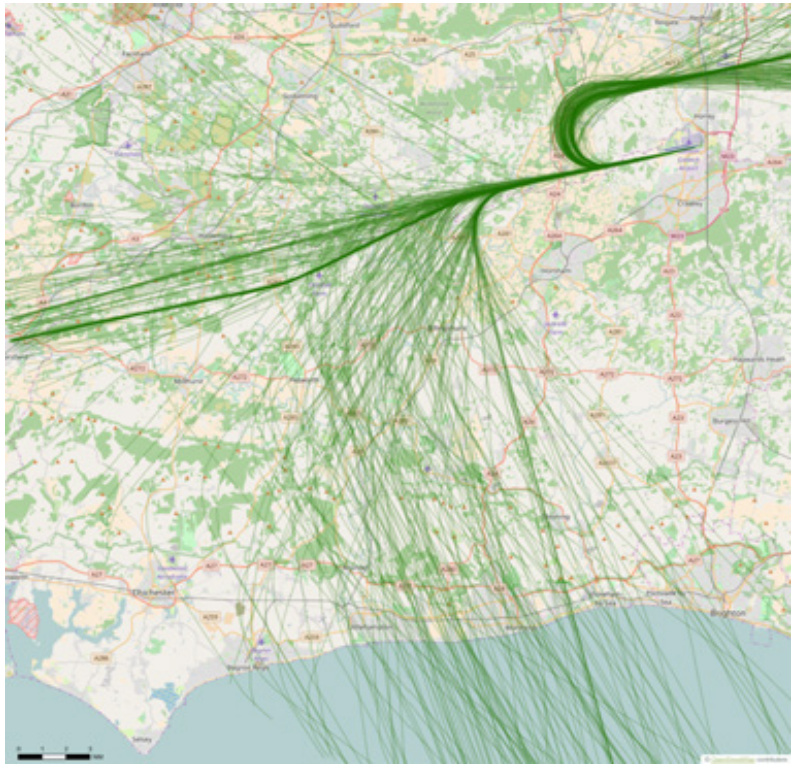


Figure 21: 24 Hour Period Of Westerly Operations (Runway 26L) Showing Departures Only – Map 2 of 2

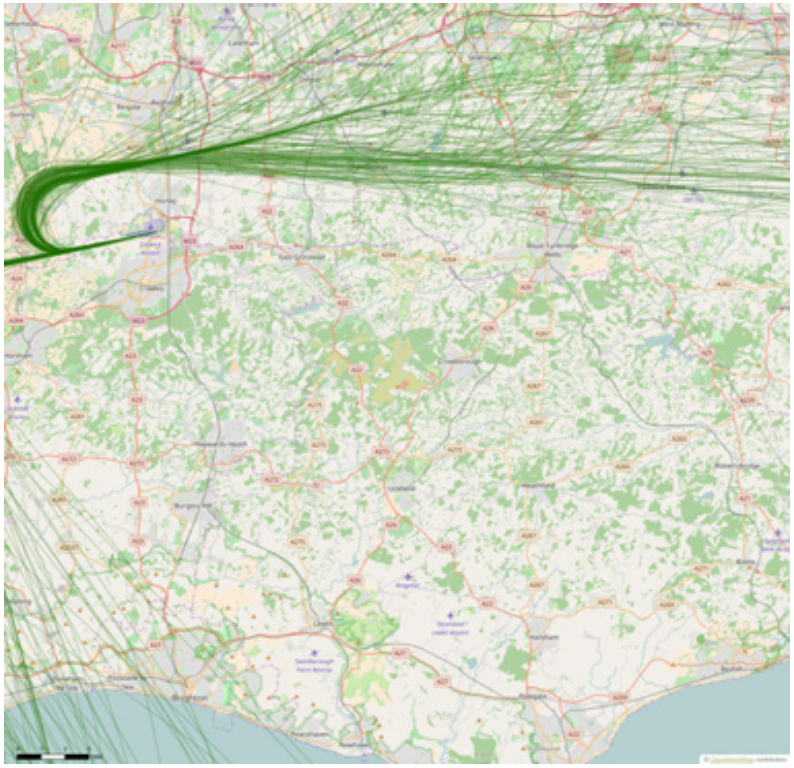


Figure 22: 24 Hour Period Of Westerly Operations (Runway 26L) Showing Arrivals Only – Map 1 of 2

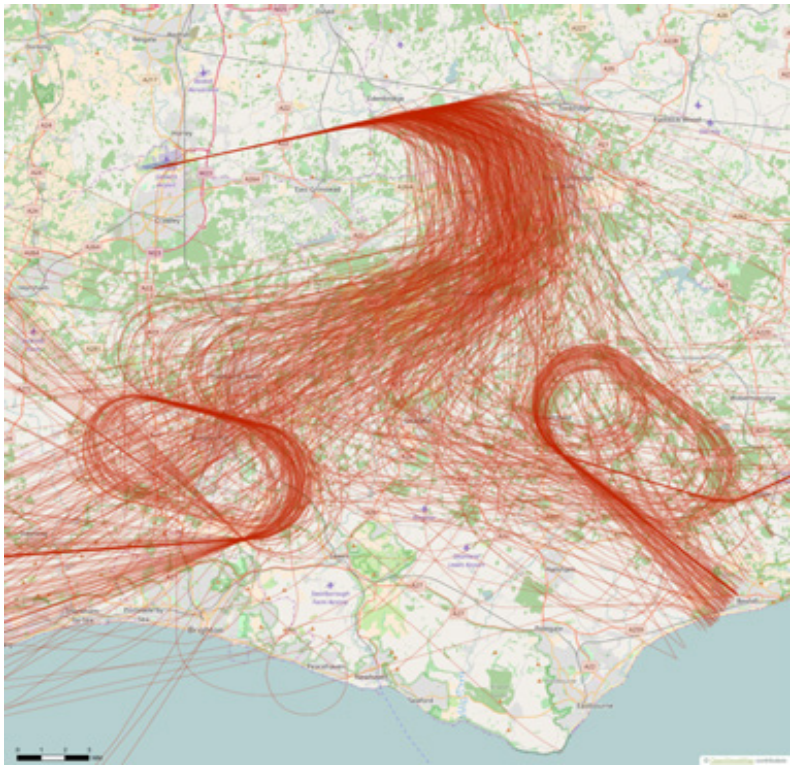
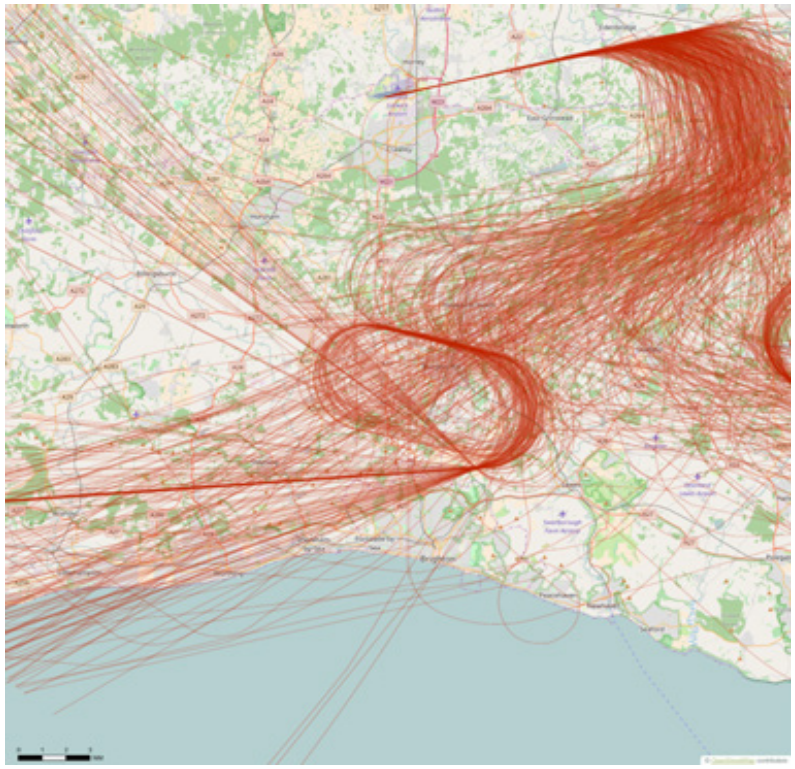


Figure 23: 24 Hour Period Of Westerly Operations (Runway 26L) Showing Arrivals Only – Map 2 of 2



GENERAL MAPS

Figure 24: Map Illustrating the Location of the Noise Preferential Routes, the associated Standard Instrument Departure route and the vectoring altitude at London Gatwick

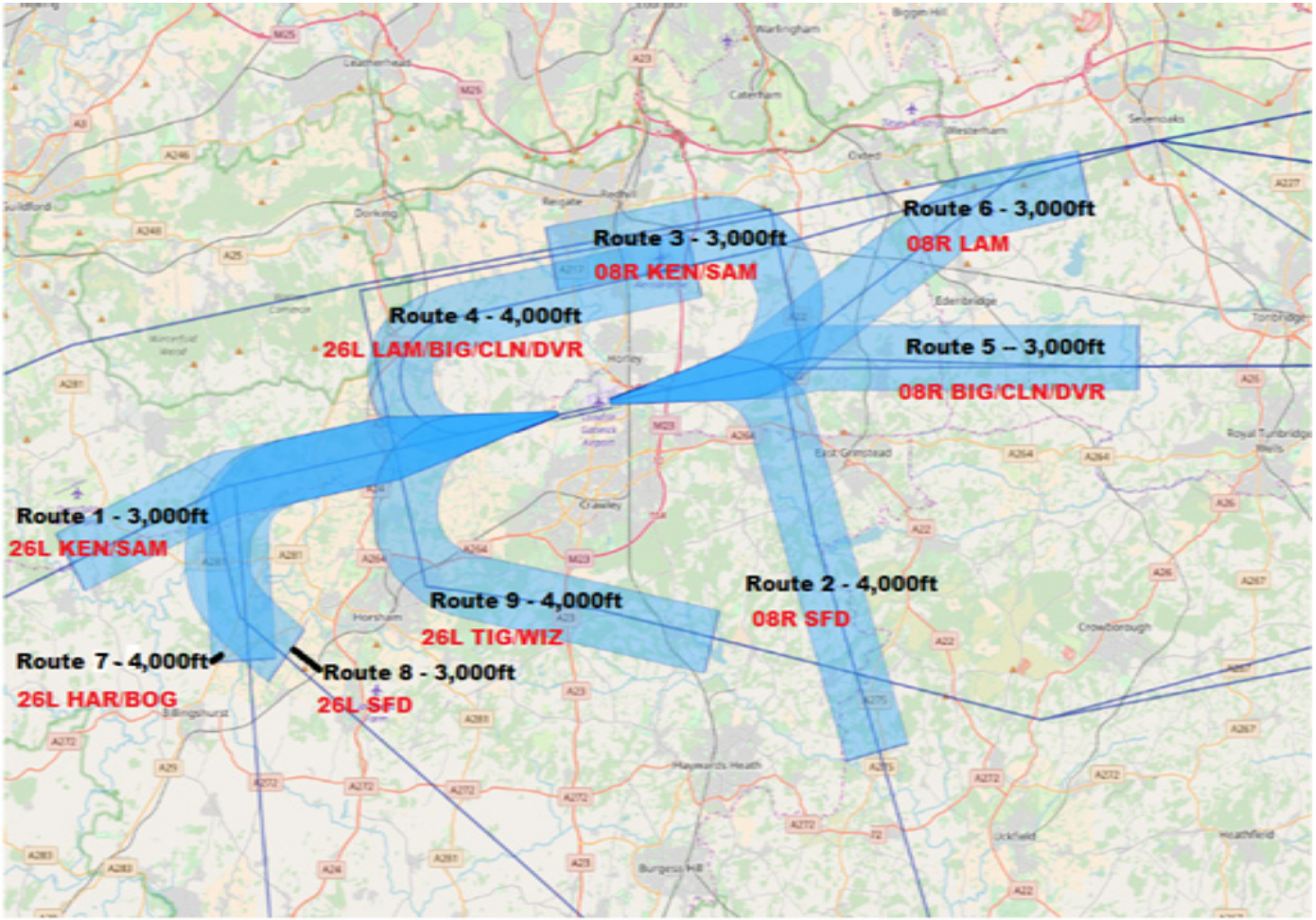


Figure 25: Map Illustrating the Postcode Location of Aircraft Noise Complaints Received for the Period 1 January 2017 to 31 December 2017 - Map 1 of 4

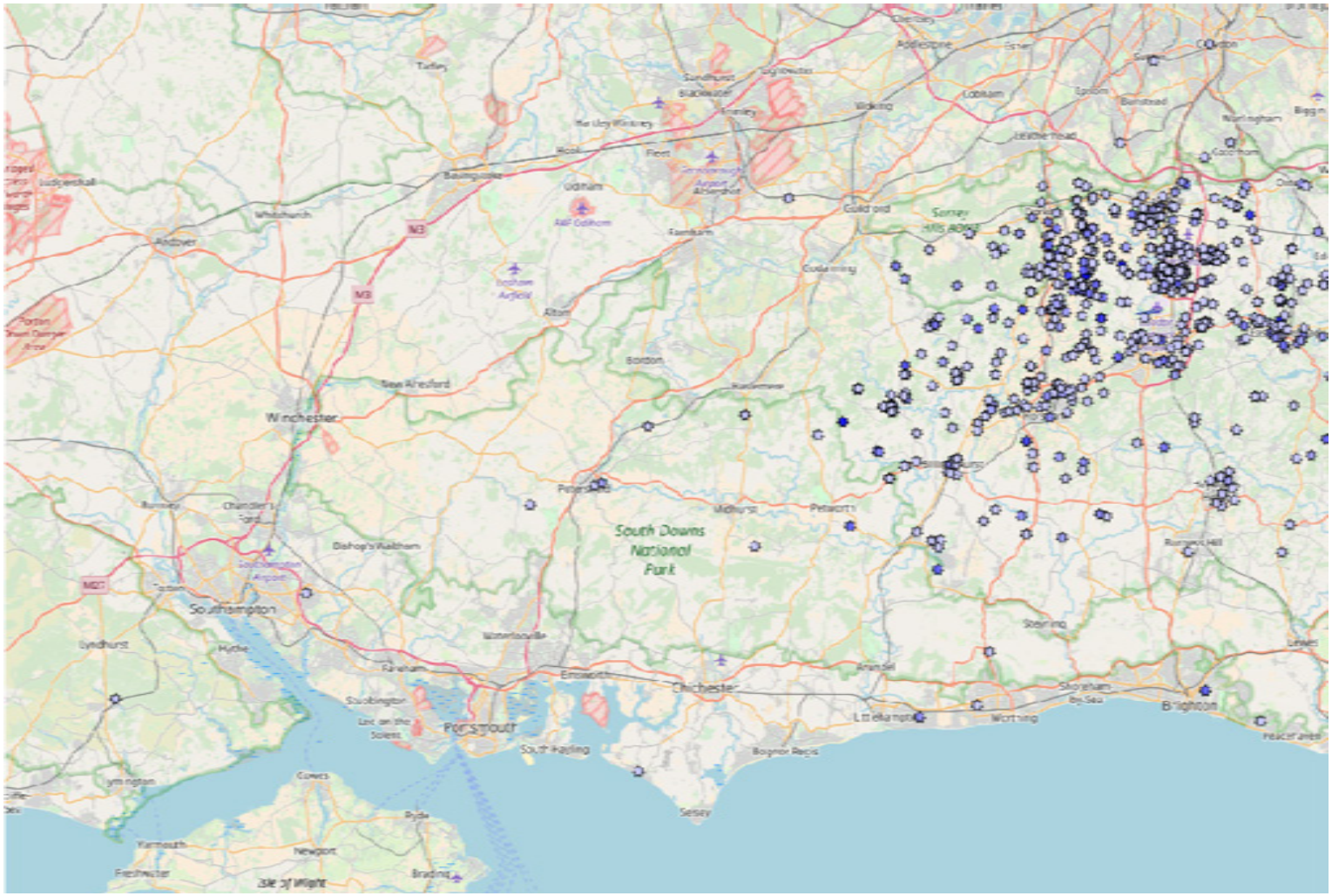


Figure 26: Map Illustrating the Postcode Location of Aircraft Noise Complaints Received for the Period 1 January 2017 to 31 December 2017 - Map 2 of 4

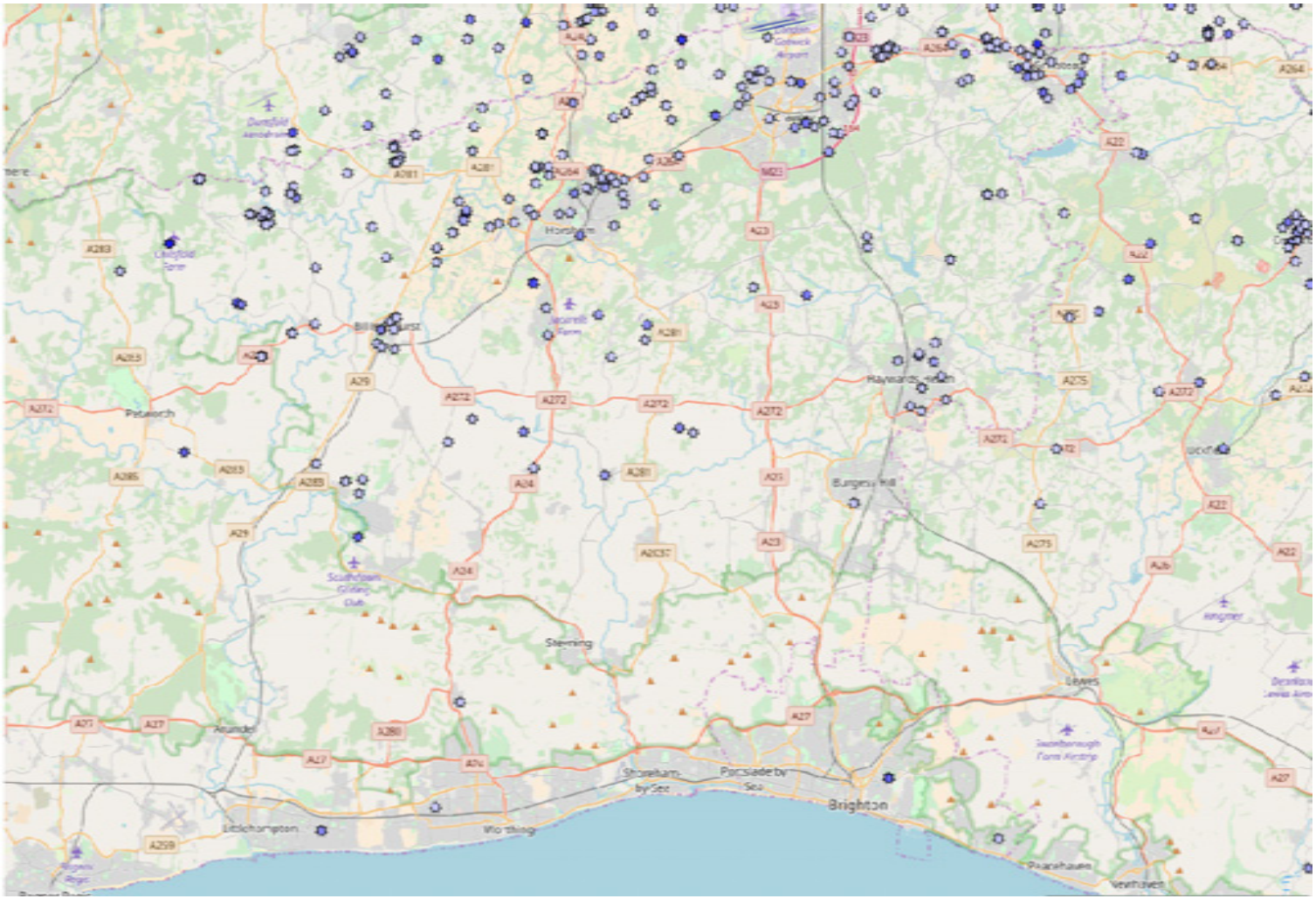
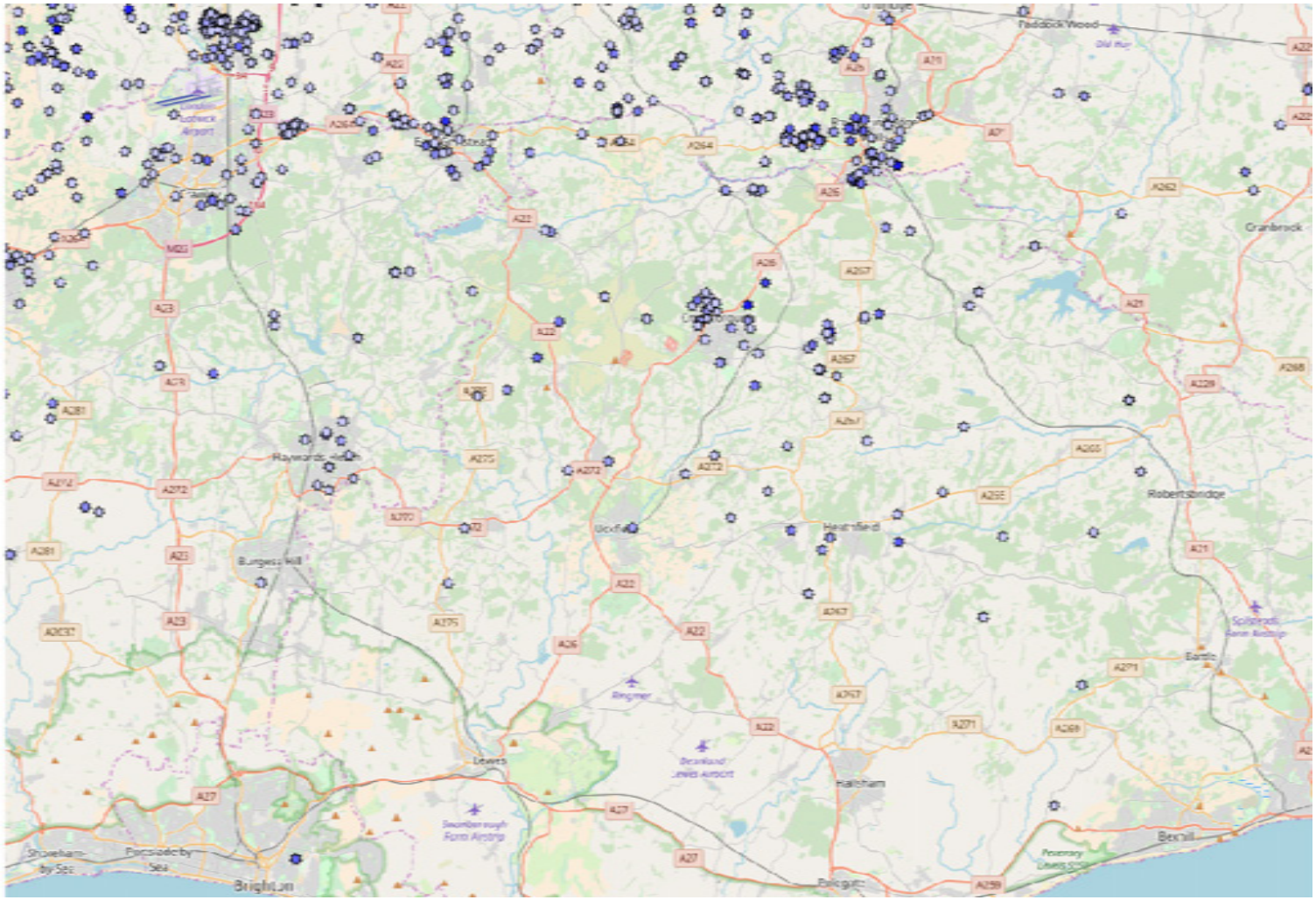


Figure 27: Map Illustrating the Postcode Location of Aircraft Noise Complaints Received for the Period 1 January 2017 to 31 December 2017 - Map 3 of 4



GENERAL MAPS

Figure 28: Map Illustrating the Postcode Location of Aircraft Noise Complaints Received for the 1 January 2017 to 31 December 2017 - Map 4 of 4

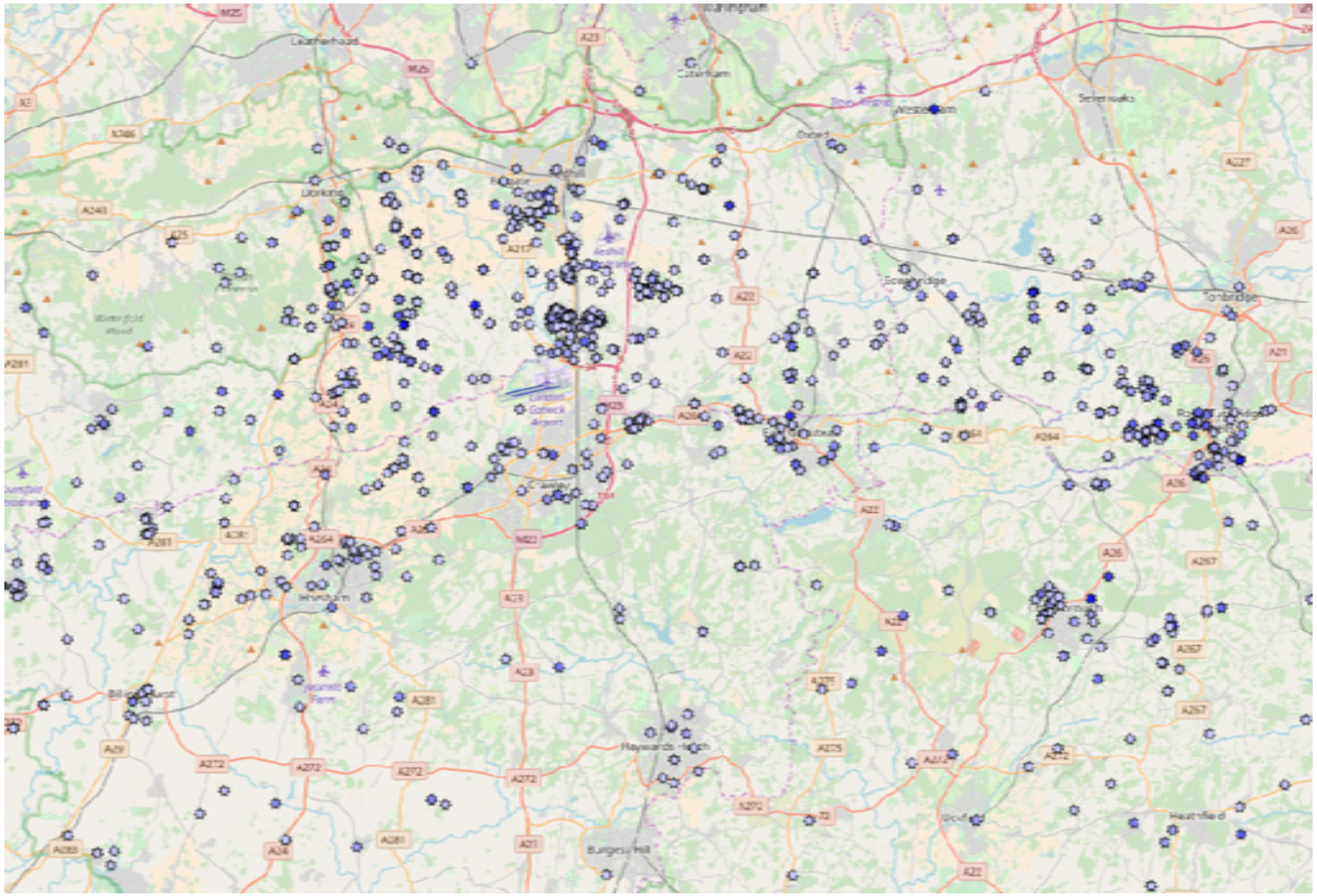
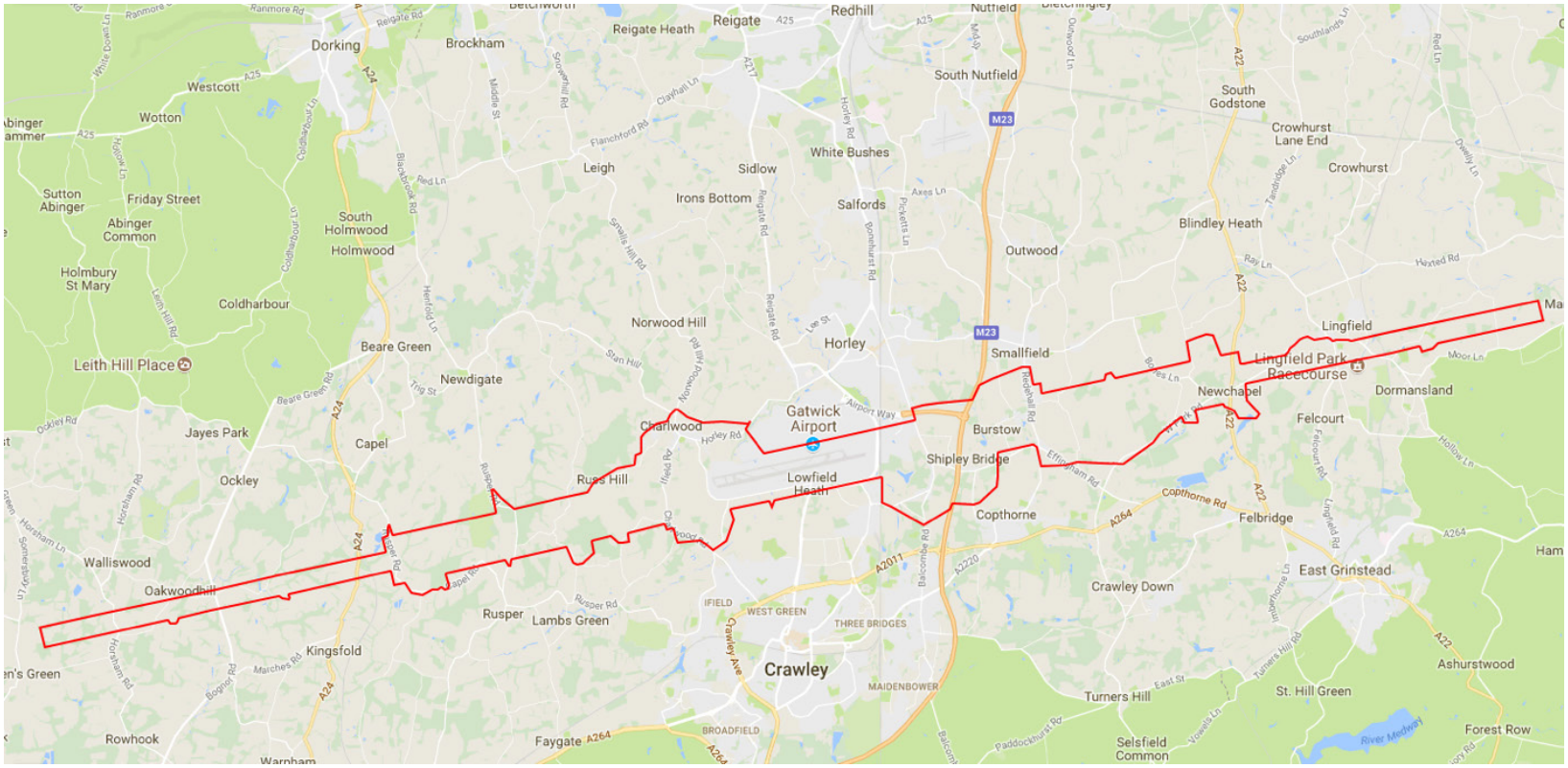


Figure 29: Map Illustrating the Boundary of the Gatwick Airport Noise Insulation Scheme



GENERAL MAPS

Figure 30: Gatwick Airport Ltd Home Owner Support Scheme Boundary

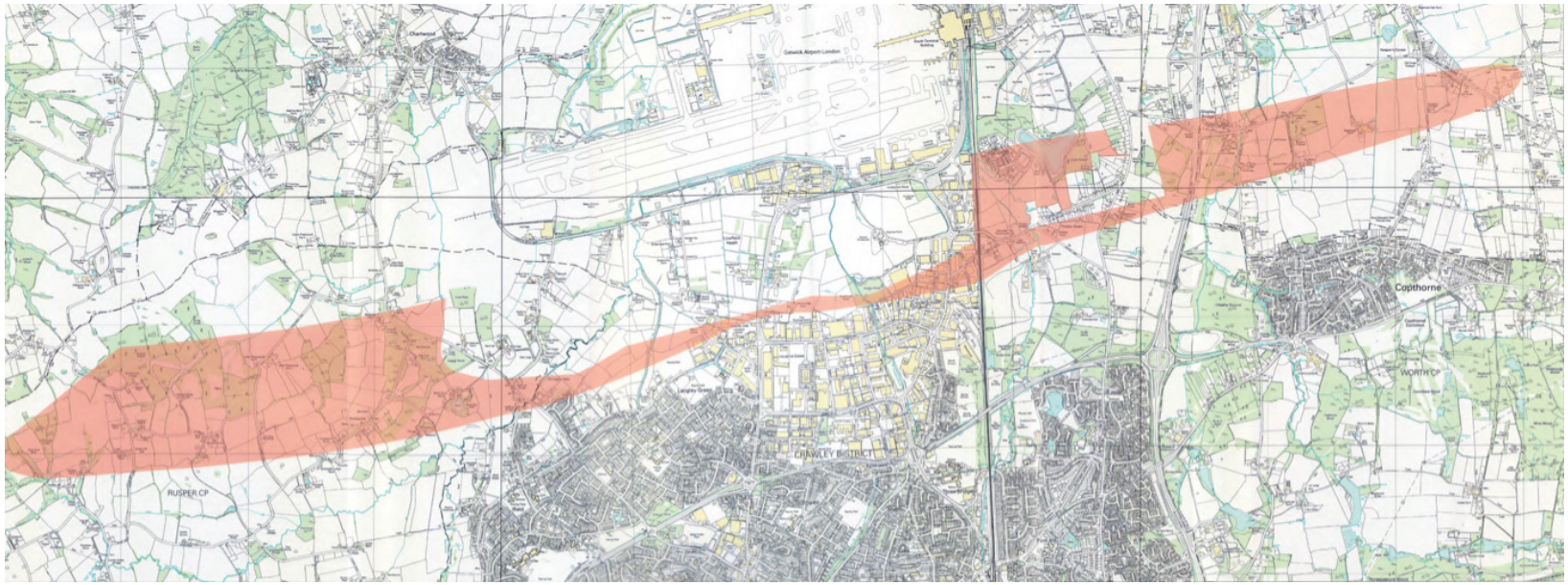


Figure 31: Gatwick Airport Ltd Property Market Support Bond Scheme Boundary

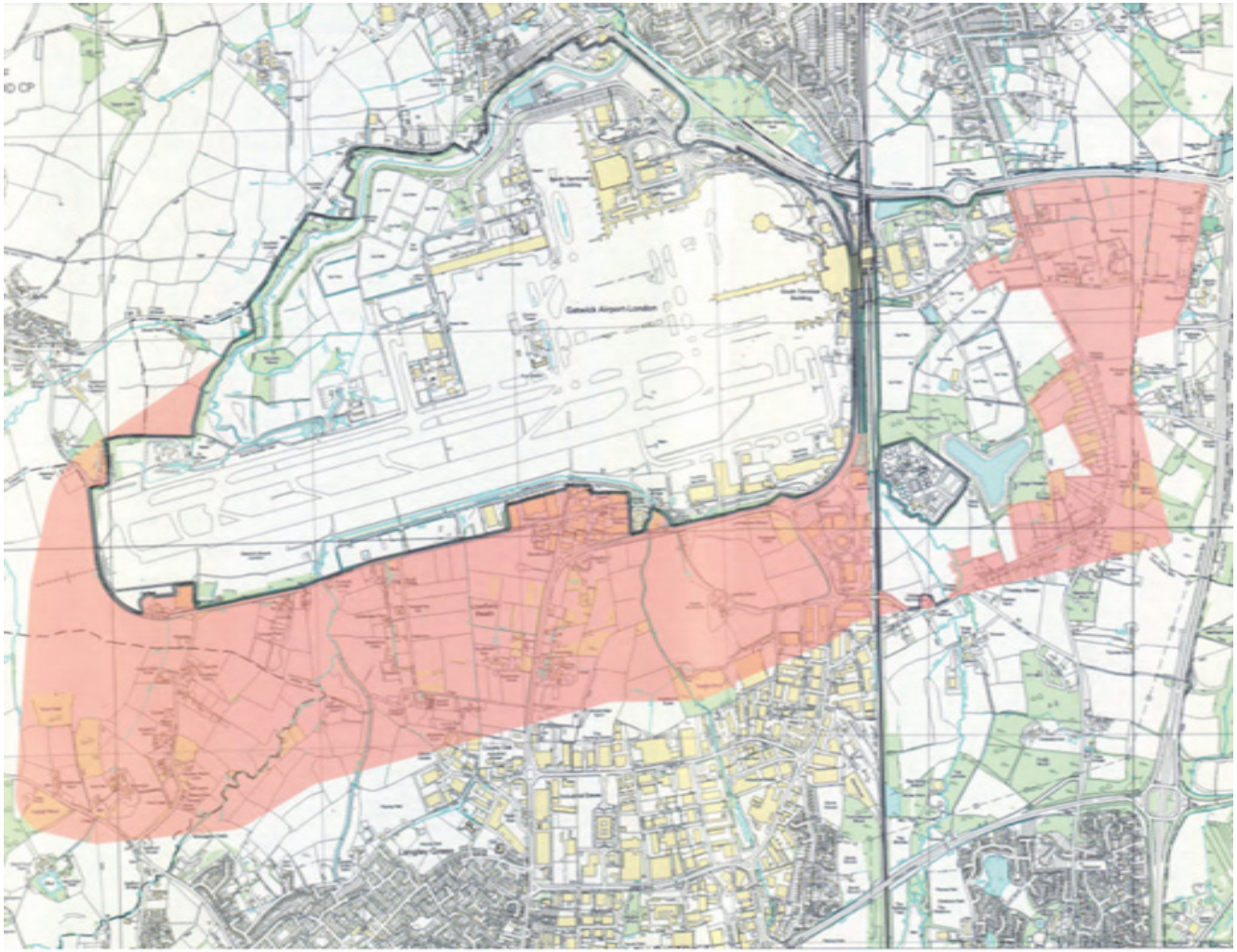


Figure 32: Gatwick Summer 2015/Winter 2015-16 L_{Aeq} 6.5hr Night 55dBa Contour

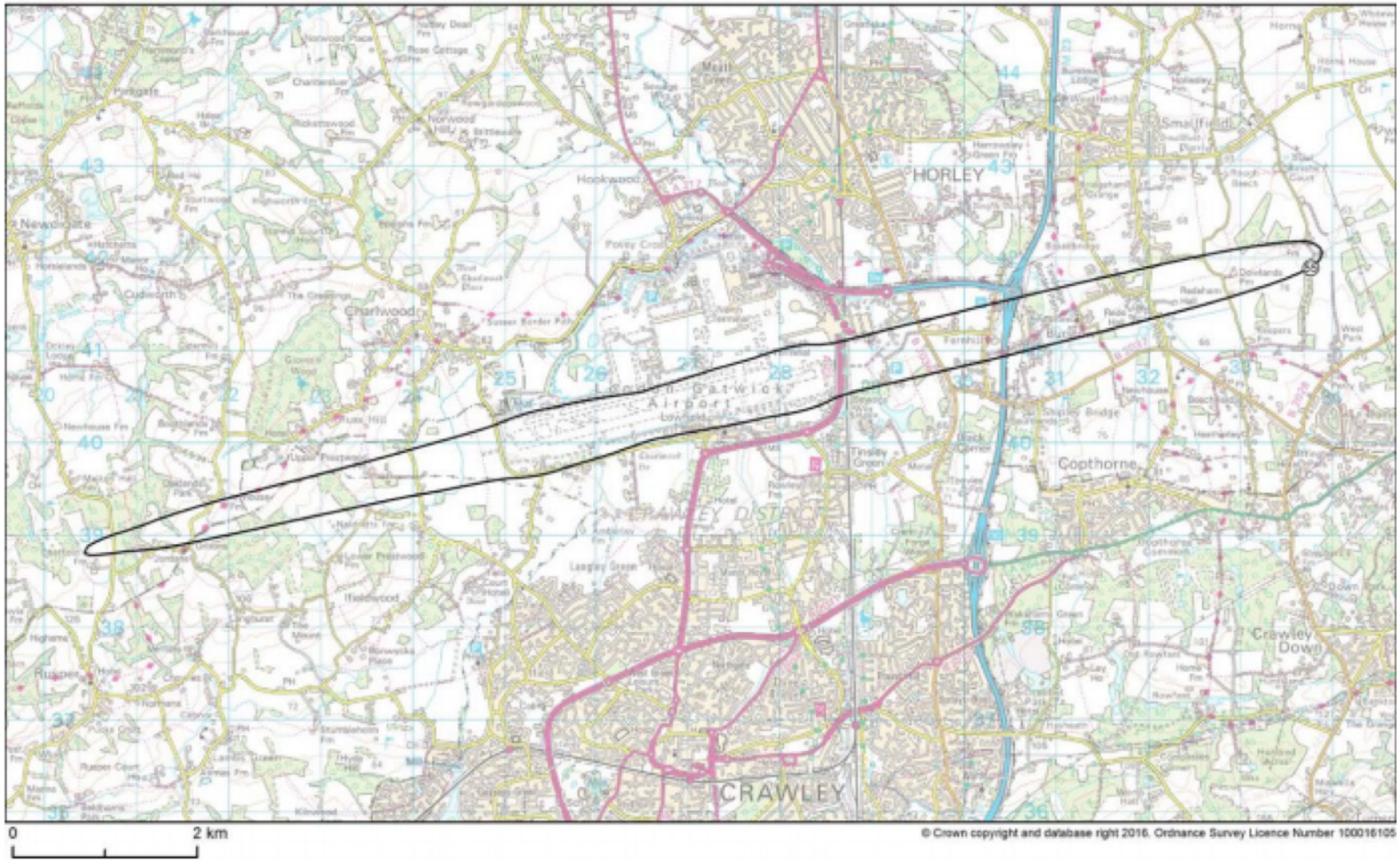


Figure 33: Estimated current financial cost to Gatwick Airport Ltd of noise management

TYPE	DESCRIPTION	APPROXIMATE ANNUAL COST
Noise insulation and mitigation schemes	Acoustic insulation, relocation scheme, insulation of noise sensitive community buildings and vortex strike scheme.	£950k (varies)
Staff costs	Salaries for staff engaged with noise and airspace related activities.	£850k
Airspace change costs	Costs associated with airspace change activities including LAMP, introducing R-NAV1 SIDs etc.	£710k (varies)
Noise Management Board	Management and maintenance of the board	£550k
	NMB airspace initiatives	£600k
	Independent technical support for the Community Noise Groups.	£40k
Noise and Track Keeping system costs	Software licences, development support and maintenance of noise monitoring equipment.	£300k
Section 106 Costs	Annual S.106 payments.	£206k
Research and Consultancy	Research activities and consultancy associated with Section 106 verification, Decade of change verification.	£150k
Publications and communications	Seminars, venue hire, noise related publications, documents and maintenance of the airspace and noise website.	£100k
Noise Contours	Fees for the development of the annual noise contours.	£25k
Community Noise Reports	Independent reporting and studies.	£15k
Freepost costs	Freepost licence and postage costs incurred.	£7k
Fines	Departure noise limits and track-keeping.	£1.5k (varies)*

SOURCE – GATWICK AIRPORT LTD

* Cost charged to the aircraft operator concerned and monies forwarded to the Gatwick Airport Community Trust.

ANNEX NINE A

FEEDBACK RECEIVED REGARDING THE PROPOSED LIST OF ACTION PLAN ACTIONS

DURING THE FIRST ROUND OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

Feedback on the list of draft Action Plan Actions was received from the following organisations:

- Crawley Borough Council;
- Horsham District Council;
- Reigate and Banstead Borough Council;
- Surrey County Council;
- West Sussex County Council;
- The Gatwick Airport Consultative Committee (GATCOM), including:
  - o Report from the Secretariat and Technical Advisor to the GATCOM Steering Group dated 4 January 2018;
  - o Final Response dated 2 February 2018.

In addition, a letter dated 15 December 2017 from the Noise Management Board Community Noise Groups and the Gatwick Area Conservation Campaign was received setting out their collective view on the draft Action Plan Actions and issues relating to the interpretation and implementation of Government Policy. A document containing further feedback was received on 16 February 2018.

The following pages include details of feedback received and also suggested Action Plan Actions to be included and the Gatwick Airport Ltd response is underneath each item in blue text.

KEY THEMES IN THE FEEDBACK RECEIVED

1. The link between noise and the adverse impacts on health is becoming ever stronger.

GATWICK AIRPORT RESPONSE

This is acknowledged, a recent study (Aircraft noise and cardiovascular disease near Heathrow Airport in London: small study area. Hansell et al (2013); British Medical Journal, 347, f5432) around London Heathrow Airport examined risks for hospital admission and mortality for stroke, coronary heart disease and cardiovascular disease for around 3.6 million people living near London Heathrow airport. Both daytime (LAeq,16h) and night-time (Lnight) aircraft noise exposure were related to increased risk for a cardiovascular hospital admission. Compared to those exposed to aircraft noise levels below 51 dB in the daytime, those exposed to aircraft noise levels over 63dB in the daytime had the following higher chance of a hospital admission:

- 24% for a stroke,
- 21% for coronary heart disease,
- 14% for cardiovascular disease.

Similar effects were also found between aircraft noise exposure and mortality for stroke, coronary heart disease and cardiovascular disease.

2. An acknowledgement of the extensive range of noise management activity undertaken by Gatwick Airport Ltd to date and further activities proposed for the coming five years. However, it must be recognised that residents remain affected by increasing absolute levels of noise, arising from a net increase in aircraft movements which has offset many of the technological and operational improvements. In response

FEEDBACK RECEIVED REGARDING THE PROPOSED LIST OF ACTION PLAN ACTIONS

DURING THE FIRST ROUND OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

to this, the action plan should give residents confidence that Gatwick Airport Ltd is committed to sharing benefits of noise management progress, in the sense of an outcome of absolute noise reductions (or as a minimum, no further increases), even in a context of growth.

GATWICK AIRPORT RESPONSE
It is accepted that there is an extensive range of activities undertaken by the airport both historically and also in the future. The establishment of the Noise Management Board has heralded a step-change in how the airport engages with local communities and collaboratively identifies areas for improvements and establishes a workplace for their development and introduction.

The airport is growing and the 2017 Aviation Policy Consultation sets out at para 3.14 that:

"Industry should, as far as is practical, proactively seek to avoid, minimise and mitigate adverse noise impacts, building on existing best practice. This is consistent with the overarching policy principle that the benefits of noise reduction brought about by new technology should be shared between industry and those affected by aircraft noise. This means that communities should benefit from noise reductions, while industry should have space to grow sustainably and serve passenger demand".

By "industry" Government means manufacturers, airlines, air traffic control and airports. Implicit in the Government's calculation is that, between now and 2050, manufacturers will continue to invest in research and development to make aircraft quieter and airlines will continue to invest in the new aircraft types, so that overall, noise per movement will decrease.

Further, Government expects that new technology will bring other benefits including:

- airspace changes enabling reductions in the numbers of people overflown on departure and arrival ; and
- other airspace and aircraft performance improvements to enable faster climbs and quieter descents.

The investment by industry thus provides a "dividend" which results in the amount of noise made by each aircraft reducing gradually over time. This is the share that the Community gets in the investment made by industry, together with the wider benefits both locally and to the national economy brought by aviation.

Thus, in the overall policy terms the "sharing benefits of noise reduction between industry and communities in support of sustainable development" is in the context of an expectation that industry will continue to invest, communities should continue to benefit from noise reductions, and that industry "should have space to grow sustainably and serve passenger demand".

3. **Government Policy is confused and contradictory. The actions set out in Gatwick's current NAP have not achieved the END's aim of avoiding, preventing or reducing the impacts of noise. The current NAP has also failed to achieve the government's noise policy objectives, most specifically to "reduce and mitigate noise as airport capacity grows". And the overall objective of reducing noise has not been achieved.**

GATWICK AIRPORT RESPONSE
The Government's current aviation noise policy is encapsulated in the 2017 Airspace Policy Consultation Response as follows:

"The government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the

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*UK **significantly** affected by aircraft noise, as part of a policy of sharing benefits of noise reduction between industry and communities in support of sustainable development".*

The 2013 Airports Policy Framework (2013 APF) set the sustainable development of airports in the wider context of the National Planning Policy Framework (NPPF 2012), the NPSE (2010), and the UK's climate change commitments. It states that Government wants to make best use of existing airport capacity, this again would appear to the layman to be contradictory to the aviation noise policy as detailed above.

Gatwick Airport Ltd recognises that, at times, Government Policy can appear confused and contradictory. It is for these reasons, and in response to challenges made by the Community Noise Groups that sit on the Noise Management Board, that the airport commissioned a Review of Government Noise Policy and Strategy.

The basic constituent of the above "to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise" appears in the 2003 Air Transport White Paper. The second element "as part of a policy of sharing benefits of noise reduction between industry and communities in support of sustainable development" first appears in the February 2017 Airspace Policy Consultation, however, it is present thematically in the 2013 APF, and indeed can be discerned in 2003 ATWP.
A matter of debate surrounds what constitutes 'significantly' as a number of people may consider themselves to be significantly affected whereas, according to policy, they are affected by low levels of **aircraft noise and so are annoyed, but not significantly affected**.

4. **The absence of a complete version of the revised action plan including population counts for the consultation meant there was no context against which to assess whether the proposed measures to reduce noise were appropriate to the scale of the problem, and given the potential obligation(s) that could be placed upon councils around the airport by the plan under UK legislation. All what was provided was a list of potential Action Plan Actions.**

GATWICK AIRPORT RESPONSE
Gatwick Airport Ltd initially circulated the list of proposed Action Plan Actions to the Gatwick Airport Consultative Committee, Crawley Borough Council and West Sussex County Council, as well the membership of the Noise and Track Monitoring Advisory Group and the Noise Management Board.

The full document, including feedback received, suggested Action Plan Actions for inclusion and the population counts was circulated to those organisations prior to the end of February 2018 to allow for any further comments to be forwarded to the GATCOM Steering Group meeting of 22 March 2018.

5. **The Noise Action Plan should commit to noise impact outcomes. It should specify clear, binding, noise impact reductions together with the time profile for achieving those reductions. The targets should be set based on the government's core policy principles of balance, benefit sharing and noise impact reduction. Gatwick's NAP should commit to noise impact reductions equivalent to or greater than the growth projected by the airport in the NAP period together with a further factor reflecting the growth enjoyed by the industry from 2013-2018 the benefits of which have not been shared with impacted communities. Alongside those noise outcomes Gatwick should set out the actions it intends to take**

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to achieve them, but the risk that those actions fail to achieve the outcomes should be borne by the airport and the wider industry not by communities.

The actions set out in Gatwick's current NAP have not achieved the END's aim of avoiding, preventing or reducing the impacts of noise. The current NAP has also failed to achieve the government's noise policy objectives. There is no reason to believe that a similarly structured set of noise actions for the 2019-24 period would be any more successful in achieving the END's aims and the government's policy objectives. Gatwick has announced plans to continue to grow in that period. In the absence of appropriate action by regulators to enforce the Directive and government policy, that is likely to mean that the noise environment around the airport will continue to worsen, as it has done over the current NAP period. The government should not approve any NAP that fails to reflect these or comparable principles.

GATWICK AIRPORT RESPONSE
Action Plans are a legal requirement under Directive 2002/49/EC relating to the Assessment and Management of Environmental Noise. This Directive is commonly referred to as the Environmental Noise Directive or END. The requirements of the END are transposed in the Environmental Noise (England) Regulations 2006 as amended ("the Regulations"). Both the Directive and the Regulations contain no requirement to commit to binding noise impact outcomes.

In accordance with the Regulations, Gatwick has proposed actions which aim to manage noise issues and effects, including noise reductions. An approach which is consistent with the Government's Aviation Policy aim to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.

The Secretary of State for DEFRA, in liaison with the Department for Transport, will form a view regarding whether or not the submitted revised plan meets the requirements of the Regulations and, therefore, whether or not the plan is appropriate for adoption.

If the Secretary of State for DEFRA considers that the requirements set out in the Regulations are met, they will notify the airport accordingly that the Action Plan has been adopted. The Action Plan should then be published by the Airport Operator as a public document in an electronic format within 28 days.

If the requirements set out in the Regulations are not met, the airport operator will be required to make the necessary changes to the plan. Following revision, the revised plan will need to be resubmitted to the Secretary of State for DEFRA by an agreed date for further consideration.

6. **The Noise Action Plan noise reduction targets should be independently monitored and enforced. If the targets were not achieved, or appeared unlikely to be achieved, DEFRA's Secretary of State should intervene and require the airport to take measures, including limiting its growth, so as to achieve them.**

GATWICK AIRPORT RESPONSE
In accordance with the DEFRA guidance, the proposed actions within Gatwick's Noise Action plan have been assessed to determine their expected outcome and how this will be tracked.

In addition, as the proposed actions within the Gatwick's noise

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action plan complement the Section 106 Legal Agreement with West Sussex County Council and Crawley Borough Council. Gatwick is subject to an independent review and audit of selected actions as part of the annual S106 monitoring process. The Final Annual Monitoring Report circulated to Crawley Borough Council and West Sussex County Council for circulation among the wider local authorities and the Gatwick Airport Consultative Committee. This report is published on the Airport website.

7. **Lack of clarity on who should produce the Noise Action Plan – "the EU legislation directs member states to produce noise action plans for major roads, railways, agglomerations and airports but does not stipulate which parties within the member state should produce these plans. In the UK, the Government has directed that Gatwick Airport Ltd shall produce that plan for Gatwick Airport. It is, therefore, the UK's noise action plan for Gatwick Airport; it is not Gatwick Airport Ltd's noise action plan".**

   The current NAP has not been an effective policy instrument primarily because it is based on inputs rather than outcomes and because it entirely ignores the significant growth that has occurred at Gatwick.

GATWICK AIRPORT RESPONSE

Action Plans are a legal requirement under Directive 2002/49/EC relating to the Assessment and Management of Environmental Noise. This Directive is commonly referred to as the Environmental Noise Directive or END. The requirements of the END are transposed in the Environmental Noise (England) Regulations 20064 as amended ("the Regulations").

The END requires Member States to produce strategic noise maps for the main sources of environmental noise, i.e. major roads, major railways, major airports and agglomerations every five years.

Action Plans must be drawn up by the airport operators and be based on the results of the noise mapping. The Regulations also require the Action Plans to be reviewed at least every five years and revised if necessary and whenever a major development occurs affecting the existing noise situation.

DEFRA is required under the END to submit summaries of each airport Action Plan to the European Commission no later than 18th January 2019. Each airport is also required to publish their Action Plan by this date. The regulations also require that each Action Plan is formally "adopted" by DEFRA's Secretary of State before the above steps can take place. DEFRA will contact each airport to agree a timetable for adoption and publication of their Action Plan.

8. **The Department for Transport is the noise regular for Gatwick Airport and as such the Government sets laws and rules relating to aircraft noise management however the airport operator also has a legal duty to operate the airport in such a manner as to make its facilities open to all types of aircraft operator which may result in noisier types of aircraft being operated.**

GATWICK AIRPORT RESPONSE

The Secretary of State for Transport has specific responsibility for noise control at Heathrow, Gatwick and Stansted airports. Certain noise mitigation measures are promulgated in the London Gatwick Aeronautical Information Publication (AIP) and the Flight Performance Team at Gatwick Airport reports compliance against these measures on a quarterly basis.

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In addition, Gatwick Airport also has a Section 106 Legal Agreement in place with Crawley Borough Council and West Sussex County Council that includes further obligations and Action Plan Actions relating to both air and ground noise management. The Noise Management Board has also overseen the implementation of the recommendations of the Independent Review of Arrivals and its own, mutually agreed work plan.

The London Gatwick Conditions of Use document details all of the requirements that aircraft operators are required to adhere to, and also provides an overview of the aeronautical charges levied to airlines. While the airport operator cannot arbitrarily forbid a slot-holding airline to operate solely dependent on noise levels (subject to the aircraft type not being banned from operating in the UK/EU), it does detail how financial penalties and charging differentials can influence what aircraft type an airline may opt to operate in and out of the aerodrome.

All of the above illustrates that the noise mitigation measures stipulated by the Secretary of State do not operate in isolation and form part of a suite of measures aimed at managing noise at Gatwick Airport.

9. There should be a reappraisal of the format of Gatwick's Noise Action Plan, the obligations it imposes on the airport and the wider industry and the consequences of failing to meet those obligations.

GATWICK AIRPORT RESPONSE
The comments in response to item 5 refer.

10. It was disappointing to see the consultation largely restricted to the airport consultative committee, rather than the airport undertaking a wider direct consultation with residents affected by noise from the airport.

GATWICK AIRPORT RESPONSE
Section 3.4 of the "Guidance for Airport Operators on how to revise Noise Action Plans under the Environmental Noise (England) Regulations 2006 (as amended)" states that "It is envisaged that once the plan has been revised it will be presented to the Airport's Consultative Committee for comment, and any other appropriate bodies depending on the extent and nature of the revisions. The Airport Operator should summarise the comments received in the revised plan together with their response to the issues raised."

Gatwick Airport Ltd has circulated the draft list of Action Plan Actions and subsequently the full Noise Action Plan document to those organisations listed at the head of this section therefore the airport has gone above and beyond what was required of it.

11. The Government issued guidance to Gatwick Airport that the END Noise Action Plan review was to be 'light touch' while also instructing Gatwick to 'maximize its use of the airport'.

GATWICK AIRPORT RESPONSE
When Gatwick Airport Ltd was notified of the requirement to revise its Noise Action Plan, DEFRA advised that, as the airport already had a Noise Action Plan in place, a relatively light touch "review and revise" updating process was proposed. That said, in the draft list of proposed Action Plan Actions circulated at the commencement of the consultative process:

- 26 Previous Action Plan Action had been removed;

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- 8 Action Plan Actions had been retained;
- 18 Action Plan Actions had been revised;
- 27 Action Plan Actions were new.

It is longstanding Government policy to use the capacity afforded by existing airport sites and stability in the airspace routing structure and this is also consistent with its policy "to limit noise". For example, the 2013 Aviation Policy Framework advocates that airports make the best use of existing runway capacity to improve performance, resilience and passenger experience, encouraging new routes and services.

12. The Department for Transport had the opportunity with the recent review of the Night Flight Restrictions to further reduce the number of movements and quota count, which it failed to do.

GATWICK AIRPORT RESPONSE

The Government published its decision on the next night flights regime for Gatwick in 2017 and this will be in place for the period October 2017 to October 2022. The movements limit remains unchanged however the night quota limit will be reduced as set out below.

During the summer season, the number of air traffic movements permitted during the night period is limited to 11,200 and 3,250 during summer and winter respectively. The night quota limits will be reduced to 5,150 in the summer (from 6,200) in 2018 and to 1,785 in the winter (from 2,000) in 2017/18. This will further incentivise the use of quieter aircraft by encouraging industry to plan its operations with sufficient headroom to ensure the limits can still be complied with in the event of unplanned disruption or changes to their schedules.

13. No initiatives by the Government are included in the list of draft Action Plan Actions.

GATWICK AIRPORT RESPONSE

While this draft END Noise Action Plan focusses on issues particular to Gatwick Airport and its environs, there are a number of initiatives underway at a Government level however it wasn't deemed appropriate to include them in this document.

A key development will be the establishment of an Independent Commission on Aviation Noise (ICCAN) by spring 2018. Within 2 years it will be decided whether ICCAN should be given statutory powers of enforcement.

ICCAN will advise on airspace change and share best practice. ICCAN will be a key consultee in both airspace change and planning processes and will have a role in verifying airports' monitoring and communication of noise impacts. ICCAN should have a role in the monitoring and quality assurance of airport noise measurements and reporting, as well as how such measures are enforced.

The Government hopes that ICCAN will rebuild trust between industry and communities and make sure noise impacts are properly and transparently considered.

ICCAN will not be responsible for investigating breaches in noise restrictions as "This requires a broad understanding of the context for individual breaches, such as safety and air navigation matters, to ensure that decisions take into account all factors".

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14. The latest Noise Action Plan does not contain clear targets to reduce the impact of noise around Gatwick, especially at night.

GATWICK AIRPORT RESPONSE

As Gatwick Airport already has an Action Plan in place from previous rounds of END noise mapping, the current plan should be reviewed and revised to include, as necessary:

- updated details about the airport and its operation;
- the results of the noise mapping completed in 2017;
- the progress made against the actions described in the current Action Plan;
- updated information about relevant legislation and standards;
- updated relevant national and local policies;
- information about on-going actions; and
- information about any proposed new actions.

When revising their plans, airport operators should ensure that all the requirements set out in the regulations (listed above and described further in Annex C of the Guidance to Airport Operators) are met. Once the plan has been updated and finalised, the Regulations require that it be sent to the Secretary of State for DEFRA for formal "adoption".

GENERAL COMMENTS ON THE PROPOSED ACTION PLAN ACTIONS

The Action Plan should commit to noise impact outcomes. A step towards this would be the development and implementation of noise metrics, in consultation with the community, to track progress of the airport's noise reduction performance.

GATWICK AIRPORT RESPONSE

Addressed in response No. 5 and 6 which noted that this is a matter of Government Policy.

As a separate work stream, under the governance of the Noise Management Board, Gatwick is investigating both UK Aviation Policy and noise metrics to determine how progress, in terms of noise management and/or reduction could be reported.

It is important that Gatwick Airport Ltd identifies in the final list of actions some actions that should be treated as a priority where they could bring potential improvements to benefit communities in the short term or will improve monitoring and understanding early in the plan period. The Gatwick Airport Consultative committee has identified the following actions for consideration as priorities – Actions 9, 25, 31a 39 and 39a.

GATWICK AIRPORT RESPONSE

Gatwick is open to discussion with GATCOM which actions are considered priorities for implementation. This will form part of a subsequent discussion once the action plan has been adopted by DEFRA.

The proposed actions provide clear commitments from Gatwick Airport Ltd over the longer term to manage the noise impact around Gatwick. However, it is important that the actions

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are outcome based and measurable. As currently drafted the wording of some actions does not clearly provide an indicator to satisfactorily measure success of delivering improvements to the noise climate. For example, Action 31 is the implementation of new initiatives but how will the success of the implementation of new initiatives be measured? Gatwick Airport Ltd is requested to review the wording of the actions to ensure they are outcome based and/or measurable where possible. It is also suggested that for those actions from the current END Noise Action Plan which have been removed, the rationale for their removal is provided in each and every case.

GATWICK AIRPORT RESPONSE

It is appreciated that the performance indicators for the actions could be improved and steps have been taken to update these in the revised Action Plan. However, in some cases it is not possible to provide, with a degree of certainty, the likely benefit of some actions as:

- the action may relate to a study for which the likely benefits are not known; or,
- the action may relate to a number of smaller studies which are planned to deliver benefits in a time period within the Action Plan duration, for example the Noise Management Board and its 2017/2018 and subsequent workplans. In these cases, the relevant oversight group for that action, such as the NMB, NaTMAG or GNMG will determine the individual success factors and likely benefit of each action. Where appropriate, this information will be made publicly available; or,
- the action may be implemented by Gatwick, but require action from an external party, which is outside of the control of Gatwick to deliver a benefit, for example airline fleet replacement programs; or
- not be applicable to that relevant action, for example the achievement of FPT key performance indicators.

With regard to historic actions which have now been removed from the plan, more information has been added to explain why it was removed from the plan. In most cases this is due to a step change in aviation noise management since the last Noise Action Plan. The work of the Airports Commission, DfT, CAA and Gatwick itself through the Independent Arrivals Review and the creation of the Noise Management Board has led to a drastically different baseline on which the Noise Action Plan is be developed. The change in landscape has resulted in the majority of the actions previously listed either being overtaken by recently completed, in progress or planned work.

With measures 1 to 8, 10-12, 13-19, and 20 to 26 in the proposed action plan there is no indication given as to what improvement these measures will deliver over the next 5 years. For example with measure 8 no figures are given for the proportion of scheduled day movements that are currently taking place at night so that the impact of the proposed action can be assessed over the next five years. Also, no indication is given as to how much of an impact these late running aircraft are currently having on night noise levels / residents affected.

GATWICK AIRPORT RESPONSE

It is appreciated that some actions are not outcome based and measurable and steps have been taken to review and update the performance indicators. As listed above, in some cases it is not possible to provide, with a degree of certainty, an accurate estimate of the improvement at this stage.

With regard to the actions in question, the Flight Performance Team quarterly and annual reports track progress against a number of key performance indicators and could be used as a

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basis for tracking impact in comparison to historic periods.

SPECIFIC COMMENTS ON THE PROPOSED ACTION PLAN ACTIONS

Action 1 – Publishing the track fleet mix would allow year on year comparison. Could use an index which uses the Quota Count system to calculate average for summer/winter.

GATWICK AIRPORT RESPONSE
Fleet mix is currently reported to the Noise and Track Monitoring Group (NaTMAG). It is appreciated that the publication of this figure will allow for a year on year comparison and options for the publication of this figure will be explored, either through Action 1 (Charging differential to incentives the use of aircraft with the best in class noise performance) or Action 5 (Programme to rank airlines in relation to their overall performance for a range of noise and emissions impacts).

Action 3 – The objective of this action is not clear to us. Please could it be clarified?

GATWICK AIRPORT RESPONSE
This will incentivise through our aeronautical charging structure the increased use of the quietest and cleanest aircraft at Gatwick Airport.

Action 4 – This is an action in the current NAP, with a league table due to be published in 2014. The action is assessed as on-track (green) in the GAL's 2016 performance report published in January 2017. The action should be expedited. A worked-up proposal should be brought to the NMB by summer 2018 and an initial league table published in autumn 2018. The proposals should include financial incentives for performance improvement to the fullest possible extent.

GATWICK AIRPORT RESPONSE
The noise league table was listed on the previous noise action plan and was incorporated as part of the NMB 2017/2018 work plan to provide additional focus. Although the activity was listed on the NMB's 2017/2018 work plan, it was not designated as a high-priority and instead the NMB decided that additional focus should be placed on the delivery of Fair and Equitable Dispersal (FED), Continuous Descent Operations (CDO), Reduced Night Noise (RNN) and Noise Abatement Departure Procedures (NADP).

Despite not being a high-priority of the NMB, Gatwick and its independent consultants have commenced work on the scoping, design and implementation of a noise league table. This program is expected to be complete in 2019 and the proposals would be circulated to relevant stakeholders for comment.

Action 5 – As currently drafted this simply sets out GAL's legal obligation to consult on charges. We would like to see more detailed actions that reflect the proposals we (the CNGs) made to GAL in our response to its 2018/19 charges consultation (dated 29 September 2017).

GATWICK AIRPORT RESPONSE
In 2017, Gatwick has explained to the NMB the regulations and laws under which the airport's charging policy exist. Despite the NMB not being formal consultees in the charge consultation process, Gatwick agreed to circulate the relevant consultation papers for comment. The NMB provided formal response and these were considered by Gatwick and covered in its decision paper. As noted in the action, Gatwick will continue to seek the views of the NMB using the same process as above in future

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airport charges consultations.

Action 6 –This does no more than set out GAL's legal obligations in relation to night flights. In addition to our comments on charges (5 above) we propose two additional actions:

(1) that GAL should voluntarily transfer responsibility for all derogation decisions to DfT and
(2) that GAL should not seek to grow night flights (particularly in the winter period where there is surplus permitted capacity) unless it can be clearly and independently demonstrated that there is net economic benefit in doing so taking account of all externalities.

GATWICK AIRPORT RESPONSE
The DfT provides oversight on the management of the night quota period, including reviewing decisions for dispensations made by the Airport. As noted in the 2017 DfT consultation on night flight restrictions, the Government had not received any evidence that dispensations are being used inappropriately. The DfT noted that they will continue to monitor the use of dispensations and carry out further work to consider whether the current process for issuing dispensations is appropriate. Gatwick will support any ongoing work as required.

With regard to night flights, the 2017 consultation reviewed the night movement and quota limits. The DfT concluded that it was not appropriate to make any changes to Gatwick's movement limits as reducing the number of night flights would add to the capacity constraints that are already facing the south east. In accordance with Government Policy, from the winter of 2017/18 a reduced the quota limit and a new quota class for certain aircraft types will be introduced by the DfT. Both initiatives will ensure 'we reap the benefits of a strong aviation sector over the coming years while continuing to limit or reduce the number of people significantly affected by aircraft noise at night, through ensuring that aircraft cannot get any louder and that a proliferation of movements by exempt aircraft is prevented.'

Action 9 – A mandatory ban should be imposed by the Department for Transport and that such an action by them should be included in the plan. Without prejudice to that view, until such time as that happens, the voluntary ban should occur well before 2024.

There is no reason why a ban on QC4 aircraft operating could not be introduced from summer 2019 rather than 2024.

The ban must apply to the night period (23:00 to 07:00) as defined under the EU directive as this plan is published as part of the END, not the 'core night' period (23:30 to 06:30)

During the summer period of 2017 there were in excess of 40 QC4 flights (all from the same airline) that were repeatedly late (scheduled day) departures in the night period which went on for 6 months, led to numerous complaints from residents, and also resulted in two breaches of the night noise departure limits (this compares to one such event in the previous five years). Given there were 10 such departures in the first month of the summer but the practice continued for another 5 months indicates that the current controls in place are insufficient to remain in place for another 7 years.

A ban on QC4 aircraft at night would follow past practice at the airport of improving the night noise regime by first stopping the scheduling of a given QC rated aircraft followed by a ban on the use of such aircraft at night.

This should be brought forward to 2019. Alternatively introduce a charging differential (like FOPP) where there is a significantly

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increased charge from 2019 on QC4s at night.

Night noise is the most harmful of aviation noise.

Follow Heathrow's lead on introduction on a ban of night flights during the quietest period of the night.

This should be brought forward to 2019 at the latest.

GATWICK AIRPORT RESPONSE
The Secretary of State for Transport has specific responsibility for noise control at Heathrow, Gatwick and Stansted airports and the application of such a ban is a matter of Government Policy. As an airport operator, Gatwick cannot arbitrarily restrict or forbid a slot-holding airline to operate solely dependent on noise levels either directly, or through the application of a QC ban (subject to the aircraft type not being banned from operating in the UK/EU).

There are potential opportunities to introduce voluntary measures and these will be explored as part of this activity. Concerns regarding the timeframe in which the voluntary ban could come into effect are appreciated and the target has been brought forward to 2022 from 2024. However any voluntary initiative will be subject to agreement with the airlines.

Action 15 – The NMB's work programme envisages this work being completed by end 2018. The metric should therefore be reported from January 2019 at the latest. The proposals should include financial incentives for performance improvement to the fullest possible extent.

GATWICK AIRPORT RESPONSE
The action has been updated with a planned completion date of 2019. Proposals for financial incentives would be explored by Gatwick on conclusion of the study.

Action 21 – This action suggests that a single noise abatement procedure be specified for all routes out of Gatwick. As for any given route, a different procedure may be optimal, therefore action 21 is not sufficiently challenging. (Explanation: There are currently two types of departure procedure but at Gatwick Airport there is currently no preferred one. Unfortunately, which one is optimal for a given departure route depends upon many factors including where populations of residents exist beneath them. It may be the case that the procedure which is optimal for one departure route may not be optimal for another. We are suggesting that it is possible to specify different departure procedures for different routes in order maximise the overall noise reduction.)

The airport currently operates two noise abatement departure procedures from the airport, allowing the airline operator to choose which to use. Rather than settling on one of these procedures for all departure routes from the airport as proposed, each route should be assessed individually and the airport adopt the optimal departure procedure for a given route.

GATWICK AIRPORT RESPONSE
Noise Abatement Departure Procedures (NADP) are a general noise management procedure which are used between 800ft and 3,000ft. The procedure changes the location of noise benefit to either be close to the runway (NADP 1) or at an increased distance from the airport (NADP 2). The specific location of this benefit can vary depending on the aircraft in question and the airline's own specific procedures.

Gatwick currently has an ongoing program of works to investigate the potential benefits and dis-benefits of both procedures, this includes a consideration to noise, emissions and fly-ability. The

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study has not concluded yet and is linked to an additional study commissioned by the DfT ANMAC group which is investigating NADP at Gatwick, Heathrow and Stansted.

Gatwick will await the results of these studies before implementing a preferred procedure.

However, in accordance with guidance published by the International Civil Aviation Organisation (ICAO), the airport cannot to mandate the use of a single NADP and instead only a recommendation can be made. In addition, ICAO Document 8168 restricts the total number of departure procedures to two per aircraft for a given airline, this requirement is mandated within EU Law EU OPS 1.235. These requirements both rule out the mandated use of a single procedure and the use of specific local procedures or variations. As a result, the use of anything other than a recommended single NADP is highly likely to increase the risk of non-compliance and remove the likely benefits that could be realised.

Action 22 – Equivalent reviews should be carried out on all other departure routes.

GATWICK AIRPORT RESPONSE
As reported in the minutes of NMB/8, initial efforts focussed on these two routes for legacy reasons, it was not intended to suggest that work on other routes is excluded and it was agreed that the Departures work objectives would be updated to include other departure routes. A newly revised NMB 2017/2018 work plan was circulated to NMB/9 to note this change and this Action has been updated accordingly.

Action 24 – With modern aircraft there is no excuse exceeding the departure limits. A review of the fines should be carried out and they should be set at a level that would far exceed any benefit that maybe gained from exceeding the noise limits.
The Department for Transport departure noise limits are now over 15 years old, with the limits set based primarily on aircraft that no longer exist in the fleet. Given that aircraft noise is still a health issue around the airport especially at night, the airport should introduce a revised set of departure noise limits specific to Gatwick (as allowed by the Department for Transport) to minimise any unnecessary noise impact on residents around the airport.

GAL should publish details of all breaches including the individual and aggregate amount of fines levied.

GATWICK AIRPORT RESPONSE
Noise limits are set by the Secretary of State for Transport which has specific responsibility for noise control at Heathrow, Gatwick and Stansted airports. The specific noise limits are noted within the Gatwick Airport - London (Noise Abatement Requirements) Notice 2004 and are noted in the AIP. As an airport operator, Gatwick cannot arbitrarily restrict or forbid a slot-holding airline to operate solely dependent on noise levels (subject to the aircraft type not being banned from operating in the UK/EU).

However, it is appreciated that these noise limits are now rarely broken and as part of Action 25, Gatwick will engage with the DfT via the ANMAC committee to commence a review of departure noise limits.

Details of fines levied are contained within the Flight Performance Team annual and quarterly reports.

Action 25 – GAL could introduce its own lower limits if the Department for Transport will not support a change. Bring forward to 2020.

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GATWICK AIRPORT RESPONSE
The Secretary of State for Transport has specific responsibility for noise control at Heathrow, Gatwick and Stansted airports. The specific noise limits are noted within the Gatwick Airport - London (Noise Abatement Requirements) Notice 2004 and are noted in the AIP.

It is appreciated that these noise limits are now rarely broken and as part this Action, Gatwick will engage with the DfT via the ANMAC committee to commence a review of departure noise limits.

Action 27 – Whilst this undertaking is appreciated, it is felt that it should not form a part of a noise action plan. GAL should publish details of the aggregate amount provided under this and other compensation.

GATWICK AIRPORT RESPONSE
Whilst it is appreciated that this action is not directly related to noise, it is an important action to manage the potential impacts of aviation on the local community. Its inclusion as part of the Action Plan ensures awareness and performance tracking of the scheme.

Action 29 – The 2014 scheme should be expanded to include those within the 60 dB LAeq16hr contour.

2014 scheme expanded to include the 60dB LAeq16hr.

GAL should carry out a full review of its compensation schemes based on a polluter pays principle. Any person exposed to increased noise from GAL's operations should be able to claim compensation equivalent to that envisaged under the Land Compensation Act.

GATWICK AIRPORT RESPONSE
The specific recommendations will be included in the review proposed by Action 28 "we will continue a scheme that helps with the cost of acoustically insulting homes against the effects of aircraft noise. We undertake to review the scheme every 5 years to ensure it remains appropriate and relevant."

Action 30 – There are no proposed changes to NPRs with LAMP2, however if there is no other option available and a new NPR is introduced and new people are overflown then a lower figure should be considered.

GATWICK AIRPORT RESPONSE
Both the Property Market Support Bond and Home Owners Support Scheme are voluntary proposals developed by Gatwick and relate to measures which would be enacted should Gatwick be permitted and received planning permission to build a second runway.

As noted in the documentation for both schemes, the areas currently stated are based upon the relevant noise contours. If the second runway was permitted to be constructed, the boundary for the schemes would be extended to include any new properties which may fall within the revised contour. The airport will also any airport which were inside, but then fall outside of the boundary.

Action 31 – Include reference to publishing the annual report of the NMB which will list success of work program.

GAL should commit to noise impact reductions equivalent to or greater than the growth projected by the airport in the NAP period together with a further factor reflecting the growth enjoyed by the industry from 2013-2018 the benefits of which have not been shared with impacted communities.

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GATWICK AIRPORT RESPONSE

The NMB publish an annual report on progress against its agreed work plan, this has been referenced in the performance indicator and reporting section.

Action Plans are a legal requirement under Directive 2002/49/EC relating to the Assessment and Management of Environmental Noise, commonly referred to as the Environmental Noise Directive or END. The requirements of the END are transposed in the Environmental Noise (England) Regulations 2006 as amended ("the Regulations"). Both the Directive and the Regulations contain no requirement to commit to binding noise impact outcomes. In accordance with the Regulations, Gatwick has proposed actions which aim to manage noise issues and effects, including noise reductions. An approach which is consistent with the Government's Aviation Policy aim to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.

In order to better measure noise performance, Gatwick has commenced work to identify noise metrics and reporting as part of Activity 2 of the NMB 2017/2018 work plan. As this study will require input from a wide range of stakeholders, the work stream has already been expanded to consider parties external to the NMB such as the Environmental Health Officers, GATCOM, NaTMAG, Gatwick Noise Monitoring Group as well as national bodies such as Sustainable Aviation and DfT ANMAC. Due to the wider applicability of this work, it has been included as a standalone action within the MONITORING AND REPORTING OUR PROGRESS section as Action 39a as follows "We will conduct a review of Government policy to identify new noise metrics and reporting to compliment the current noise contours and measure our noise performance."

Action 39 – The night contours should be for the whole night period (23:00-07:00) rather than the Quota Period (23:30-06:00). This is a requirement of the END which specifies 23:00 to 07:00 as night (not the lesser period of 23:30 to 06:00). 'Summer L_{eq} contours' is a repeat of the 'summer 16hr L_{eq} contours' mentioned in the first bullet point. The frequency/years for publication should be specified.

The Night contours should be for the whole night period (23:00-07:00) rather than the Quota Period (23:30-06:00).
'Summer L_{eq} contours' are a repeat of the summer 16hr L_{eq} contours above.

The action discusses the production of 'night quota period' contours. As this is an EU / UK government action plan the contours must be for Lnight (23:00 to 07:00). If the airport wishes to produce contours for the quota period in addition to the night period this would be welcome.

GATWICK AIRPORT RESPONSE

The contours listed in the draft action plan have been updated and now note:

- Summer 16 hour day Leq (actual)
- Summer 16 hour day (standard) L_{eq}
- Summer Night L_{eq} (actual)
- The above compared to the previous year.
- Summer Night 10 year average modal split L_{eq}.

These contours are produced by CAA ERCD upon direct request and tasking from Gatwick. This work was previously commissioned by the DfT. The 2016 contours were the first to be commissioned by Gatwick Airport Ltd.

Action 40 – GAL to commit to publishing noise contours no later than three months after the end of the period in question.

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On every occasion that a noise contours reveals an increase in noise impacts GAL should, within a further three months, publish a remediation plan setting out the actions it intends to take to reduce noise impacts to a level consistent with our comment on action 31 above. The remediation plan should be submitted to and agreed with DfT as noise regulator for Gatwick and the NMB.

GATWICK AIRPORT RESPONSE
As Gatwick is now responsible for commissioning the noise contours from CAA ERCD, the airport is exploring contractual options to deliver the noise contours in a timely manner.

With regard to the noise contour increases, this is a matter of Government Policy as neither Directive 2002/49/EC relating to the Assessment and Management of Environmental Noise, nor the Environmental Noise (England) Regulations 2006 which transpose these requirements, require airports to undertake a review of their action plan following the publication of noise contours.

Via Action 39a, Gatwick will investigate noise metrics and reporting to better measure noise performance. This study will help shape and guide the implementation of the actions contained within this action plan to manage noise issues and effects, including noise reductions. An approach which is consistent with the Government's Aviation Policy aim to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.

Action 42 – Methods of complaint should be stated to include complaints through a webpage, free-phone telephone number (which may be to an answer-phone) or by letter to a free post address. (Note: Email is not suggested as that method is capable of abuse by the automation of the sending of emails.)

Following many complaints it has been agreed to re-instate a phone service for noise complaints. Reference to which should be included in this condition.

GATWICK AIRPORT RESPONSE
Currently, in accordance with the updated complaints policy revised after the Independent Arrivals Review, all complaints will need to be processed via Casper with a free-post facility available for those who don't have access to a computer or the internet. The various methods have now been listed on the action plan. In addition, following feedback gathered, the action has been expanded to include a target to re-introduce the telephone complaints system by the end of 2018.

Action 52 – This action has been included in order to "create a structure that has capacity to accommodate forecast traffic levels beyond 2040". Achieving desired traffic levels is not in itself an action related to noise reduction (it is more likely to be the opposite). It is suggested that this action should explicitly include undertakings to use the LAMP process to achieve reductions in noise.

Given the magnitude of what is being proposed here, in essence a complete redesign of the London airspace, this is an ideal opportunity to reduce the noise impact of the airport. At present the performance indicator is of no value unless it gives an indication of the noise benefits with and without LAMP in 2024.

GATWICK AIRPORT RESPONSE
The Action has been re-worded to include a noise benefit as follows "52. We will participate in all activities relating to 'LAMP2' – the redesign of the London Terminal Manoeuvring Area (LTMA) and en-route airspace to eliminate chokepoints, alleviate areas of intensive aircraft concentrations, reduce the number of people affected by noise and to create a structure that has capacity to

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accommodate forecast traffic levels beyond 2040."

Action 53 – This is not an appropriate in a noise action plan; it is a noise creation action not a noise reduction action. Instead GAL should support the proposal in the CNG's paper on LAMP 2 that NATS and GAL, together with other London area airports as necessary, should develop new overarching principles for LAMP 2 which:

- reflect the government's aircraft noise policies, including that the benefits of growth should be shared between the industry and impacted communities and that there should be balance between the interests of the industry and those of communities impacted by it.
- rule out any increase in the number of people significantly impacted by aircraft noise, subject to consistency with principles of fair and equitable dispersal agreed or to be agreed
- give equal weight to increasing capacity and reducing environmental impacts, particularly noise.

GATWICK AIRPORT RESPONSE

The Action has been re-worded to include a noise as follows "52. We will participate in all activities relating to 'LAMP2' – the redesign of the London Terminal Manoeuvring Area (LTMA) and en-route airspace to eliminate chokepoints, alleviate areas of intensive aircraft concentrations, reduce the number of people affected by noise and to create a structure that has capacity to accommodate forecast traffic levels beyond 2040."

This wording is consistent with the Future Airspace Strategy (FAS) 2030 vision to establish "safe, efficient airspace, that has the capacity to meet reasonable demand, balances the needs of all users and mitigates the impact of aviation on the environment." In addition, managing environmental impacts, including noise, which is one of the three strategic drivers for modernising UK airspace alongside safety and capacity. Gatwick will continue to work with the CAA, DfT, NATS and other London airports to ensure that LAMP 2 can deliver a benefit for all in accordance with the Future Airspace Strategy.

SUGGESTIONS FOR INCLUSION OF FURTHER UNDERTAKINGS

Reduce the departure noise limits

This is a matter of regulation and should be for the Department for Transport to implement. See proposed Action 25. Gatwick Airport Ltd could introduce its own lower limits if the Department for Transport will not support a change. In either case it should be brought forward to 2020.

As there is no excuse for modern aircraft and rather old departure noise limits to exceed those limits, the fines should be increased. This should be for the Department for Transport to implement. Gatwick Airport Ltd could increase fines themselves if the Department for Transport doesn't.

GATWICK AIRPORT RESPONSE

As reported in the feedback to Action 25, the Secretary of State for Transport has specific responsibility for noise control at Heathrow, Gatwick and Stansted airports. The specific noise limits are noted within the Gatwick Airport - London (Noise Abatement Requirements) Notice 2004 and are noted in the AIP. As an airport operator, Gatwick cannot arbitrarily restrict or forbid a slot-holding airline to operate solely dependent on noise levels (subject to the aircraft type not being banned from operating in the UK/EU).

It is appreciated that these noise limits are now rarely broken and as part of Action 25, Gatwick will engage with the DfT via the ANMAC committee to commence a review of departure noise limits.

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Introduction of arrivals noise limits.
(This should be an issue for the Department for Transport to consider.)

GATWICK AIRPORT RESPONSE
During the 1990s the Government considered the feasibility of setting noise limits for arriving aircraft through its Aircraft Noise Monitoring Advisory Committee (ANMAC). ANMAC advises the Department for Transport on technical and policy aspects of aircraft noise mitigation and track-keeping policies at Heathrow, Gatwick and Stansted airports.

The work was published by the Department of the Environment, Transport and the Regions (DETR) in 1999, which concluded that it was impracticable to set approach noise limits similar to those for departing aircraft. The Government therefore decided against imposing operational noise limits for arrivals and in February 2000 announced that it would ask the aviation industry to develop a code of practice to promote the use of Continuous Descent Operations (CDO), which the report had identified as the primary means of reducing noise experienced on the ground.

Recently the CAA reviewed the Arrivals Noise Controls with the resulting analysis published within CAP 1554. The study noted that "due to the number of noise monitors required, effective noise monitoring of CDO performance prior to the capture of the glide path would not be practical. However, once aircraft have joined the final approach path, practical approach noise monitoring could be accomplished with a small and practical number of noise monitors, at distances between approximately 6 to 10 NM from landing threshold. Such monitoring would only measure the benefits of low power, low drag (LP/LD) procedures and not CDO.

When monitoring approach noise within 6 to 10 NM from landing threshold, there is limited scope for pilot discretion as the aircraft configuration will to a large extent be dictated by ATC speed control, making it difficult to subsequently attribute any noisier arrival to pilot, aircraft system or ATC action. A limit-based noise monitoring system, similar to that for departures, would therefore not be feasible."

Work to identify noise metrics and reporting to support the measurement of and track progress of, the NMB work plan and Noise Action Plan initiatives.
The Gatwick Airport Consultative committee acknowledges the concerns of local communities about the need for Gatwick Airport Ltd and the industry to address the impact of incremental traffic growth on the noise climate. To help give confidence to communities that GAL is actively and seriously addressing this concern and to pick up a new work stream of the NMB, the Committee suggests an additional action – new Action 31a. The inclusion of this action will bring into the END NAP process GAL's work to identify noise metrics and reporting which will enable the airport's growth and noise reduction performance to be more robustly measured and tracked.

GATWICK AIRPORT RESPONSE
Work to identify noise metrics and reporting was commenced by Gatwick as part of Activity 2 of the NMB 2017/2018 work plan, currently captured within Action 31 of this Action Plan.

As this study will require input from a wide range of stakeholders, the work stream has already been expanded to consider parties external to the NMB such as the Environmental Health Officers, GATCOM, NaTMAG, Gatwick Noise Monitoring Group as well as national bodies such as Sustainable Aviation and DfT ANMAC.

Due to the wider applicability of this work, it has been included as

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a standalone action within the MONITORING AND REPORTING OUR PROGRESS section as Action 39a as follows "We will conduct a review of Government policy to identify new noise metrics and reporting to compliment the current noise contours and measure our noise performance."

Fining for lack of continuous descent approach on landing.
(The continuous descent approach is already a requirement contained within the Aeronautical Information Publication as regulated by the Department for Transport.)

GATWICK AIRPORT RESPONSE
CAP 1554, Review of Arrivals Noise Controls noted that "it is sometimes not possible to achieve a CDO due to a range of factors, including ATC instructions and information, airspace constraints, overriding safety requirements and weather. An analysis of CDO achievement rates over a period of several years may show seasonal peaks and troughs in performance.

In addition, when flying a CDO an aircraft may still require a short segment of level flight in order to reduce speed and/or to reconfigure. Thus without knowledge of the associated ATC voice instructions to flight crew (the monitoring of which would be impracticable), any instances of non-CDO could not automatically be attributed to the flight crew, making it difficult to apply financial or other penalties for not achieving a CDO."

Fining for breaches of any rule within the Aeronautical Information Publication.
(This should be an issue for the Department for Transport to consider.)

GATWICK AIRPORT RESPONSE
As noted above, due to a range of factors such as ATC instructions and information, airspace constraints, overriding safety requirements and weather it is it difficult to apply financial or other penalties for not achieving the rules within the AIP. Gatwick airport's FPT monitors adherence to the AIP rules and provides information to airlines when these are breached to support continual operational improvement.

Impose a significant reduction in night noise quotas.
(This should be an issue for the Department for Transport to consider.)

GATWICK AIRPORT RESPONSE
The Government published its decision on the next night flights regime for Gatwick in 2017 and this will be in place for the period October 2017 to October 2022. The movements limit remains unchanged however the night quota limit will be reduced as set out below.

During the summer season, the number of air traffic movements permitted during the night period is limited to 11,200 and 3,250 during summer and winter respectively. The night quota limits will be reduced to 5,150 in the summer (from 6,200) in 2018 and to 1,785 in the winter (from 2,000) in 2017/18. This will further incentivise the use of quieter aircraft by encouraging industry to plan its operations with sufficient headroom to ensure the limits can still be complied with in the event of unplanned disruption or changes to their schedules.

Ban the scheduling of QC/2 aircraft in the night period.
(This is a matter for the Department for Transport to consider.)

GATWICK AIRPORT RESPONSE
The Government published its decision on the next night flights regime for Gatwick in 2017 and this will be in place for the period

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October 2017 to October 2022. Although a QC/2 ban was not subject to this consultation, proposals for a QC/4 ban were made to the DfT.

Introduce a voluntary ban on all QC4 aircraft during the Night Quota Period by 2019.

GATWICK AIRPORT RESPONSE
This request is captured by Action 9 of the proposed action plan, the date of this action was set at 2024 due to the necessary requirement for airline consultation. Concerns regarding the timescale of this action are appreciated and the end date has been adjusted to 2022.

Introduce a ban on scheduling QC4 aircraft during the night period (23:00-07:00) by 2024.

GATWICK AIRPORT RESPONSE
The Secretary of State for Transport has specific responsibility for noise control at Heathrow, Gatwick and Stansted airports and the London Heathrow, London Gatwick and London Stansted Airports Noise Restrictions Notice (No.2) 2017 note:

- QC4 aircraft may not be scheduled to take off or land during the night quota period.
- QC8 and 16 aircraft may not take off or land during the night period.

The Government published its decision on the next night flights regime for Gatwick in 2017 and this will be in place for the period October 2017 to October 2022. Proposals for a QC/4 ban were proposed to the DfT as part of this consultation.

GAL should commission and publish, at least annually, a detailed analysis of the health impacts of the airport's operations and the societal costs involved.
Over time these should identify trends and recommend actions to reduce health impacts.

GATWICK AIRPORT RESPONSE
These comments would be considered as part of the ongoing study to identify noise metrics and reporting as part of Activity 2 of the NMB 2017/2018 work plan to better measure noise performance. This task has been included as Action 39a as follows "We will conduct a review of Government policy to identify new noise metrics and reporting to compliment the current noise contours and measure our noise performance."

From the summer of 2020 no QC 2 flights can be scheduled during the period 23:30 to 06:30, and from 2023 no QC2 flights to be scheduled during the night period (23:00 to 07:00).
The purpose of the measure is to limit the use of the noisiest aircraft at night to minimise the number of people affected by sleep disturbance. This follows past practice at the airport of improving the night noise regime by first stopping the scheduling of a specific QC rated aircraft at night followed in the longer term by a ban on the use of such aircraft at night – as already proposed by the airport for QC4 aircraft.

GATWICK AIRPORT RESPONSE
The Secretary of State for Transport has specific responsibility for noise control at Heathrow, Gatwick and Stansted airports. The Government published its decision on the next night flights regime for Gatwick in 2017 and this will be in place for the period October 2017 to October 2022. Proposals for a QC/4 ban were proposed to the DfT as part of this consultation.

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As there are only a few flights during the middle of the night, it is therefore now possible to introduce a no-flight period during the night (01:30-05:00) by 2024.

GATWICK AIRPORT RESPONSE
This request is captured by Action 9 of the proposed action plan.

Produce N60 contours for the night period (and 60 dB L_{ASmax} average contours for the most frequent aircraft types (5% or more of total movements) using Gatwick at night (23:00-07:00). (Note: The 60 dB contour equates to an internal noise level of 45 dB L_{Amax} with the windows open, which is recognised as the level that will give rise to sleep disturbance. This action is to help inform the understanding of sleep disturbance on the residents surrounding Gatwick).

We will produce N60 contours for the night period (and 60dB L_{ASmax} average contours for the most frequent aircraft types (5% or more of total movements) using Gatwick at night (23:00-07:00).

Production of annual (Calendar year) N60 contours for the airport (standard modal split) for the night period (23:00 to 07:00).

Production of summer N60 contours for the airport (standard modal split) for the night period (23:00 to 07:00).
With these contour maps the airport should also tabulate each year the number of residential premises in each contour band, and after the initial year e.g. 2018 use the same residential data set (2018) for subsequent years, in addition to the residential data set for that calendar year e.g. 2020, so that the improvements in residents' noise exposure can be tracked. The purpose of calculating the figures on both the original and current residential data set applicable at that time is to allow for new developments that might take place in an area to be accounted for..

The reason for this measure being proposed is that one off noise events above an L_{Amax} of 60 dB outside (45dB L_{Amax} inside) will have a negative effect on sleep and health7 and thus the above contours will be a key indicator of the health impact on residents around the airport. From 2024 the airport may wish to consider N50 contours as well given emerging evidence of health effects at levels below 45 dB L_{Amax}.

The production of N60 night time contours is also in line with government guidance.

GATWICK AIRPORT RESPONSE
The above four proposals relate to noise contours published as Action 39. As part of Activity 2 of the NMB 2017/2018 work plan, work to identify noise metrics and reporting was commenced by Gatwick currently captured within Action 31.

Due to the wider applicability of this work, it has been included as a standalone action within the MONITORING AND REPORTING OUR PROGRESS section as Action 39a as follows "We will conduct a review of Government policy to identify new noise metrics and reporting to compliment the current noise contours and measure our noise performance." The proposals listed above will be included as part of this newly introduced Action.

A compensation payment to each residential household within the 57 dB L_{Aeq} 16h contour beginning in 2019 of £1000 per annum index linked to the retail prices index.
The airport clearly recognises the negative impact of aircraft noise on residents living within the 57 dB contour and above, given its proposals to compensate residents with £1000 per annum outlined in the letter from the company chairman to the prime minister in

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June 2016.

In economic terms noise at Gatwick is an environmental externality and the above measure is intended to address this issue in the short term, while the longer term objective of the action plan under UK and EU law is achieved.

GATWICK AIRPORT RESPONSE
This refers to a commitment made by Gatwick Airport Ltd in 2014 where an initiative was introduced so that all households most affected by noise from a second runway at Gatwick would receive annual compensation equivalent to Band A Council Tax (currently £1000) if and when the second runway becomes operational.

As Gatwick Airport wasn't chosen as the site for an additional runway in the south-east, it is not appropriate to adopt this proposed Action Plan Action as there are there schemes currently in place, for example the Noise Insulation Scheme that offers up to £3,000 towards double glazing and loft insulation.

A new monitoring and enforcement regime should instead be proposed.
This should include provision that where a target is not achieved, or appears unlikely to be achieved, GAL should first prepare a remediation plan, if this does not promptly result in the achievement of the target GAL should report the failure to the DfT and/or DEFRA Secretary of State requesting direction on the actions it should take.

GATWICK AIRPORT RESPONSE
In accordance with the DEFRA guidance, the proposed actions within Gatwick's Noise Action plan have been assessed to determine their expected outcome and how this will be tracked. The Secretary of State for DEFRA, in liaison with the Department for Transport, will form a view regarding whether or not the submitted revised plan meets the requirements of the Regulations and, therefore, whether or not the plan is appropriate for adoption.

In terms of ongoing monitoring, the proposed actions within the Gatwick's noise action plan will be monitored in accordance with their proposed performance indicator and reporting process.
In addition, the proposed actions in this noise action plan complement the Section 106 Legal Agreement with West Sussex County Council and Crawley Borough Council. As part the annual S106 monitoring process, Gatwick is subject to an independent review and audit of selected actions. The Final Annual Monitoring Report circulated to Crawley Borough Council and West Sussex County Council for circulation among the wider local authorities and the Gatwick Airport Consultative Committee. This report is published on the Airport website.

ANNEX NINE B

FEEDBACK RECEIVED REGARDING THE INITIAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

As detailed at the commencement of the consultative process, feedback would be sought on the draft Noise Action Plan in its entirety. The date of 26 April 2018 was selected for the closure of this further state of consultation, this being the date of the full meeting of GATCOM.

In the previous round of consultation on the draft list of Action Plan Actions, comments were received from Crawley Borough Council, Horsham District Council, Reigate and Banstead Borough Council, Surrey County Council, West Sussex County Council, GATCOM and a joint letter was received from GACC and the Community Noise Groups of the Noise Management Board. Themes of all feedback received has been set out earlier in this section.

In accordance with the revised guidance from DEFRA to airport operators of February 2018, Gatwick Airport Ltd has considered the feedback provided and adapted its proposed actions accordingly. Key changes included:

- Updated structure of the draft actions table to include more information on the proposed action, costs/benefits, key stakeholders how it is to be tracked and reported and the proposed aim.
- Action 9, covering the voluntary operational ban on Q/C 4 aircraft in the night was brought forward to 2022. This date is now constrained by the required airline consultation process.
- Action 22 which covered a review of departure route limitations on Route 3 and 4 has been updated to cover all routes.
- Action 25 which covered departure noise limits, Gatwick continues to engage with the DfT on an ongoing study into departure noise limits. This study is expected to be completed in Summer 18. If required the DfT confirmed that they would consider a proposal at Gatwick to review these limits further.
- Action 39a has been introduced to capture a range of topics focusing on how noise metrics can be used to measure noise performance. It is a key action required to track the success of the draft NAP actions.
- Action 42, we are investigating options to introduce a complaints phone line by the end of 2018.

The full draft NAP including these changes was released to those organisations who provided comment on the draft list of Action Plan Actions in the first round of consultation and was also published on the Gatwick Airport noise website. Feedback was requested to be directed to the GATCOM members.

Feedback was duly received from the following organisations:
- GATCOM,
- The Community Noise Groups (CNGs) that sit on the Noise Management Board and the Gatwick Area Conservation Campaign.

The feedback received from these organisations is set out in full over the next pages.

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DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

RESPONSE FROM THE GATWICK AIRPORT CONSULTATIVE COMMITTEE (GATCOM)

GATCOM
Gatwick Airport Consultative Committee

27 April 2018

Dear Lee,

GATWICK END NOISE ACTION PLAN 2019 - 2024

GATCOM welcomes the opportunity to help shape the reviewed draft END NAP and is confident that at the end of the consultation process involving GATCOM, the NMB community noise groups and Gatwick Local Authorities that GAL will have one of the most comprehensive and effective END NAPs in the country.

The END NAP is viewed as the overarching, statutory key driver for the airport to manage and mitigate the impact of aircraft noise around Gatwick bringing together the work of the various noise management groups and noise mitigation initiatives. It is important therefore that the NAP is seen as a "living document" and offers scope for regular review to reflect changing local circumstances. Having an effective and transparent monitoring and audit regime which helps ensure GAL remains on track to fulfil the various actions and commitments also needs to include a process to put in place remedial action when necessary, will give confidence to local communities impacted by aircraft overflight and noise that GAL is doing all that it can to mitigate the impacts and where possible seek an improvement in the noise climate.

Overall, GATCOM believes the draft reviewed END NAP gives a comprehensive account of the way in which GAL manages the noise climate, the legislative and regulatory framework within which GAL is required to operate, the proposed actions to be undertaken over the next five years and the schedule of consultation responses received. Many of the actions proposed in the draft NAP are supported and the revised format which introduces new additional columns against each action to address the requirements of DEFRA's guidance is welcomed. The inclusion of information on the estimated area/number of people to benefit from the action, the expected benefit and cost of the action and the other organisations to be involved in fulfilling the action will assist in the monitoring process.

GATCOM particularly supports GAL's work, being pursued through the NMB, to identify noise metrics and reporting to track traffic growth and the noise impact on local communities. It is noted that GATCOM previously suggested new actions 31a and 39a to capture the development of noise metrics and N60 contours for the night period, to be progressed as a priority in the early part of the plan period, have now been addressed through the bringing together of these actions into a standalone action – Action 39a - within the "monitoring and reporting our progress" section of the NAP.

FEEDBACK RECEIVED REGARDING THE INITIAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

RESPONSE FROM THE GATWICK AIRPORT CONSULTATIVE COMMITTEE (GATCOM)
CONTINUED

However, GATCOM remains concerned about the lack of clear indicators or targets in the draft document. Some of the 'expected outcomes' from the additional KPIs set out in the draft document are already being achieved and as a result will just maintain the positive steps already being taken. The removal of all Chapter 3 aircraft is welcome as is the move to 80% Chapter14 aircraft. However the final outcome concerning the 48dB 6.5hr night contour being within 47km2 is confusing as in annex 6 (p.106) of the Action Plan there is reference to the Local Authority Planning Conditions, where it states:

"Limit the 6.5 hour, 48 dB(A) Leq contour (for the winter and summer seasons combined) to 47km² by 2011/2012. At Gatwick in 2011/2012 the 6.5 hour 48dBA Leq contour (for the winter and summer seasons combined) was 34.1 km2. In 2002-2003 it was 41.3 km2."

In addition the table in Figure 24 (p.106) shows that in Summer 2015 and Winter 2016 the combined 48dB Leq, 6.5hr contour area was 35.2 km2. As night noise is one of the major sources of annoyance for local communities GATCOM believes that GAL should be aiming to ensure this contour area remains the same at the very minimum as traffic grows and preferably be reduced over the next 5 years.

There is an overall lack of general overarching targets which is surprising given that some of the KPIs could be measured as there is existing data. However GAL needs to give a clearer commitment to actually measure any improvements and compare them to previous reports. For example, Action 10: Ground Noise - the indicator is unclear and "aim" is to maintain effective ground noise operational controls. The lack of clear indicators or targets could create difficulties for the auditors of the Noise Action Plan as there are no targets to be able to audit against. This will ultimately result in auditors confirming an action has been done but being unclear on any potential benefit. As it is important that the NAP outcomes are tangible and are able to be effectively assessed, GATCOM recommends that GAL reviews its "Aims" to make them "Targets" and introduces a few overarching targets which will help drive the behaviour to achieve those targets.

As regards the identification of actions to be progressed as a priority in the early part of the plan period, is it noted that GAL is open to discussion with GATCOM which actions are considered priorities for implementation and that this will form part of a subsequent discussion once the END NAP has been agreed by DEFRA. GATCOM wishes to pursue this point and whilst not wishing to circumvent the clear NMB role in helping to agree noise mitigation priorities as part of its work plan which is also captured by the NAP, it is felt that identifying some priorities in the NAP will help to build confidence and trust amongst communities that initiatives of importance are being treated as a priority by GAL. As a reminder GATCOM has suggested Actions 9, 25, 39 and 39a. Should this point not be accepted in the final version of the END NAP then GATCOM welcomes the opportunity for further discussions at the earliest possible time following DEFRA's approval of the plan.

RESPONSE FROM THE GATWICK AIRPORT CONSULTATIVE COMMITTEE (GATCOM)
CONTINUED

GATCOM
Gatwick Airport Consultative Committee

As regards Action 9: Implementation of a voluntary ban on operations of QC4 aircraft within the core night period, and Action 25: Review of Departure Noise Limits, GAL's response to GATCOM's previous comments is noted. However, the Committee believes the GAL should do more to pursue these actions and believes that GAL should seek confirmation from the Secretary of State for Transport whether they can set their own limits over and above those by the Secretary of State. In respect of night flights generally, GATCOM would remind GAL that the Government's decision on the current night flights regime offered scope for airports to explore bespoke, airport-specific arrangements during the five year night flight regime should they wish to do so. GATCOM hopes therefore that this opportunity be further explored through the work of the NMB.

Finally, GATCOM has considered GAL's response to the Committee's comments on the specific actions. Set out in the table attached to this letter is GATCOM's response to how GAL has taken on board its comments. In some cases GATCOM has asked that GAL gives further consideration to the proposed action as part of this response to the consultation on the draft plan.

I trust GATCOM's comments set out in this letter and in the attached table can be taken into account in the final draft version of the plan.

Yours sincerely,

Paula Street
Assistant Secretary

ANNEX NINE B

FEEDBACK RECEIVED REGARDING THE INITIAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

NMB COMMUNITY NOISE GROUPS' COMMENTS ON GAL'S PROPOSED 2019-2024 NOISE ACTION PLAN ACTIONS

The NMB Community Noise Groups and GACC submitted comments on GAL's draft Noise Action Plan (NAP) actions on 16 February 2018. Those comments, together with our previous NMB paper on Noise Action Plans, are attached as appendices to this document. Our NMB paper sets out our overall view on NAPs. This document sets out our joint comments on GAL's draft full Noise Action Plan V2.01.

Overarching comments

1. We support many of the actions proposed in the draft NAP. However, we continue to believe that the current NAP as a whole has not been effective, largely because it is based on inputs rather than measurable outcomes and because it takes no account of the significant growth that has occurred at Gatwick. CAA data shows that the noise environment around Gatwick has deteriorated every year since the current NAP came into effect.

2. The overall structure of GAL's 2019-2024 draft NAP, and the actions in it, are very similar to those in the current plan. Because Gatwick plans further growth in the 2019-2024 period it is likely that, if adopted and implemented, the draft plan would result in similar outcomes to the current plan. Specifically the noise environment around the airport would be likely to continue to deteriorate. We do not believe this is sustainable or consistent with the END' aims or the government's aviation noise policy objectives. We therefore continue to believe that there should therefore be a reappraisal of the format of Gatwick's NAP, the obligations it imposes on the airport and the wider industry and the consequences of failing to meet those obligations, on the basis set out in our previous comments.

3. None of the actions in the draft NAP meet the requirement in Defra's guidance to set out "the reduction of the number of people affected ... as a result of the measures in the Action Plan". In addition, in our view, few if any of the actions meet Defra's supplementary requirement (set out on page 95 of the draft NAP) that they should be "challenging" and only a handful are "quantified" in any form at all.

4. Numerous references in the introductory sections of the NAP (sections 2-7) are incorrect or out of date. In particular the SONA study findings and government's 2017 airspace policy decisions are not uniformly reflected. The document is wrong to claim that "in the last 15 years the number of people affected by noise within Gatwick's 57 decibel contour has fallen considerably …". The benefits and likely impact on noise of the NMB is overstated in these sections; this text should be toned down.

The proposed actions

5. Our analysis suggests that only nine of the 53 actions have direct potential to reduce noise. These are actions 1, 2, 3, 5, 9, 15, 17, 22, and 31. Five of those actions are repeated from or comparable to actions in the current NAP (1, 2, 3, 5 and 31), so their incremental impact is likely to be low. Two simply commit to implementing NMB solutions (17 and 31) but with no specificity on what those will be or the outcomes they will secure. One (22) seems likely to be technically very challenging.

6. Most of the other actions commit GAL to consultation, reporting, monitoring, mitigation measures or complying with the law, or will redistribute (rather than reduce) noise. We support most of these actions, but they will not in themselves reduce the airport's noise impacts.

FEEDBACK RECEIVED REGARDING THE INITIAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

GAL's response to previous CNG and GACC comments

7. Very few of our previous comments have led to changes in the actions proposed by GAL. We draw particular attention to the following comments which we do not believe have been given the thorough consideration required by Defra:

ACTION / COMMENT NUMBER	PREVIOUS CNG COMMENT	CURRENT CNG VIEW
Comment 5, 9	The Noise Action Plan should commit to quantified noise impact outcomes	As discussed in 3 above the plan is not quantified in the manner required by Defra. GAL has suggested it is for Defra to consider whether it is adequate in this regard. In our view the current draft of the plan should not be adopted.
Action 5	The NAP should address the comments made by CNGs on the 2018/19 charges consultation	GAL has not responded to this.
Action 39a	-	This action should mirror the new priority workstream now agreed by the NMB, i.e. that the NMB will seek to develop and agree between industry and community representatives a set of metrics, processes and outcomes by which (1) the growth of the airport since 2013 and (2) its future growth are related to reductions in its noise impacts in a proportionate, fair and balanced manner. The current drafting of action 39a is unclear and too restrictive.
Action 40	GAL should prepare a remediation plan when noise contours show there has been an increase in noise.	GAL has dismissed this on the basis that it is a matter of government policy and not required by the END. In our view this misses the point: if noise is increasing the airport should be examining every option to reduce it; the process we have proposed would formalise that in a clear way and make the airport more accountable for its impacts. We would like GAL to reconsider this idea.
-	GAL should commission and publish, at least annually, a detailed analysis of the health impacts of the airports operations and the social costs involved.	GAL's response suggests that this will be addressed as part of its proposal to review noise metrics and reporting (number 39a). In our view these are entirely separate actions. We believe GAL should take greater responsibility for the health impacts of its operations and that the action we have proposed is a constructive way to commence that process. We would like GAL to reconsider this idea.

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DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

PREVIOUS NMB COMMUNITY NOISE GROUPS' COMMENTS ON GAL'S PROPOSED 2019-2024 NOISE ACTION PLAN ACTIONS

Overarching comments

The NMB Community Noise Groups with GACC submitted a paper to NMB 9 on Noise Action Plans in general and GAL's current NAP and proposed 2019-2024 NAP actions in particular. That paper is attached as an appendix to these comments. It continues to represent our overall view on NAPs. Key points from the paper are:

1. The actions set out in Gatwick's current NAP have not achieved the END's aim of avoiding, preventing or reducing the impacts of noise. The current NAP has also failed to achieve the government's noise policy objectives, most specifically to "reduce and mitigate noise as airport capacity grows". And the overall objective of reducing noise set out in Theresa Villiers' 2010 letter to GACC has not been achieved.

2. The current NAP has therefore not been an effective policy instrument. We believe this is primarily because the NAP is based on inputs rather than outcomes and because it entirely ignores the significant growth that has occurred at Gatwick.

3. There is no reason to believe that a similarly structured set of noise actions for the 2019-24 period would be any more successful in achieving the END's aims and the government's policy objectives. Gatwick has announced plans to continue to grow in that period. In the absence of appropriate action by regulators to enforce the Directive and government policy, that is likely to mean that the noise environment around the airport will continue to worsen, as it has done over the current NAP period.

4. There should therefore be a reappraisal of the format of Gatwick's NAP, the obligations it imposes on the airport and the wider industry and the consequences of failing to meet those obligations. We do not believe that GAL's current NAP or the actions proposed in its draft 2019-2024 NAP are fit for purpose.

5. A new approach should be applied in developing and approving the 2019-2024 NAP, based on the following core principles:

   I. **The NAP should commit to noise impact outcomes.** It should specify clear, binding, noise impact reductions[2] together with the time profile for achieving those reductions. The targets should be set based on the government's core policy principles of balance, benefit sharing and noise impact reduction. In our view, therefore, Gatwick's NAP should commit to noise impact reductions equivalent to or greater than the growth projected by the airport in the NAP period together with a further factor reflecting the growth enjoyed by the industry from 2013-2018 the benefits of which have not been shared with impacted communities. Alongside those noise outcomes Gatwick should set out the actions it intends to take to achieve them, but the risk that those actions fail to achieve the outcomes should be borne by the airport and the wider industry not by communities.

   II. **The NAP noise reduction targets should be independently monitored and enforced.** If the targets were not achieved, or appeared unlikely to be achieved, DEFRA's Secretary of State should intervene and require the airport to take measures, including limiting its growth, so as to achieve them.

6. The government should not approve any NAP that fails to reflect these or comparable principles.

Points 5 (I) and (ii) above should be regarded as specific comments on GAL's draft 2019-2024 NAP Actions.

We note that DEFRA has subsequently written to all relevant airport operators including GAL making clear, amongst other things, that their plans should include "estimates in terms of the reduction of the number of people affected (annoyed, sleep disturbed, or other)… as a result of [the measures in] their Action Plan" including evidence that the measures are challenging, objective, quantified (where reasonably practicable), subject to specific timescales, and have taken full account of the views of local communities. We believe this is consistent with our point 5 (I) above. DEFRA have also emphasised that the issues raised by consultees are demonstrably given thorough consideration by airport operators and that they will be looking for evidence of how airports have ensured this is the case in their submitted Plans.

[2] Noise impact reductions should be measured on a basis to be agreed with community groups and representatives. They should include components for both average noise levels and the frequency of noise events at a wide range of locations both close to the airport and further away under flight paths. Metrics should reflect principles of fair and equitable dispersal to ensure noise impact reductions are not achieved by concentrating noise in areas of low population density.

ANNEX NINE B

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DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

PAPER BY THE GATWICK NOISE MANAGEMENT BOARD COMMUNITY NOISE GROUPS WITH THE GATWICK AREA CONSERVATION CAMPAIGN REGARDING ENVIRONMENTAL NOISE REGULATIONS 2006: NOISE ACTION PLANS

Purpose of Environmental Noise Directive and Noise Action Plans

The aim of the Environmental Noise Directive (END) is to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise.

Noise Action Plans (NAPs) are intended to prevent and reduce environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and to preserve environmental noise quality where it is good.

Action Plans are required to identify whether there are any particular or additional measures that might be taken to meet these policies, including noise reduction if necessary.

Current and historic UK policy context

The UK policy context for Gatwick's 2019-2024 Noise Action Plan (NAP) is the government's current policy on aviation noise. This is:

> *"to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise as part of a policy of sharing benefits of noise reduction with industry in support of sustainable development".*[3]

This policy is open to multiple interpretations. The core policy principles seem to be:

1. *Limiting and where possible reducing the number of people significantly impacted by aircraft noise.* Although unclear this appears to rule out increases in the number of people significantly impacted.

2. *Sharing of benefits.* This concept is expressed in a range of ways in different government documents. The current airspace policy document (quoted above) talks about sharing benefits of noise reduction. The Aviation Strategy Call for Evidence talks about sharing the benefits of growth and a greater sense of fairness. In any event the principle appears to be that if the industry benefits so should impacted communities. We take community "benefit" in this context to mean absolute reductions in noise impacts, on a basis to be agreed with impacted communities.

3. *Balance.* The executive summary of the government's most recent aircraft noise policy document talks about striking a balance between the economic and social benefits of the industry and its local impacts. Balance is also a core principle in the government's Air Navigation Guidance 2017 issued to the CAA. The plain English meaning of balance is "a situation in which different elements are equal or in the correct proportions". In the context of aircraft noise we take this to mean that an airport should only be permitted to grow if it reduces its noise impacts. The 2013 Aviation Policy Framework confirms that interpretation (see below).

4. *Sustainable development.* This is not defined, but the Aviation Strategy Call for Evidence talks about supporting growth where environmental impacts can be managed and exploiting all opportunities to reduce the industry's environmental impact. It

[3] Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace. October 2017

also raises the idea of targets for noise reduction.

The policy context for the current (2013-2018) NAP is clearer as regards the balance between growth and noise. The overall policy objective when the NAP was approved was to *"limit and where possible reduce the number of people in the UK significantly affected by aircraft noise"*. The policy went on to say *"future growth in aviation should ensure that benefits are shared between the aviation industry and local communities ... This means that the industry should reduce and mitigate noise as airport capacity grows "*.[4]

More broadly it has been UK government policy for many years that the effect of NAPs should be to *reduce* noise impacts. In a letter to GACC dated 27 May 2010 the Aviation Minister Theresa Villiers said *"The noise action plans will make a key contribution to helping to reduce the local noise impacts for residents. … Can I assure you that these plans are currently being submitted to rigorous scrutiny to ensure that they do meet the underlying aim of the EU Directive namely avoiding, preventing or reducing the harmful effects due to exposure to environmental noise?"*

The success or otherwise of the current NAP should be judged principally by the extent to which it has achieved the END's aims and facilitated achievement of the government's historic aircraft noise policies as set out above. If those aims and policies have not been achieved it follows, in our view, that there should be changes in any or all of: the basis on which NAPs are prepared; the actions that individual airports commit to taking; and the way those actions are enforced.

We note that DEFRA's July 2017 guidance on airport NAPs proposes no substantive changes to the previous round of noise mapping and action planning carried out in 2012 and proposes a relatively light touch "review and revise" updating process. This does not, however, stop individual airports from undertaking a more detailed review and update should they wish.

Assessment of Gatwick's 2013-2018 NAP

Since the 2013-2018 NAP was published CAA and Gatwick data shows that:

- the number of air traffic movements at Gatwick has grown every year, by over 12% in total;
- the number of passengers using Gatwick has grown every year, by 22% in total;
- the number of people within the 57 dB(A) day contour[5] has increased every year, by over 27% in total;
- the area covered by the 57 dB(A) day contour has increased every year, by over 8% in total; and
- night flight impacts have also increased as set out in the government's 2017 night flight consultation.

It is clear that the END's aim of avoiding, preventing or reducing the impacts of noise has not been achieved in the current NAP period.

Assessing the above data against the current core UK policy principles set out above we reach the following conclusions:

1. *Limiting and where possible reducing the number of people significantly impacted by aircraft noise.* This has not been achieved. The number of people significantly affected, measured using the government's preferred metric, has increased substantially. Alternative metrics that more accurately reflect the effects of aircraft noise would be likely

[5] Whilst we do not believe the 57 dBA contour is an appropriate measure of the impact of aviation noise on communities, it is the only long-term data set that we are aware of. More realistic data that also took account of the number of flights, a key factor for communities, would certainly show greater increases in noise impacts over the same period.

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DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

to show greater increases in impacts. The number of noise-related complaints for example has risen very substantially since 2013.

2. *Sharing of benefits.* This has not been achieved. Gatwick and its industry partners have enjoyed very substantial benefits from the growth of the past four years. But those benefits are not being shared. Noise impacts have increased year-on-year and continue to increase as flights numbers and the average size of aircraft using Gatwick grow.

3. *Balance.* This has not been achieved. There is no credible basis on which it could be argued that the data above represents a balanced outcome as between the interests of the industry and those of impacted communities.

4. *Sustainable development.* This is an insufficiently clear policy to allow an objective assessment to be made, but it has almost certainly not been achieved.

In addition the 2013 APF policy objective to "reduce and mitigate noise as airport capacity grows" has not been achieved in any year since 2013. And the overall objective of reducing noise set out in Theresa Villiers' 2010 letter has not been achieved.

In summary the actions set out in Gatwick's current NAP have not achieved the END's aims or the government's noise policy objectives. The current NAP has therefore not been an effective policy instrument. We believe this is primarily because the NAP is based on inputs rather than outcomes and because it entirely ignores the significant growth that has occurred at Gatwick.

Proposals

There is no reason to believe that a similarly structured set of noise actions for the 2019-24 period would be any more successful in achieving the END's aims and the government's policy objectives. Gatwick has announced plans to continue to grow in that period. In the absence of appropriate action by regulators to enforce the Directive and government policy, that is likely to mean that the noise environment around the airport will continue to worsen, as it has done over the past NAP period.

Our view therefore is that there should be a reappraisal of the format of Gatwick's NAP, the obligations it imposes on the airport and the wider industry and the consequences of failing to meet those obligations. We do not believe that GAL's current NAP or the actions proposed in its draft 2019-2024 NAP are fit for purpose.

We propose a new approach should be applied in developing and approving the 2019-2024 NAP. This should be based on the following core principles:

I. **The NAP should commit to noise impact outcomes.** It should specify clear, binding, noise impact reductions together with the time profile for achieving those reductions[6]. The targets should be set based on the government's core policy principles of balance, benefit sharing and noise impact reduction. In our view, therefore, Gatwick's NAP should commit to noise impact reductions equivalent to or greater than the growth projected by the airport in the NAP period together with a further factor reflecting the growth enjoyed by the industry from 2013-2018 the benefits of which have not been shared with impacted communities. Alongside those noise outcomes Gatwick should

[6] Noise impact reductions should be measured on a basis to be agreed with community groups and representatives. They should include components for both average noise levels and the frequency of noise events at a wide range of locations both close to the airport and further away under flight paths. Metrics should reflect principles of fair and equitable dispersal to ensure noise impact reductions are not achieved by concentrating noise in areas of low population density

set out the actions it intends to take to achieve them, but the risk that those actions fail to achieve the outcomes should be borne by the airport and the wider industry not by communities.

II. **The NAP noise reduction targets should be independently monitored and enforced.** If the targets were not achieved, or appeared unlikely to be achieved, DEFRA's Secretary of State should intervene and require the airport to take measures, including limiting its growth, so as to achieve them.

We will have detailed comments on the draft list of actions provided by GAL in due course. But we believe that an appropriate set of NAP foundations and principles, which hold the airport properly to account for its noise impacts in accordance with government policy, must be established first.

We do not believe that the government should approve any NAP that fails to reflect these or comparable principles.

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DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

GATCOM'S RESPONSE IN RESPECT OF SPECIFIC ACTIONS

GATCOM
Gatwick Airport Consultative Committee

	ACTION	GATCOM COMMENT	GAL RESPONSE	GATCOM RESPONSE TO GAL'S RESPONSE
1	We will maintain a charging differential in our published airport charges which incentivises the use of aircraft with the best in class noise performance.	Publishing the track fleet mix would allow year on year comparison. Could use on index which uses the QC system to calculate average for summer/winter.	Included under Performance Indicator and Reporting: **Indicator: Fleet mix including % of Chapters 4 and 14 Aircraft. Reported: Quarterly to NaTMAG.** Included under 'AIM': **By 2024, 90% of movements are by Chapter 14 aircraft.**	Accept
3	We will review the landing fee differential at least every five years.	Or in response to a change of circumstances (i.e. FOPP)	No amendment made to action.	Recommends that the wording of the action be amended to include reference to our previous comments. It is important to ensure that the NAP remains a "living" document and is adaptable to changing circumstances

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DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

GATCOM'S RESPONSE IN RESPECT OF SPECIFIC ACTIONS
CONTINUED

GATCOM
Gatwick Airport Consultative Committee

	ACTION	GATCOM COMMENT	GAL RESPONSE	GATCOM RESPONSE TO GAL'S RESPONSE
8	We will, as far as is practicable, take all necessary steps to manage the late running of aircraft to prevent scheduled day movements taking place during the sensitive night period.	Yes but also suggest include reference to reporting to FLOPSC	Indicator amended to read: **Indicator: The number of off-schedule flights which are delayed into the night period. Reported: Airside operations and airlines.**	Accept
9	We will implement a voluntary ban on operations of Quota Count 4 aircraft within the core night period by the end of 2024.	This should be brought forward to 2019. Alternatively introduce a charging differential (like FOPP) where there is a significantly increased charge from 2019 on QC4s at night.	Action changed: **We will implement a voluntary ban on operations of Quota Count 4 aircraft within the core night period by the end of 2022.**	Accept. GATCOM recommends that this Action be identified as a priority early in the Plan period - see also comments in covering letter
24	We will continue to fine aircraft in breach of the Department for Transport departure noise limits with all such monies passed to the Gatwick Airport Community Trust	With modern aircraft there is no excuse exceeding the departure limits. A review of the fines should be carried out and they should be set at a level that would far exceed any benefit that maybe gained from exceeding the noise limits.	No amendment made to Action.	See comments under Action 25

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GATCOM'S RESPONSE IN RESPECT OF SPECIFIC ACTIONS
CONTINUED

GATCOM
Gatwick Airport Consultative Committee

	ACTION	GATCOM COMMENT	GAL RESPONSE	GATCOM RESPONSE TO GAL'S RESPONSE
25	We will engage with the Department for Transport and the Aircraft Noise Management Advisory Committee to review departure noise limits at Gatwick Airport.	GAL could introduce its own lower limits if the DfT will not support a change. Also suggest that the target date is brought forward to 2020.	No amendment made to Action.	Recommend that GAL seeks confirmation from the Secretary of State for Transport whether they can set their own limits over and above those by the Secretary of State. See also the comments in the covering letter. GATCOM also recommends that this action is treated as a priority by GAL.
29	We will continue to offer acoustic insulation to noise sensitive buildings within the 63LAeq,16hr Summer noise contour.	2014 scheme expanded to include the 60dB LAeq16hr.	Action amended to read: **We will continue to offer acoustic insulation to noise sensitive buildings within the 60LAeq noise contour.**	Accept

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GATCOM'S RESPONSE IN RESPECT OF SPECIFIC ACTIONS
CONTINUED

GATCOM
Gatwick Airport Consultative Committee

	ACTION	GATCOM COMMENT	GAL RESPONSE	GATCOM RESPONSE TO GAL'S RESPONSE
30	To address the impacts of future growth we will continue to offer to purchase those properties suffering from both a high level of noise (63dB LAeq,16hr or more) and a large increase in noise (3dB LAeq or more), in accordance with the Terms of Reference of the Property Market Support Bond and Home Owners Support Scheme.	There are no proposed changes to NPRs with LAMP2, however if there is no other option available and a new NPR is introduced and new people are overflown then a lower figure should be considered.	No amendment made to Action.	Noted. Given the concerns subsequently expressed by a community group about the potential blight arising from changes to airspace, GATCOM no longer wishes to pursue its previous comments.
31	In conjunction with the Noise Management Board we will explore innovative methods to reduce both inbound and outbound aircraft noise levels.	Yes but also include reference to publishing the annual report of the NMB which will list the successes of work programme.	Performance Indicator Amended. **Indicator: Implementation progress reports.** **Reported: to each NMB meeting with public reports published annually.**	Accept. GATCOM also recommends that as part of this action options to provide respite for those communities under multiple use flight paths, particularly for areas where aircraft are generally lower than 4000ft.

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GATCOM'S RESPONSE IN RESPECT OF SPECIFIC ACTIONS
CONTINUED

GATCOM
Gatwick Airport Consultative Committee

ACTION	GATCOM COMMENT	GAL RESPONSE	GATCOM RESPONSE TO GAL'S RESPONSE
31a	Action recommended by GATCOM: Work to identify noise metrics and reporting to support the measurement of, and track the progress of, the NMB work plan and Noise Action Plan initiatives.	New action not included:	See comments in covering letter.

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GATCOM'S RESPONSE IN RESPECT OF SPECIFIC ACTIONS
CONTINUED

GATCOM
Gatwick Airport Consultative Committee

	ACTION	GATCOM COMMENT	GAL RESPONSE	GATCOM RESPONSE TO GAL'S RESPONSE
39	We will update to our website the following noise contours: • Summer 16 hour day forecast LAeq contours for air noise • Night forecast contours for ground noise • Forecast Lden contours for air noise • Night quota period 48dB LAeq contour (07:00-23:00) • Summer Leq contours	The Night contours should be for the whole night period (23:00-07:00) rather than the Quota Period (23:30-06:00). 'Summer Leq contours' are a repeat of the Summer 16hr Leq contours above	Action amended to read: **We will update to our website the following noise contours:** • **Summer 16 hour day Leq (actual)** • **Summer 16 hour day (standard) Leq** • **Summer Night Leq (actual)** • **The above compared to the previous year.** • **Summer Night 10 year average modal split Leq**	The production of N60 night contours around Gatwick Airport has been identified as an important tool by the Local Authority Environmental Health Practitioners to help identify those most affected by night noise and also to assist the Local Authorities to control and ensure adequate mitigation for housing developments within their Authorities. At the recent NMB workshop on noise contours and metrics it was identified by attendees that there was a need for supplementary noise metrics, N60 contours being one of those metrics identified. Recommend that GAL address this point in the final NAP and that it be treated as a priority.

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GATCOM'S RESPONSE IN RESPECT OF SPECIFIC ACTIONS
CONTINUED

GATCOM
Gatwick Airport Consultative Committee

	ACTION	GATCOM COMMENT	GAL RESPONSE	GATCOM RESPONSE TO GAL'S RESPONSE
39a		Action recommended by GATCOM: We will produce updated N60 contours for the night period (and 60dB LASmax average contours for the most frequent aircraft types (5% or more of total movements) using Gatwick at night (23:00-07:00).	New Action partially included **We will conduct a review of Government policy to identify new noise metrics and reporting to compliment the current noise contours and measure our noise performance.**	Accept but see comments in covering letter about the need for general overarching targets and the need for this to be a priority item.
42	We will continue to offer various methods for complaints about aircraft noise events.	Following many complaints it has been agreed to re-instate a phone service for noise complaints. Reference to which should be included in this condition.	Recommendation included in 'AIM': **Implementation of a complaints phone line by the end of 2018.**	Accept

FEEDBACK RECEIVED REGARDING THE INITIAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

GATWICK AIRPORT LTD RESPONSE TO THE FEEDBACK RECEIVED AND ISSUES RAISED DURING THE SECOND ROUND OF CONSULTATION

Gatwick Airport Ltd welcomes the feedback provided and appreciates the comments made by GATCOM which *"is confident at the end of the consultation process involving GACOM, the NMB community noise groups and Gatwick Local Authorities that GAL will have one of the most comprehensive and effective NAP in the country"*.

The END NAP will be the overarching statutory driver for noise management and mitigation around the airport and GAL confirms its ambitions for the END NAP to be a 'living document' involving tracking, regular review and update. The first stage in this process is achieving additional clarity on the aims and commitments to further our work to manage aviation noise, a central theme of the feedback. To meet this GAL has added several actions to the END NAP and in particular, expanded the scope of Action 39a. The revised scope aims to identify new noise metrics and reporting to complement the current noise contours and measure our future noise performance. These metrics could then be used to more precisely describe the aims and outcomes of the actions within this END NAP.

The identification of new noise metrics and reporting will be based upon a review of government policy and its implementation. Through this process we aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts. Another output from the feedback.

We appreciate that a key piece of feedback regarded the use of the word 'aims' or 'targets' with regard to our actions. We note that the END Regulations and DEFRA guidance confirms that no binding targets are required and no penalties are to be imposed furthermore the Regulations and the DEFRA Guidance use the term 'aim' and hence our decision to remain with the term 'aim'.

Due to the importance of Action 39a GAL has designated this as a priority action and GAL confirms that we will discuss the priority of the remaining actions once the END NAP has been accepted by DEFRA.

To support the measurement of our ongoing and planned noise management programs listed within the END NAP; GAL has committed to expanding its community noise monitoring program by procuring and deploying additional noise monitoring terminals. This will provide a vital asset to both understanding the current noise climate whilst measuring the benefits delivered by the END NAP actions and those undertaken by the Noise Management Board via Action 47.

To continue to drive continuous improvement, as part of Action 25, GAL was to explore options to reduce its departure noise limits with the DfT. Following the feedback provided, GAL can confirm that the DfT has confirmed that GAL can explore options to reduce these limits beyond the current set DfT levels and corresponding Action has been updated. To confirm our commitment to improving our noise management we have also introduced Action 24a which aims to increase the fines that are levied against airlines that breach departure noise limits, be these the current or revised limits when they are introduced.

In summary, the following actions have been updated within the draft END NAP in response to the feedback provided:

- **Action 2a** introduced to capture additional aircraft or manufacture specific noise defects which can be rectified

FEEDBACK RECEIVED REGARDING THE INITIAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE SECOND STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

by a modification are identified (similar to the FOPP) we will seek to identify, consult and implement corresponding charging penalties. This aims to provide the living document approach which is adaptable based upon changing demands in the future.

- **Action 25** covered a review of the departure noise limits and has been updated to reference both engagement with the DfT and unilateral action following confirmation from the DfT that this approach may be possible given a suitable evidence base.

- The review of noise limits in action 25 is complimented by Action 24a which targeted increasing the fines that are levied against airlines that breach the departure noise limits.

- **Action 28a** was introduced to confirm that GAL will undertake a review of its acoustic noise insulation programs by the end of 2019. With subsequent reviews considered every 5 years as noted in Action 28.

- **Action 37a** aims to expand the community noise monitoring scheme by deploying additional noise terminals. This is part of GAL's commitment to understand the noise impacts around the airport whilst identifying and measuring the potential benefits delivered by the actions in this END NAP.

- As previously discussed, **Action 39a** has been expanded to aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts. Based upon a review of Government policy including how Government policy should be interpreted and how that policy has been applied in practice, we will aim to develop new noise metrics and reporting to complement the current noise contours and measure our future noise performance. This work will be used to more precisely describe outcomes to support this END Noise Action Plan. Although not specifically mentioned, this Action will consider the use of N-above metrics and their potential inclusion in the annual noise contour reports.

- In addition to the expanded noise monitoring scheme, **Action 49** has been updated to include the production of local and holistic noise reports.

FEEDBACK RECEIVED REGARDING THE FINAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE THIRD STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

CONTENT OF THE PAPER ISSUED BY GATWICK AIRPORT LTD TO THE GATCOM STEERING GROUP MEETING HELD ON 21 JUNE 2018

Introduction to the Final Draft END NAP

Background

It was agreed at the meeting of GATCOM on 26 April 2018 that the final draft Noise Action Plan, having been updated in response to the feedback received, be presented to the 21 June 2018 meeting of the GATCOM Steering Group for consideration prior to it being presented for a final time to the full meeting of GATCOM, scheduled for 19 July 2018. The effect of this additional stage of consultation is that there has been three stages of consultation; commencing with the circulation of a proposed list of Action Plan Actions, the circulation of an initial draft Noise Action Plan and culminating in the final draft of the Noise Action Plan being presented.

Feedback received and the changes made

In the previous round of consultation the full draft Action Plan was released to those organisations who provided comment with feedback received from:

- GATCOM,
- The Community Noise Groups (CNGs) that sit on the Noise Management Board and the Gatwick Area Conservation Campaign.

The feedback provided by these parties is included in full, within Annex 9B of the final draft Noise Action Plan.

Gatwick Airport Ltd welcomes and appreciates the feedback provided and as taken this on-board in the development of its final draft. A key theme of the feedback was a desire to identify new noise metrics and more precisely describe the aims, targets and outcomes of the actions. In response, GAL has added several actions as outlined below and in particular has:

- Expanded the scope of Action 39a, to aim to identify new noise metrics and reporting to complement the current noise contours and measure our future noise performance. These metrics could then be used to more precisely describe the aims, targets and outcomes of the actions within the END NAP. The identification of new noise metrics and reporting will be based upon a review of government policy and its implementation. Through this process we aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts. Another key output from the feedback.

- Re-affirmed its ambition for the Noise Action Plan to be a 'living document' involving tracking, regular informal review and update. The first stage of this approach will be incorporation of the findings of Action 39a. Due to the importance of this work, GAL has designated this as a priority action. GAL confirms that we will discuss the priority of the remaining actions once the Action Plan has been accepted by DEFRA.

To support the measurement of our ongoing and planned noise management programs listed within the END NAP; GAL has committed to expanding its community noise monitoring program by procuring and deploying additional noise monitoring terminals. This will provide a vital asset to both understanding the current noise climate whilst measuring the benefits delivered by the Noise Action Plan can be measured and assessed.

To continue to drive continuous improvement, as part of Action 25, GAL was to explore options to reduce its departure noise limits with the DfT. Following the feedback, GAL notes that the DfT has

FEEDBACK RECEIVED REGARDING THE FINAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE THIRD STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

confirmed that GAL can explore options to reduce these limits beyond the currently set levels and the corresponding action has been updated.

To confirm our commitment to improving our noise management we have also introduced Action 24a which aims to increase the fines that are levied against airlines that breach departure noise limits, be these the current or revised limits when they are introduced.

In response to feedback and to build upon the success delivered by the A320 fuel over pressure port (FOPP) retrofit. GAL has added Action 2a to identify, consult and implement corresponding charging penalties for any additional aircraft or manufacture specific noise defects which can be rectified by a modification. Finally, GAL has introduced Action 28a to confirm that the airport will undertake a review of its acoustic noise insulation programs by the end of 2019. With subsequent reviews considered every 5 years as noted in Action 28.

Through the feedback provided and the corresponding adaptation to the Noise Action Plan, GAL believes the final draft of the Noise Action Plan provides a comprehensive and effective overarching statutory driver for noise management and mitigation around the airport.

Next steps

The final draft END NAP will be presented to the 21 June 2018 meeting of the GATCOM Steering Group for consideration prior to it being presented for a final time to the full meeting of GATCOM, scheduled for 19 July 2018.

Should the final draft be accepted by GATCOM, regulations require that it be sent to the Secretary of State for DEFRA for formal "adoption". The Secretary of State for DEFRA, in liaison with the Department for Transport, will form a view regarding whether or not the submitted revised plan meets the requirements of the Regulations and, therefore, whether or not the plan is appropriate for adoption.

- If the Secretary of State for DEFRA considers that the requirements set out in the Regulations are met, they will notify the airport accordingly that the Action Plan has been adopted. The Action Plan should then be published by the Airport Operator as a public document in an electronic format within 28 days.

- If the requirements set out in the Regulations are not met, the airport operator will be required to make the necessary changes to the plan. Following revision, the revised plan will need to be resubmitted to the Secretary of State for DEFRA by an agreed date for further consideration.

FEEDBACK RECEIVED REGARDING THE FINAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE THIRD STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

REPORT FROM THE SECRETARIAT AND TECHNICAL ADVISIOR OF THE GATWICK AIRPORT CONSULTATIVE COMMITTEE TO THE MEETING OF THE COMMITTEE HELD ON 19 JULY 2018

GATCOM
Gatwick Airport Consultative Committee

SUMMARY
Following GATCOM's consideration at the last meeting of Gatwick Airport Limited's (GAL) draft reviewed Environmental Noise Directive (END) Noise Action Plan (NAP), GAL has considered all the responses received to its consultation and has now produced a final version of the END NAP. The way in which GAL has taken into account GATCOM's comments was considered by the GATCOM Steering Group at its meeting on 21 June. This report sets out the views and recommendations of the Steering Group (see section 3), the on-going concerns of the NMB community noise groups (see section 4) and sets out a final GATCOM response in Appendix 2 for approval.

1. OVERVIEW

1.1 At the last meeting, the Committee's response to GAL's draft reviewed END NAP was agreed. In summary the key points of GATCOM's response was as follows:

- Overall, the draft reviewed END NAP gives a comprehensive account of the way in which GAL manages the noise climate, the legislative and regulatory framework within which GAL is required to operate, the proposed actions to be undertaken over the next five years and the schedule of consultation responses received at the time of publishing the draft document.

- Many of the actions proposed in the draft NAP are supported and the revised format which introduces new additional columns giving information on the estimated area/number of people to benefit from the action, the expected benefit and cost of the action and the other organisations to be involved in fulfilling the action is welcomed as it will assist in the monitoring process.

- Whilst a number of GATCOM's comments on GAL's proposed list of actions had been taken into account, GAL had not committed to specifying targets to be achieved and that some actions lacked clear indicators. GAL has been asked to review its "Aims" to make them "Targets".

- Whilst not wishing to circumvent the clear NMB role in helping to agree noise mitigation priorities as part of its work plan which is also captured by the NAP, GAL has been asked to identify some priority actions that would bring benefits to the noise climate early in the plan period. This will help to build confidence and trust amongst communities that initiatives of importance are being treated as a priority by GAL. As a reminder GATCOM has suggested Actions 9, 25, 39 and 39a.

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GATCOM
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- GAL should do more to pursue Action 9: Implementation of a voluntary ban on operations of QC4 aircraft within the core night period, and Action 25: Review of Departure Noise Limits.

1.2 GATCOM also asked to see the Final Draft END NAP document before it being submitted to Defra for approval.

1.3 GAL has now produced the Final Draft END NAP which was considered by the GATCOM Steering Group at its meeting on 21 June together with GAL's covering report, which is attached at Appendix 1 for consideration. GATCOM is asked to consider and agree its final response to GAL.

2. FINAL DRAFT END NAP

2.1 A copy of the Final Draft END NAP together with the Annexes and GAL's covering report was circulated to all members and supporting officers on 29 June for consideration in advance of the GATCOM meeting.

2.2 The final version of the END NAP has now been split into 2 parts – part 1 is the main document and action plan – part 2 contains all the annexes. It is a comprehensive plan which sets out the overarching approach to noise management at Gatwick and the KPIs to be met on a variety of performance standards.

2.3 GAL's paper attached at Appendix 1 addresses the way in which it has taken account of the feedback received to the consultation on the reviewed draft END NAP. In particular, GAL has advised that:

- Defra's guidance does not require targets to be set as part of the action plan process.
- It has reaffirmed its ambition for the END NAP to be a "living document" involving tracking, regular informal review and update.
- It has expanded the scope of Action 39a relating to the identification of new noise metrics and reporting (a key priority of the Noise Management Board (NMB)).
- A greater commitment has been given under Action 25 to explore options to reduce noise limits beyond those currently set by the DfT.

- A commitment has been given in Action 24a to increase the fines for breaches in departure noise limits.
- A new commitment to implement corresponding charging penalties for any additional aircraft or manufacture noise defects which can be rectified by modification is given in Action 2a.
- A commitment in Action 28a has been given to undertake a review of the noise insulation program by the end of 2019.

3. GATCOM STEERING GROUP'S COMMENTS

3.1 The further refinements to a number of the actions have been welcomed by the GATCOM Steering Group. They address more specifically aircraft noise and disturbance through a variety of management and mitigation techniques, all of which enhance the comprehensiveness of the END NAP. However a key matter on which the Steering Group and GAL have not been able to reach agreement is on having specific targets to support the delivery of the actions in the END NAP. GAL still refers to "aims".

3.2 GAL has stated in its paper at Appendix 1 that the Defra guidance confirms that no binding targets are required and no penalties are to be imposed. GAL has also stated:

> "Expanded the scope of Action 39a, to aim to identify new noise metrics and reporting to complement the current noise contours and measure our future noise performance. These metrics could then be used to more precisely describe the aims, targets and outcomes of the actions within the END NAP. The identification of new noise metrics and reporting will be based upon a review of government policy and its implementation. Through this process we aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts. Another key output from the feedback."

3.3 In addition to this GAL has re-affirmed its ambition for the Noise Action Plan to be a 'living document' involving tracking, regular informal review and update. The first stage of this approach will be incorporation of the findings of Action 39a and GAL has designated this as a priority action.

3.4 As regards GATCOM wish to see priority given to certain actions, GAL has confirmed that this will be the subject of discussion once the END

NAP has been accepted by DEFRA.

3.5 Whilst the Steering Group welcomed GAL's approached in respect of the priority to be given to Action 39a and the scope to use the outcome of that work to describe the aims, targets and outcomes of the actions in the END NAP, it was disappointed that GAL had not taken the opportunity to set an overarching target in the END NAP against which the overall noise performance could be meaningfully monitored and tracked. It is acknowledged that neither the Environmental Noise (England) Regulations 2006 or Defra's Guidance refer to the setting of targets and that both documents only refer to the term "aim" (they are silent on the use of the term "target"), the Steering Group felt that in order to give greater confidence to local communities impacted by aircraft overflight and noise that GAL is serious about containing the noise environment as traffic at the airport grows, the setting of an overarching target in the statutory END NAP was something that GAL should embrace. The Steering Group therefore recommends that this matter be raised in GATCOM's response to GAL.

3.6 The suggested draft GATCOM response is set out in Appendix 2 for consideration and approval.

3.7 The Steering Group was also of the view that the Government needed to have a greater oversight of the airport's noise performance generally to ensure that airports were managing the noise climate in accordance with the Government's policy objectives. It is therefore suggested that GATCOM raises this point with the Government and to seek clarification on how it intends to monitor the implementation and effectiveness of the Gatwick NAP to ensure it delivers the aims of Government policy.

4. NMB COMMUNITY NOISE GROUPS VIEW

4.1 As GATCOM is aware, the views of the NMB Community Noise Groups and Gatwick Area Conservation Campaign have been reported to GATCOM both at the time of considering the proposed draft list of actions (January 2018) and the reviewed Draft END NAP (April 2018). The NMB Community Noise Groups are still of the view that GAL's Final Draft END NAP is not compliant with Defra's guidance. They also believe that GAL's undertaking to develop new noise metrics and reporting (in Action 39a) is inadequate and cannot be relied on given GAL had previously committed to developing such metrics by 2011.

4.2 This view was again expressed at the recent meeting of the NMB held on 27 June which they wished to bring to the attention of GATCOM. The Committee is therefore asked to take their views into consideration in agreeing its final response to GAL.

FEEDBACK RECEIVED REGARDING THE FINAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE THIRD STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

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RECOMMENDED

(1) that the suggested draft response to GAL's Final Draft END NAP as set out in Appendix 2 be approved; and

(2) that GATCOM writes to Defra and the DfT to highlight the need for a greater oversight of the airport's noise performance generally to ensure that the airport was managing the noise climate in accordance with the Government's policy objectives.

PAULA STREET
Secretariat

ANNEX NINE C

FEEDBACK RECEIVED REGARDING THE FINAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE THIRD STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

GATCOM RESPONSE TO FINAL DRAFT END NOISE ACTION PLAN

GATCOM
Gatwick Airport Consultative Committee

24 July 2018

Dear Lee,

FINAL DRAFT: GATWICK END NOISE ACTION PLAN 2019 - 2024
Firstly, thank you for giving GATCOM a further opportunity to review the Final Draft of the END Noise Action Plan (NAP). The Committee is pleased to note that many changes have been made to the Final Draft NAP including further refinement to a number of the actions reflecting the feedback GAL has received from its consultation with GATCOM and other key interested parties.

As part of its consideration of the Final Draft END NAP, GATCOM has again been informed of the on-going concerns of some community noise groups represented on Gatwick's Noise Management Board and that their view is that the reviewed plan does not adhere to Defra's guidance and is not fit for purpose. GATCOM does not share this view and overall the Committee believes the Final Draft END NAP provides a comprehensive plan setting out the overarching approach to noise management at Gatwick and the KPIs to be met on a variety of performance standards.

GATCOM is also pleased that GAL has added new actions in response to feedback received and has particularly welcomed the expanded scope of Action 39a relating to the identification of new noise metrics and reporting. GAL's work on developing new noise metrics is viewed as a high priority by GATCOM given the importance of establishing measures to track more meaningfully airport growth against the impact this has on the noise climate around Gatwick.

GATCOM supports the "living document" approach which echoes the Government's previous advice to airport consultative committees on the purpose of the END NAP and is pleased that it is GAL's intention to use the outcomes from its metrics work to assist in describing more precisely the aims, targets and outcomes of the actions within the END NAP.

However, an area on which GATCOM has not been able to reach agreement with GAL is on the need for the statutory END NAP to set an overarching target against which the airport's overall performance in maintaining, and where possible, achieving a reduction in the noise climate can be monitored and measured. GATCOM believes that in order to give greater confidence to local communities impacted by aircraft overflight and noise that GAL is serious about containing the noise environment as traffic at the airport grows, the setting of an overarching target in the statutory END NAP is something that GAL should embrace.

GATCOM acknowledges that the use of the term "aim" is used widely throughout the NAP and whilst it is noted that this term is consistent

GATCOM RESPONSE TO FINAL DRAFT END NOISE ACTION PLAN
CONTINUED

GATCOM
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with both the Environmental Noise (England) Regulations 2006 and Defra's Guidance (which only stipulate the need for new noise abatement objectives with the aim of providing further management of the noise impact), does not easily lend itself to be monitored and measured in the same way as a target.

As "critical friend" to the airport, GATCOM therefore recommends that GAL reviews whether an overarching target can be included in the END NAP which would also align with the aim set out in Action 39(a) in the development of new noise metrics and which can then be informally reviewed through the "living document" approach. Should GAL agree to such an approach GATCOM would expect to be consulted on any such informal review alongside community noise groups.

Finally, GATCOM also has concerns about how the Government intends to monitor the success of the END NAP to ensure that the airport is delivering the Government's noise management policies and objectives. This is a matter that the Committee will pursue with the DfT and Defra direct.

I trust our comments can be taken into account in the Final END NAP submission to Defra.

Yours sincerely,

Paula Street
Assistant Secretary

ANNEX NINE C

FEEDBACK RECEIVED REGARDING THE FINAL VERSION OF THE DRAFT NOISE ACTION PLAN

DURING THE THIRD STAGE OF ENGAGEMENT, INCLUDING THE GATWICK AIRPORT LTD RESPONSE

GATWICK AIRPORT LTD RESPONSE

Although GATCOM's comments on "aims" and "targets" are appreciated, GAL would like to re-iterate its desire to identify new noise metrics and more precisely describe the aims, targets and outcomes of the actions contained in the END NAP. We plan to do this using our "living document" approach which involves tracking, regular informal review and update. The first stage of this process is the integration of the currently ongoing growth and noise work captured by Action 39a which has been designated as a priority. This work will also aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts, providing a first step towards the setting of overarching targets as requested by GATCOM. These adaptations will be tracked through the regular reporting of the END NAP on an annual basis.

In addition, we have noted our willingness to discuss priority actions with GATCOM once the END NAP has been agreed with DEFRA, at this time we can seek to prioritise actions 9, 25, 39 and, where possible, accelerate the implementation of these. Action 39a is already designated as a priority.

As an airport we operate within Government policy. Issues that arise from differing viewpoints on the interpretation of this policy create issues for all and as a result we welcome GATCOM's proposals to write the DEFRA and the DfT regarding the ongoing monitoring of the END NAP. GAL would like to extend an offer to work with and support GATCOM, the DfT and DEFRA in this piece of work.

Figure 34: Estimated Total Number of People and Dwellings above Various Noise Levels, L_{den}

NOISE LEVEL (DB)	NUMBER OF DWELLINGS 2016	NUMBER OF PEOPLE 2016	NUMBER OF DWELLINGS 2011	NUMBER OF PEOPLE 2011	NUMBER OF DWELLINGS 2006	NUMBER OF PEOPLE 2006
≥ 55	5,450	13,500	4,500	11,300	4,700	11,900
≥ 60	950	2,300	850	2,000	1,300	3,200
≥ 65	250	600	200	500	250	600
≥ 70	<50	<100	<50	<100	50	100
≥ 75	0	0	0	0	0	0

Figure 35: Estimated Total Number of People and Dwellings above Various Noise Levels, L_{day}

NOISE LEVEL (DB)	NUMBER OF DWELLINGS 2016	NUMBER OF PEOPLE 2016	NUMBER OF DWELLINGS 2011	NUMBER OF PEOPLE 2011	NUMBER OF DWELLINGS 2006	NUMBER OF PEOPLE 2006
≥ 54	4,000	9,800	3,550	8,700	4,100	10,300
≥ 57	1,350	3,200	1,200	2,800	1,850	4,400
≥ 60	550	1,400	500	1,200	500	1,300
≥ 63	250	600	200	500	250	600
≥ 66	50	200	100	200	150	300
≥ 69	<50	<100	<50	<100	<50	<100
≥ 72	-	-	-	-	0	0
≥ 75	-	-	-	-	0	0

THE RESULTS OF PREVIOUS NOISE MAPPING

Figure 36: Estimated Total Number of People and Dwellings above Various Noise Levels, $L_{evening}$

NOISE LEVEL (DB)	NUMBER OF DWELLINGS 2016	NUMBER OF PEOPLE 2016	NUMBER OF DWELLINGS 2011	NUMBER OF PEOPLE 2011	NUMBER OF DWELLINGS 2006	NUMBER OF PEOPLE 2006
≥ 54	3,300	8,000	2,600	6,400	2,550	6,200
≥ 57	900	2,100	750	1,800	750	1,900
≥ 60	450	1,000	300	700	350	800
≥ 63	150	400	150	400	150	400
≥ 66	<50	100	<50	100	<50	100
≥ 69	0	0	0	0	<50	<100
≥ 72	-	-	-	-	0	0
≥ 75	-	-	-	-	0	0

Figure 37: Estimated Total Number of People and Dwellings above Noise Levels, $L_{Aeq,\ 16hday}$

NOISE LEVEL (DB)	NUMBER OF DWELLINGS 2016	NUMBER OF PEOPLE 2016	NUMBER OF DWELLINGS 2011	NUMBER OF PEOPLE 2011	NUMBER OF DWELLINGS 2006	NUMBER OF PEOPLE 2006
≥ 54	3,850	9,400	3,300	8,100	3,550	8,900
≥ 57	1,200	2,900	1,050	2,500	1,550	3,700
≥ 60	550	1,300	450	1,100	450	1,200
≥ 63	200	600	200	500	200	600
≥ 66	50	200	50	200	100	300
≥ 69	<50	<100	<50	<100	<50	<100
≥ 72	-	-	-	-	0	0
≥ 75	-	-	-	-	0	0

Figure 38: Estimated Total Number of People and Dwellings above Various Noise Levels, L_{night}

NOISE LEVEL (DB)	NUMBER OF DWELLINGS 2016	NUMBER OF PEOPLE 2016	NUMBER OF DWELLINGS 2011	NUMBER OF PEOPLE 2011	NUMBER OF DWELLINGS 2006	NUMBER OF PEOPLE 2006
≥ 48	3,650	9,000	2,950	7,200	3,000	7,500
≥ 51	1,150	2,800	1,250	2,900	1,500	3,700
≥ 54	500	1,100	450	1,00	450	1,100
≥ 57	200	500	200	500	200	500
≥ 60	50	200	100	200	100	300
≥ 63	<50	<100	<50	<100	<50	<100
≥ 66	0	0	0	0	0	0
≥ 66	-	-	-	-	0	0

ANNEX ELEVEN

SUMMARY PERFORMANCE REPORT OF THE PREVIOUS NOISE ACTION PLAN

Progress against the 62 Action Plan Action in the previous version of the Environmental Noise Directive Noise Action Plan is reported on a quarterly basis to the meetings of the Noise and Track Monitoring Advisory Group. An annual report is also prepared, published online and presented to the Gatwick Airport Consultative Committee. The layout of the quarterly and annual reports list the Action Plan Action, in the order it is listed in the original Environmental Noise Directive Noise Action Plan, followed by a **Red** / **Amber** / **Green** status, an update on the previous reporting period and a plan for the upcoming period.

AS OF JANUARY 2018:
Four Action Plan Actions were identified as RED - Not on track. The rationale behind the rating is in italics beneath each Action Plan Action

30. We will continue to offer a range of contact options for complaints and enquires regarding aircraft noise including by post, email, lo-call voicemail facility and online on the noise website.

GATWICK AIRPORT COMMENT
As recommended by the Independent Review of Arrivals, all complaints are registered online through 'Casper' or by freepost.

37. By the end of 2011 we will review, develop and consult on alternative metrics for describing the impact of aircraft operations during the course of this action plan. We will work and liaise with other UK airports and the Department for Transport on the revised metrics whilst seeking review by Aircraft Noise Monitoring Advisory Committee (UK) ANMAC.

GATWICK AIRPORT COMMENT
As the issue of noise metrics is now being discussed at Government level, at a subgroup of Aircraft Noise Management Advisory Committee (ANMAC), we will continue to play an active role in the Aircraft Noise Management Advisory Committee sub-group (once resumed) as this, and other matters are progressed.

39. We will conduct customer service surveys for the FPT every three years commencing in 2010.

GATWICK AIRPORT COMMENT
This Action Plan Action has been placed on hold indefinitely due to the changes made to complaints handling arising from the Independent Review of Arrivals and the introduction of the Noise Management Board.

53. We will benchmark internationally and publish our ranking in aircraft noise communications with other comparable airports in 2010 and 2013.

GATWICK AIRPORT COMMENT
This Action Plan Action has been placed on hold indefinitely due to the changes made to how Gatwick communicates noise and airspace issues arising from the Independent Review of Arrivals and subsequent activities of the Noise Management Board.

Three Action Plan Actions have been identified as AMBER – Neither on track nor not on track.

19. d) Gatwick Airport Ltd will write to the Department for Transport requesting research be undertaken to fully understand the effects of aircraft noise on human health.

GATWICK AIRPORT COMMENT
The airport is awaiting the outcomes of the World Health Organisation Report on the effects of noise on human health prior

to taking any further action regarding this issue.

44. We will publish on our website the night quota period 48dB (A) Leq contour.

GATWICK AIRPORT COMMENT
The annual 2016 noise contours were commissioned by the airport and calculated by the Civil Aviation Authority Environmental Research and Consultancy Department. The airport is in receipt of these and they will be published on the website in February 2018.

45. We will publish annually on our website the summer Leq contours as produced by the Department for Transport.

GATWICK AIRPORT COMMENT
The annual 2016 noise contours were commissioned by the airport and calculated by the Civil Aviation Authority Environmental Research and Consultancy Department. The airport is in receipt of these and they will be published on the website in February 2018.

The remaining fifty-three Action Plan Actions were all found to be GREEN – on track.

FURTHER INFORMATION
To access further information regarding Gatwick Airport's noise reporting, please visit
https://www.gatwickairport.com/business-community/aircraft-noise-airspace/noise-reports/fpt-reports/
on these webpages you can view:

- Minutes from the Noise and Track Monitoring Advisory Group
- END Noise Action Plan Annual Report
- Verification of 'Casper' – the Gatwick Airport Noise and Track Keeping system
- Community Noise Studies – as part of Gatwick's Community Noise Monitoring Programme
- Flight Performance Team Annual and Quarterly Reports

The interactive 'Casper' Noise Lab can be found at:
http://noiselab.casper.aero/lgw/

On our **Sustainability** Pages at
https://www.gatwickairport.com/business-community/community-sustainability/sustainability/
you can view:

- Section 106 Annual Monitoring Reports
- Section 106 / Decade of Change Management Action Plans
- Decade of Change Reports

On our **Noise Management Board** webpages at
https://www.gatwickairport.com/business-community/aircraft-noise-airspace/noise-management-board/
there is a substantial amount of information relating the Independent Review of Arrivals, the Noise Management Board and minutes of meetings, meeting papers and details of studies and analysis undertaken.

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ANNEX TWELVE

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

In revising this Noise Action Plan, Gatwick Airport Ltd has decided to undertake a full refresh of the Action Plan Actions therein to ensure they remain relevant as the airport grows.

This table fulfils Gatwick's obligation to publish details of removed, retained, amended and new Action Plan Actions. The left hand column contains all of the previous Noise Action Plan Actions and the right the retained, amended or new Action Plan Actions.

- 26 previous Action Plan Action have been removed.
- The 8 retained Action Plan Actions are in **black**.
- The 18 amended Action Plan Actions are in **blue**.
- The 32 new Action Plan Actions are in **green**

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

Figure 39: Comparison of old and new Action Plan Actions

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
1. We will develop and consult with airlines on policy prioritising airlines operating Chapter 4 aircraft, or equivalent when introducing new business to Gatwick with the aim of increasing the percentage of Chapter 4 or equivalent aircraft operating at Gatwick to 83% by 2015.	1. We will maintain a charging differential in our published airport charges which incentivises the use of aircraft with the best in class noise performance.
2. We will consult with our airline partners on the voluntary phase out of Chapter 3 high aircraft in favour of Chapter 4 or equivalent at Gatwick.	4. Gatwick Airport Ltd will consult with its airline partners annually regarding the Airport Charges Structure. The Noise Management Board will also be asked for its feedback.
3. We will review the landing fee differential at least every five years commencing in 2010. From 2015 onwards this will be with due regard to CAP 119.	3. We will review the landing fee differential at least every five years.
4. In conjunction with our airline partners we will seek to introduce a 'fly quiet and clean' programme. This will rank our airline partners in relation to their overall performance for noise and emissions impacts using metrics such as compliance with abatement techniques, fleet age, engine fit and passenger loads per km. critical to this programme will be the continued delivery of high CDA performance through partnership work with airlines.	5. In conjunction with our airline partners we will seek to re-introduce, by the end of this Noise action Plan period a programme that will rank our airline partners in relation to their overall performance for a range of noise and emissions impacts potentially including, but not limited to metrics such as compliance with abatement techniques, fleet age, engine fit and passenger loads per km.
4. a) Gatwick Airport Ltd will write to its largest fleet operators of A320 family aircraft seeking their intentions to retrofit A320 family aircraft with vortex generators to eliminate noise created by air passing over the Fuel Tank Pressure Equalisation Vents.	2. We will continue to apply and report upon charging penalties to those aircraft operators of Airbus A320 family aircraft that have not had the Fuel Over Pressure Protector (FOPP) modification retrofitted.
5. We will continue to promote adherence to the Arrivals Code of Practice and in particular the achievement of Continuous Descent Operations through forums such as the Flight Operations Performance and Safety Committee, the Gatwick Airport Pilots Forum, Sustainable Aviation and other communication events.	13. We will continue to promote adherence to the Arrivals Code of Practice through groups such as Flight Operations Performance and Safety Committee (FLOPSC), Sustainable Aviation and other engagement events.

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COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
6. We will continue to promote, monitor, seek to improve and report on adherence to the departure noise abatement procedures detailed in the Gatwick Aeronautical Information Publication. The detail of this is described within the main body of this (END Noise Action Plan) document.	19. We will continue to promote, monitor, seek to improve and report on adherence to the departure noise abatement procedures detailed in the London Gatwick Aeronautical Information Publication.
7. We will continue to promote, monitor, seek to improve and report on adherence to the arrival noise abatement procedures detailed in the Gatwick Aeronautical Information Publication. See section six (of the END Noise Action Plan).	14. We will continue to promote, monitor, seek to improve and report on adherence to the arrival noise abatement procedures detailed in the London Gatwick Aeronautical Information Publication.
8. We will continue to administer the Department for Transport night restrictions regime and ensure that the number of operations at night is within the limits prescribed. We will also be actively involved in the Government night noise consultation in 2010.	6. We will continue to administer the Department for Transport night flight regime and ensure that we operate at night within the prescribed ATM and QC limits.
9. We will continue to monitor adherence to and review the effectiveness of our ground noise operational controls.	10. We will continue to monitor adherence to and review the effectiveness of our ground noise operational controls.
10. In conjunction with our partners in Sustainable Aviation we will continue to lobby for and seek to support continual improvements in technology and operations towards the ACARE goal of 50% reduction in perceived external noise by 2020 based on new aircraft of 2020 relative to equivalent new aircraft in 2000.	**ACTION REMOVED AS GATWICK AIRPORT LTD REMAINS A COUNCIL MEMBER OF SUSTAINABLE AVIATION AND WILL CONTINUE TO WORK WITH THE ALLIANCE THROUGH THE VARIOUS WORKING GROUPS TO ACHIEVE THIS COLLECTIVE OBJECTIVE.**
11. We will continue to fine aircraft in breach of the Department for Transport departure noise limits, and we will seek to increase the fining levels with the aim of penalising repeat offenders or departure noise infringements in 2010 and review levels every five years.	24. We will continue to fine aircraft in breach of the Department for Transport departure noise limits with all such monies passed to the Gatwick Airport Community Trust.

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
12. We will work with our partners in Sustainable Aviation to develop and promote low noise flight procedures through evaluation of future operational methods and implementation of best practice, e g, evaluating the feasibility of introducing a steeper approach as part of an international initiative. Gatwick Airport will implement any recommendations resulting from feasibility studies in conjunction with the Civil Aviation Authority and the Department for Transport as and when they are released.	**ACTION REMOVED AS GATWICK AIRPORT LTD REMAINS A COUNCIL MEMBER OF SUSTAINABLE AVIATION AND WILL CONTINUE TO WORK WITH THE ALLIANCE THROUGH THE VARIOUS WORKING GROUPS TO ACHIEVE THIS COLLECTIVE OBJECTIVE.** **THE FUTURE WORKPLAN OF THE NOISE MANAGEMENT BOARD, AGREED ANNUALLY, MAY CONSIDER FEASIBILITY STUDIES WITH THE INTENTION OF INTRODUCING LOW NOISE FLIGHT METHODS. ANY SUCH ACTIVITIES WOULD BE SHARED WITH SUSTAINABLE AVIATION, AS APPROPRIATE.**
13. In conjunction with our airline partners and NATS (air navigation services provider) we will undertake a review in 2010 of our stand planning procedures to identify any opportunities to prioritise stand allocation so as to minimise ground noise impacts.	**ACTION REMOVED – THIS WORK IS UNDERTAKEN BY GATWICK AIRPORT LTD AS PART OF ITS 'BUSINESS AS USUAL' ACTIVITIES TO ENSURE MAXIMUM UTILISATION OF AVAILABLE RESOURCES WHILE ENSURING THAT GROUND NOISE IMPACTS ARE NOT ADVERSELY AFFECTED.**
14. We will make a financial contribution towards the acoustic insulation all eligible properties within the boundary of our new residential noise insulation scheme. This is scheduled for launch in January 2014 and benefits from a larger scheme boundary than in previous schemes.	28. We will continue a scheme that helps with the cost of acoustically insulting homes against the effects of aircraft noise. We undertake to review the scheme every 5 years to ensure it remains appropriate and relevant.
15. We will request that the Department for Transport review and explore in conjunction with Gatwick Airport the possibility of updating the current departure noise limits.	25. Through engagement with the Department for Transport, Aircraft Noise Management Advisory Committee and/or through unilateral action review our departure noise limits.
16. We will continue to offer households subject to high levels of noise (69dB(A) Leq or more) assistance with the costs of relocating.	30. To address the impacts of future growth we will continue to offer to purchase those properties suffering from both a high level of noise (63dB(A) Leq or more) and a large increase in noise (3dB(A) Leq or more), In accordance with the Terms of Reference of the Property Market Support Bond and Home Owners Support Scheme.

12 ANNEX TWELVE
COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
17. We will request that the Department for Transport review and explore in conjunction with Gatwick Airport the possibility of updating the current night departure noise limits.	**ACTION REMOVED – THIS HAS BEEN SUPERSEDED BY THE AMENDED ACTION 25** *"We will engage with the Department for Transport and the Aircraft Noise Management Advisory Committee to review departure noise limits at Gatwick Airport."*
18. We will continue to offer acoustic insulation to other noise sensitive buildings such as schools and hospitals, exposed to medium to high levels of noise (63dB(A) Leq or more).	29. We will continue to offer acoustic insulation to noise sensitive buildings within the 60LAeq noise contour.
19. We will request that the Department for Transport review current airspace utilisation around Gatwick.	52. We will participate in all activities relating to 'LAMP 2' – the redesign of the London Terminal Manoeuvring Area (LTMA) and en-route airspace to eliminate chokepoints, alleviate areas of intensive aircraft concentrations, and to create a structure that has capacity to accommodate forecast traffic levels beyond 2040.
19. a) We will explore the feasibility of providing 'rotating respite' to those communities affected by noise from arriving aircraft.	**ACTION REMOVED – REFER TO ACTION 31.** *"In conjunction with the Noise Management Board we will explore innovative methods to reduce both inbound and outbound aircraft noise levels."*
19. b) In conjunction with the London Airspace Management Programme we will explore innovative new methods to control both inbound and outbound aircraft to strive for operational best practice with a view to minimising their impact on the communities below.	31. In conjunction with the Noise Management Board we will explore innovative methods to reduce both inbound and outbound aircraft noise levels.
19. c) We will consult appropriately in respect of actions 19a and19b.	53. Ensure that local communities are informed about LAMP 2 plans and the progress and airport plans for the integration of Gatwick specific departure and arrival procedures.

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
19. d) Gatwick Airport Ltd will write to the Department for Transport requesting research be undertaken to fully understand the effects of aircraft noise on human health.	**ACTION REMOVED AS GATWICK AIRPORT LTD IS AWARE, THROUGH SUSTAINABLE AVIATION THAT THE WORLD HEATH ORGANSIATION IS UNDERTAKING A STUDY THAT WILL DETAIL, AMONG OTHER MATTERS, THE EFFECTS OF AIRCRAFT NOISE ON HUMAN HEALTH.**
20. To address the impacts of future growth we will continue to offer acoustic insulation to any residential property which suffers from a medium to high level of noise (66dB(A) Leq or more) and a large increase in noise (3dB(A) Leq or more).	**ACTION REMOVED – REFER TO ACTIONS 28 AND 30.** Action 28: *"We will continue a scheme that helps with the cost of acoustically insulting homes against the effects of aircraft noise. We undertake to review the scheme every 5 years to ensure it remains appropriate and relevant."* Action 30: *"To address the impacts of future growth we will continue to offer to purchase those properties suffering from both a high level of noise (63dB(A) Leq or more) and a large increase in noise (3dB(A) Leq or more), In accordance with the Terms of Reference of the Property Market Support Bond and Home Owners Support Scheme."*
21. To address the impacts of future growth we will continue to offer to purchase those properties suffering from both a high level of noise (63dB(A) Leq or more) and a large increase in noise (3dB(A) Leq or more), In accordance with the Terms of Reference of the property market support bond and home owners support scheme.	**ACTION REMOVED – REFER TO ACTION 30.** *"To address the impacts of future growth we will continue to offer to purchase those properties suffering from both a high level of noise (63dB(A) Leq or more) and a large increase in noise (3dB(A) Leq or more), In accordance with the Terms of Reference of the Property Market Support Bond and Home Owners Support Scheme."*
22. We will undertake and publish a feasibility study to assess the potential economic and environmental costs and benefits of operating a runway preference by the end of 2010.	**ACTION REMOVED – REFER TO ACTION 31.** *"In conjunction with the Noise Management Board we will explore innovative methods to reduce both inbound and outbound aircraft noise levels."*

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COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
23. We will continue to engage with our aviation partners through the Flight Operations Performance and Safety Committee to seek to improve adherence to the Aeronautical Information Publication.	18. We will continue to promote adherence to the Departures Code of Practice through groups such as FLOPSC, Sustainable Aviation and other communication events.
24. We will develop a strategy to minimise Auxiliary Power Unit use in order to reduce ground noise and local air quality emissions, and replace with and roll out through 2010. Impacts will be reviewed on an annual basis.	12. We will continue to minimise aircraft auxiliary power unit use in order to reduce ground noise and local air quality emissions via Gatwick Airport Directives and monitoring of compliance.
25. We will publish each quarter on our website the level of adherence with the noise abatement procedures in the Gatwick Aeronautical Information Publication.	38. We will report progress against the published Noise Abatement Procedures contained within the London Gatwick Aeronautical information Publication and this Noise Action Plan on a quarterly basis to the Noise and Track Monitoring Advisory Group, the Gatwick Airport Consultative Committee and on our webpages.
26. We will continue to keep abreast of government research and guidance in relation to issues of tranquillity and overflight of Areas of Outstanding Natural Beauty (AONB).	**ACTION REMOVED – AONB GUIDANCE CONTINUALLY MONITORED AS PART OF THE AIRPORT'S 'BUSINESS AS USUAL' ACTIVITIES. THE LATEST GUIDANCE IS LISTED WITHIN THE 2017 AIR NAVIGATION GUIDANCE.**
27. We will continue to engage with local community representatives on air noise through appropriate consultation groups, such as the Gatwick Airport Consultative Committee, Noise and Track Monitoring Advisory Group and the Flight Operations Performance and Safety Committee.	46. We will continue to engage with local communities through the established noise governance groups.
28. We will report on the progress of the (Environmental Noise Directive) action plan to the Noise and Track Monitoring Advisory Group as a standing agenda item.	**ACTION REMOVED – REFER TO ACTION 38.** *"We will report progress against the published Noise Abatement Procedures contained within the London Gatwick Aeronautical information Publication and this Noise Action Plan on a quarterly basis to the Noise and Track Monitoring Advisory Group, the Gatwick Airport Consultative Committee and on our webpages."*

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
29. We will continue to engage with the Gatwick Airport Consultative Committee on noise management providing quarterly reports of performance and the work of the Flight Performance Team, Noise and Track Monitoring Advisory Group and the Flight Operations Performance and Safety Committee.	**ACTION REMOVED – REFER TO ACTION 38.** *"We will report progress against the published Noise Abatement Procedures contained within the London Gatwick Aeronautical information Publication and this Noise Action Plan on a quarterly basis to the Noise and Track Monitoring Advisory Group, the Gatwick Airport Consultative Committee and on our webpages."*
30. We will continue to offer a range of contact options for complaints and enquires regarding aircraft noise including by post, email, lo-call voicemail facility and online on the noise website.	42. We will continue to offer various methods for complaints about aircraft noise events.
31. We will continue to provide public access to flight track information (delayed by 20 minutes) via the online flight tracking facility.	33. We will continue to provide public access to flight track information and noise related data via the Gatwick Airport noise website and the online flight tracking facility, available both on desktop and mobile devices.
32. We will continue to provide a Flight Performance Team service and implement service improvements where identified. The Flight Performance Team will continue to provide accurate and timely data to aid strategy development and noise complaint handling.	34. We will continue to provide a Flight Performance Team (FPT) service and implement service improvements where identified. The FPT will continue to provide accurate and timely data to aid strategy development and noise complaint handling.
33. We will continue to log all complaints relating to aircraft operations and publish the statistics on our website quarterly.	41. We will continue to log all complaints relating to aircraft operations in line with the extant Noise Complaints Handling Policy and publish the statistics on our website quarterly.
34. We will seek to respond to at least 95% of all complaints and enquiries within eight working days of receipt and publish our performance in Flight Performance Team quarterly reports.	40. We will seek to respond to at least 95% of all complaints and enquiries within eight working days of receipt, in line with the extant Complaints Handling Policy, and publish our performance in FPT quarterly reports.

ANNEX TWELVE

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
35. Through our work with the Noise and Track Monitoring Advisory Group and the Gatwick Noise Monitoring Group we will seek to further develop our community noise monitoring programme to help gain greater understanding of the impacts in communities affected by Gatwick operations.	37. We will continue to provide a Community Noise Monitoring Scheme, operated under the supervision of the Noise and Track Monitoring Advisory Group and the Gatwick Noise Monitoring Group.
36. We will continue to direct all money raised by noise infringements to the Gatwick Airport Community Trust.	**ACTION REMOVED – REFER TO ACTIONS 24 AND 26.** *"We will continue to fine aircraft in breach of the Department for Transport departure noise limits with all such monies passed to the Gatwick Airport Community Trust."* *"We will work with our airlines and noise governance groups to explore the feasibility of introducing supplementary charges for aircraft departures which persistently fail to operate in accordance with Noise Preferential Routes prescribed for the airport as measured by the noise and track monitoring system operated by Gatwick Airport Ltd, with all such monies passed to the Gatwick Airport Community Trust."*
36. a) In conjunction with the Gatwick Noise Monitoring Group and the Noise and Track Monitoring Advisory Group we will continue to commission noise studies to gain an insight into the noise climate in a particular area and we will publish these on our website.	49. In conjunction with the Gatwick Noise Monitoring Group we will commission noise studies to gain an insight into the noise climate in a particular area and we will publish these on our website.

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
37. By the end of 2011 we will review, develop and consult on alternative metrics for describing the impact of aircraft operations during the course of this action plan. We will work and liaise with other United Kingdom airports and the Department for Transport on the revised metrics whilst seeking review by Aircraft Noise Management Advisory Committee.	39a. We will aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts. In order to achieve this we will conduct a review of Government policy including how Government policy should be interpreted and how that policy has been applied in practice. Following the establishment of a workable policy baseline we will aim to develop new noise metrics and reporting to complement the current noise contours and measure our future noise performance. This work will be used to more precisely describe outcomes to support this END Noise Action Plan.
38. We will continue to engage with local community representatives on ground noise issues through the ground noise agenda item of the Noise and Track Monitoring Advisory Group.	**ACTION REMOVED AS THE GROUND NOISE REPORT ISSUED BY AIRSIDE COMPLIANCE IS A STANDING AGENDA ITEM OF NATMAG.**
39. We will conduct customer service surveys for the FPT every three years commencing in 2010.	**ACTION REMOVED – INDEPENDENT REVIEW OF ARRIVALS EXAMINED GATWICK'S NOISE COMMUNICATION STRATEGIES WITH LOCAL COMMUNITIES AND RECOMMENDED AREAS FOR IMPROVEMENT, ALL OF WHICH WERE ACCEPTED.**
40. We will host a local focus forum/seminar every two years, inviting local interest groups and other key stakeholders.	50. We will continue to host an annual airspace seminar, to include an annual update from the Noise Management Board, inviting local interest groups and stakeholders.
41. We will commission and publish night forecast contours for ground noise for 2015 in 2010.	39. We will update to our website the following noise contours: - Summer 16 hour day Leq (actual) - Summer 16 hour day (standard) Leq - Summer Night Leq (actual) - The above compared to the previous year. - Summer Night 10 year average modal split Leq

ANNEX TWELVE

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
42. We will commission and publish summer 16 hour day forecast Leq contours for air noise for 2015 in 2010.	**ACTIONS REMOVED – REFER TO ACTION 39.** *"We will update to our website the following noise contours:* • *Summer 16 hour day forecast Leq contours for air noise* • *Summer 16 hour day forecast Leq contours for air noise* • *Night forecast contours for ground noise* • *Forecast Lden contours for air noise* • *Night quota period 48dB (A) Leq contour"*
43. We will commission and publish forecast Lden contours for air noise for 2015 in 2010.	
44. We will publish on our website the night quota period 48dB (A) Leq contour.	
45. We will publish annually on our website the summer Leq contours as produced by the DfT.	
46. We will continue to engage with local planning authorities in order to ensure they are well informed about noise issues at Gatwick Airport.	51. We will continue to engage with local planning authorities in order to ensure they are well informed about noise issues at Gatwick, and to provide information on the airport and its operation.
47. We will continue to monitor adherence and review the effectiveness of our ground noise operational controls and publish data in the Noise and Track Monitoring Advisory Group meeting minutes.	11. We will report on a quarterly and annual basis the following: • Fixed Electrical Ground Power availability. • The amount of Ground Power Unit dispensations granted. • The number of audit checks of aircraft auxiliary power unit running. • The number of non-compliances of aircraft APU runs identified. • The number of aircraft engine runs undertaken.
48. We commit to maintaining a suitable Noise and Track Keeping system to manage noise, track-keeping and to provide an online self-service flight tracking / complaint facility. We will also enhance this service when upgrades become available.	32. We will ensure that our Noise and Track Keeping systems are suitable, relevant and reliable, providing updates as appropriate.
49. We will continually review and amend as appropriate the Gatwick Airport Directives relating to noise management.	**ACTION REMOVED – REFER TO ACTION 12.** *"We will continue to minimise aircraft auxiliary power unit use in order to reduce ground noise and local air quality emissions via Gatwick Airport Directives and monitoring of compliance."*

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
50. We will continue to operate and enhance our Noise Management systems.	**ACTION REMOVED – REFER TO ACTION 32.** *"We will ensure that our Noise and Track Keeping systems are suitable, relevant and reliable, providing updates as appropriate."*
51. We will monitor the performance indicators listed within the action plan and where we determine that a discouraging trend is emerging, we will seek to set an annual target to help address it.	**ACTION REMOVED – REFER TO ACTION 38.** *"We will report progress against the published Noise Abatement Procedures contained within the London Gatwick Aeronautical information Publication and this Noise Action Plan on a quarterly basis to the Noise and Track Monitoring Advisory Group, the Gatwick Airport Consultative Committee and on our webpages."*
52. We will benchmark internationally and publish our ranking on operational noise management with other comparable airports in 2010 and 2014.	**ACTION REMOVED – THE 2015 INDEPENDENT REVIEW OF ARRIVALS EXAMINED GATWICK'S OPERATIONAL NOISE MANAGEMENT STRATEGIES AND RECOMMENDED AREAS FOR IMPROVEMENT, ALL OF WHICH WERE ACCEPTED.**
53. We will benchmark internationally and publish our ranking in aircraft noise communications with other comparable airports in 2010 and 2014.	**ACTION REMOVED – THE 2015 INDEPENDENT REVIEW OF ARRIVALS EXAMINED GATWICK'S NOISE COMMUNICATION STRATEGIES AND RECOMMENDED AREAS FOR IMPROVEMENT, ALL OF WHICH WERE ACCEPTED.**
54. We will participate fully, through groups such as the Aircraft Noise Management Advisory Committee in discussing arrival and departure policies.	44. Gatwick will continue to engage actively with Government, the Regulator, Sustainable Aviation and such ad-hoc reviews that may be established and will respond appropriately to relevant consultations, engagement exercises and recommendations arising from those activities.
55. We will continue to monitor Government research into the effects of noise on human health where applicable and appropriate we will adopt the findings of any research and adopt the guidelines outlined by latest Word Health Organisation reviews.	**ACTION REMOVED - Word Health Organisation (WHO) GUIDANCE CONTINUALLY MONITORED.**

ANNEX TWELVE

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
	21. In conjunction with our partners and the Noise Management Board we will adopt a preferred Noise Abatement Departure Procedure.
	22. We undertake to explore opportunities to remove the altitude restrictions on Routes 3 and 4 intended to reduce the noise impact of departing aircraft.
	23. We undertake to explore the feasibility of introducing an alternative Standard Instrument Departure routes within our Noise Preferential Routes in order to provide dispersions and / or respite.
	15. In conjunction with the Noise Management Board, Gatwick Airport will identify a reduced low noise arrival procedure which will capture Low Power Low Drag measures and result in a metric which will supplement Continuous Descent Operations as an additional measurable target.
	16. In line with Noise Management Board initiatives and the commitments in the Sustainable Aviation Noise Road Map, we will work with our airlines and air navigation services providers to improve CDO at Gatwick.
	17. We will implement agreed recommendations of the Noise Management Board Work Plan solutions that are intended to reduce the noise impact of arriving aircraft.
	7. We will report on a quarterly basis to the Noise and Track Monitoring Advisory Group the number of flights delayed from planned daytime arrival into night movements (after 23:30 local).
	8. We will, as far as is practicable, take all necessary steps to manage the late running of aircraft to prevent scheduled day movements taking place during the sensitive night period.

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
	20. We have an annual limit of no more than 5% off-track departures. In future, we will compare on an annual basis the percentage of off-track departures against the average performance over the previous five years.
	26. We will work with our airlines and noise governance groups to explore the feasibility of introducing supplementary charges for aircraft departures which persistently fail to operate in accordance with Noise Preferential Routes prescribed for the airport as measured by the noise and track monitoring system operated by Gatwick Airport Ltd, with all such monies passed to the Gatwick Airport Community Trust.
	35. We will improve the availability of, and access to, airspace and noise related data.
	47. We will continue to support the existence of, and engage with a Noise Management Board, the work plan and meeting papers, which will be adequately published to our other noise governance groups and online.
	48. We will continue to engage with and provide noise data as required to local Environmental Health Officers through the Gatwick Noise Monitoring Group.
	45. Gatwick Airport will implement relevant recommendations resulting from feasibility studies in conjunction with the CAA and the DfT as and when they are released.
	43. In order to achieve community confidence in the Complaints Handling Policy and provide transparency of information, we will, where appropriate update our procedures relating to the receipt, processing and reporting of aircraft noise complaints.

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ANNEX TWELVE

COMPARISON OF OLD AND NEW ACTION PLAN ACTIONS

OLD ACTION PLAN ACTION	NEW ACTION PLAN ACTION
	36. We will explore the feasibility of introducing an information service for local communities. This could include updates on airport operations, e.g. scheduled northern runway operations, change in runway direction, meteorological information, scheduled number of aircraft movements during the day and night periods, reported thunderstorm activity etc.
	27. We will continue to provide a vortex-damage repair scheme to repair roofs that have been damaged by aircraft vortices.
	9. We will implement a voluntary ban on operations of Quota Count 4 aircraft within the core night period by the end of 2022.
	2a. If additional aircraft or manufacturer specific noise defects which can be rectified by a modification are identified (similar to the FOPP) we will seek to identify, consult and implement corresponding charging penalties.
	24a. We will review and increase the fines currently levelled against airlines which breech departure noise limits with all such monies passed to the Gatwick Airport Community Trust.
	28a We will undertake a review of our acoustic noise insulation programs by the end of 2019. With subsequent reviews considered every 5 years as noted in Action 28.
	37a. We will seek to expand the Community Noise Monitoring Scheme with additional noise monitoring terminals and update the reporting process to include holistic noise reports for the area around Gatwick Airport.

DETAILS OF THE REVISION PROCESS OF THE DRAFT NOISE ACTION PLAN

AS COMMUNICATED TO THE VARIOUS NOISE GOVERNANCE GROUPS

REVISION OF THE ENVIRONMENTAL NOISE DIRECTIVE NOISE ACTION PLAN 2019 – 2024

Update dated 7 November 2017 to the Gatwick Airport Consultative Committee, Noise and Track Monitoring Advisory Group, the Noise Management Board, Crawley Borough Council and West Sussex County Council.

BACKGROUND

Under the Environmental Noise (England) Regulations 2006, Gatwick Airport Ltd is required to produce a Noise Action Plan, designed to manage noise issues and effects arising from aircraft departing from and arriving at the airport. This is the third version of the Environmental Noise Directive Noise Action Plan and it continues to align with the S106 Legal Agreement with West Sussex County Council and Crawley Borough Council, the work plan of the Noise Management Board and our Decade of Change Sustainability Strategy.

Gatwick Airport's first Environmental Noise Directive Noise Action Plan was published in June 2010 and covered the period 2010 - 2015. This action plan was subsequently updated to cover the period 2013 - 2018. This is the third revision to the action plan and has been devised in line with the latest guidance provided to airport operators by the Department for Environment, Food and Rural Affairs (DEFRA).

ROUND THREE CYCLE

On 26 July 2017, Gatwick Airport Ltd received notification from DEFRA that the airport should revise its Noise Action Plan.

In accordance with the published guidance, the purpose of this revised Noise Action Plan is to manage and where possible reduce the impact of noise from aircraft at Gatwick Airport over the five year period from 2019 – 2024, building on the actions of the 2010 – 2015 and 2013 - 2018 action plans.

REVISING A NOISE ACTION PLAN

The current plan should be reviewed and revised to include, as necessary:

- updated details about the airport and its operation;
- the results of the noise mapping completed in 2017;
- the progress made against the actions described in the current Action Plan;
- updated information about relevant legislation and standards;
- updated relevant national and local policies;
- information about on-going actions; and
- information about any proposed new actions.

As Gatwick Airport already has a Noise Action Plan in place, DEFRA has proposed that a relatively light touch "review and revise" updating process is undertaken. This does not preclude the airport from undertaking a more detailed review and update should the need arise.

CONSULTATION

Section 3.4 of the Guidance for Airport Operators on how to revise Noise Action Plans under the Environmental Noise (England) Regulations 2006 (as amended) states, inter alia:

"It is envisaged that once the plan has been revised it will be presented to the Airport's Consultative Committee for comment, and any other appropriate bodies depending on the extent and nature of the revisions. The Airport Operator should summarise the comments received in the revised plan together with their response to the issues raised."

COMMENCEMENT OF THE CONSULTATIVE PROCESS

This paper is to be presented to the meeting of the Gatwick Airport Consultative Committee, scheduled to take place on Thursday

ANNEX THIRTEEN

DETAILS OF THE REVISION PROCESS OF THE DRAFT NOISE ACTION PLAN

AS COMMUNICATED TO THE VARIOUS NOISE GOVERNANCE GROUPS

9 November 2017. It will then be presented to the subsequent meetings of the Noise and Track Monitoring Advisory Group for discussion and the Noise Management Board for information.

For the avoidance of doubt, 9 November 2017 is deemed to be official commencement of the consultative process. Comments on the draft list of actions to be included in the revised draft noise action plan are required to be submitted to GAL by Friday 2 February 2018.

During this period, feedback will also be sought from Crawley Borough Council and West Sussex County Council, both being the Lead Authorities for the purposes of the Section 106 Memorandum of Understanding with the other Local Authorities whose areas are significantly affected by the activities of the Airport.

The feedback received will be considered by Gatwick Airport Ltd and included in Annex 9 of the main Environmental Noise Directive Noise Action Plan document. A draft of Annex 9, together with the final list of proposed actions, will be presented to the GATCOM Steering Group, scheduled for 22 March 2018, for initial consideration and then reported to the main GATCOM meeting, scheduled for 26 April 2018 for consideration and approval.

RECEIPT OF FEEDBACK

It is anticipated that feedback will be received via:

- The Gatwick Airport Consultative Committee,
- The Noise and Track Monitoring Advisory Group,
- Crawley Borough Council,
- West Sussex County Council.

As mentioned above, this paper will be presented to the Noise Management Board. If the Noise Management Board has any comments on the draft list of actions these will be referred to Gatwick Airport Ltd and also reported to the Gatwick Airport Consultative Committee through the usual report back process of the deliberations of the Noise Management Board.

Should members of the public wish to provide feedback on the Environmental Noise Directive Action Plan Actions then it is proposed they provide these to their Gatwick Airport Consultative Committee Representative in the first instance. Feedback received directly by the airport will be considered and included in Annex 9 of the main Environmental Noise Directive Noise Action Plan document.

GATWICK AIRPORT LTD RESPONSE TO FEEDBACK RECEIVED

As detailed in the guidance to airport operators, Gatwick Airport Ltd will provide appropriate responses to the key themes of feedback received and include these in annex 9 of the main Environmental Noise Directive Noise Action Plan document.

FURTHER ROUND OF CONSULTATION

It was agreed at the meeting of GATCOM on 26 April 2018 that the draft Noise Action Plan, having been updated in response to the feedback received, be presented to the 21 June 2018 meeting of the GATCOM Steering Group for consideration prior to it being presented for a final time to the full meeting of GATCOM, scheduled for 19 July 2018. The effect of this additional stage of consultation is that there has been three stages of consultation; commencing with the circulation of a proposed list of Action Plan Actions, the circulation of an initial draft Noise Action Plan and culminating in the final draft of the Noise Action Plan being presented.

POST SUBMISSION DEVELOPMENTS

In the time since this Noise Action Plan was submitted to DEFRA, there have been two key developments that are relevant to the growth and operation of the airport and the Noise Action Plan and therefore warrant inclusion in this annex document.

GATWICK AIRPORT DRAFT MASTERPLAN

As part of the airport planning process - and reflecting industry best practice - Gatwick Airport Ltd creates and regularly publishes a 'masterplan' to show how the airport intends to develop and grow in the longer term. The masterplan also helps to inform the wider regional and local planning process.

The 2018 draft masterplan sets out proposals for the airport's ongoing development and sustainable growth. It explains the latest thinking on how the airport can meet the increasing demand for air travel and provide Britain with enhanced global connectivity. This draft masterplan is also a direct response to the Government's call in June 2018 for UK airports to look at 'making best use of their existing runways[7]' and this masterplan therefore explores how Gatwick Airport could grow across three scenarios:

1. MAIN RUNWAY: USING NEW TECHNOLOGIES TO INCREASE CAPACITY
   In the near term, the airport has explored how deploying new technology could increase the capacity of the main runway, offering incremental growth through more efficient operations.

2. STANDBY RUNWAY: INNOVATIVE PLAN TO BRING EXISTING STANDBY RUNWAY INTO USE
   Under its current planning agreement, the airport's existing standby runway is only used when the main runway is closed for maintenance or emergencies. However, the 40-year planning agreement that prevents the simultaneous use of the two runways will come to an end in 2019. The draft master plan sets out for the first time how we could potentially bring the existing standby runway into routine use for departing flights, alongside the main runway, by the mid-2020s.

3. ADDITIONAL RUNWAY: SAFEGUARDING FOR THE FUTURE
   While the airport is not actively pursuing the option of a building a brand new runway to the south of the airport - as was suggested through the Airports Commission process – the airport believes it is in the national interest to continue to safeguard this land for the future as part of its masterplan.

   A period of public consultation and associated public sessions has taken place and in 2019, the airport will publish a final masterplan document which will consider the feedback received during the consultation period.

For the avoidance of doubt, should options two or three be implemented at Gatwick Airport, these would be deemed to be a 'major development' as set out in section 1.11 of the 'Guidance to Airport Operators on how to revise Noise Action Plans under the Environmental Noise (England) Regulations 2006 (as amended)' that states:

"Action Plans must be drawn up by the airport operators and be based on the results of the noise mapping. The Regulations also require the Action Plans to be reviewed at least every five years and revised if necessary and whenever a major development occurs affecting the existing noise situation."

[7] https://www.gov.uk/government/publications/aviation-strategy-making-best-use-of-existing-runways

14 ANNEX FOURTEEN
ADDENDUM TO THE 2019-2024 END NOISE ACTION PLAN

For the purposes of clarity, the term 'major development' is not defined in the Regulations or the Environmental Noise Directive but it would include, for example, the use of a new runway.

NEW AVIATION STRATEGY

On 17 December 2018, the Department for Transport (DfT) announced that it is seeking feedback on its green paper which outlines proposals for a new Aviation Strategy. The strategy will set out the challenges and opportunities for aviation to 2050 and beyond and will emphasise the significance of aviation to the UK economy and regional growth.

The first step in the process of developing the strategy was the publication of an initial call for evidence in July 2017 on the strategy's aims and objectives. The government then published a 'next steps' document in April 2018 which set out some of the specific issues to be considered as part of the policy development process.

The consultation document, issued on 17 December 2018, forms part of the government's final consultation on the policy proposals for the Aviation Strategy. It is structured around the original objectives of the strategy, updated to reflect the feedback that the government has received to date on their relevance and priority.

The strategy will focus on:

- developing a partnership for sustainable growth which meets rising passenger demand, balanced with action to reduce environmental and community impacts
- improving the passenger experience, including through technology and innovation, a new passenger charter and action to reduce delays at the border
- building on the UK's success to establish new connections across the world and create greater choice for consumers.

The consultation document[8] states that demand for aviation has grown significantly since 2010 and while the government welcomes growth in the sector, it advises that this growth must be sustainable. Achieving this requires a partnership between the government, the regulator, the industry and other interested parties to work within a comprehensive policy framework to better manage the environmental impacts of the sector.

The consultation therefore:

- outlines the government's preferred approach for developing a framework for sustainable growth and the respective roles for the government and the industry
- makes the case for making the most efficient use of infrastructure, including by considering the system for slot allocation at airports and continuing to support the industry in improving resilience
- describes the approach being taken to modernise airspace to deliver capacity and environmental benefits
- sets out a robust policy framework and package of measures to reduce the harmful effects of aviation on the environment, such as carbon emissions, air quality and noise
- sets out the government's expectations that communities living close to airports should benefit directly from growth.

The consultation period is scheduled to run until 11 April 2019. A final white paper version of the aviation strategy will be published by the middle of 2019.

[8] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765253/aviation-2050-web.pdf

ADOPTION OF THE 2019 – 2024 END NOISE ACTION PLAN

15

Department for Environment Food & Rural Affairs

Seacole Building
2 Marsham Street
London SW1P 4DF

Dr Thérèse Coffey MP
Parliamentary Under Secretary of State
for the Environment

T 03459 335577
defra.helpline@defra.gsi.gov.uk
www.gov.uk/defra

Lee Howes
Airspace and Environmental Performance Manager
Gatwick Airport
Horley
Gatwick
RH6 0NP

11 February 2019

Dear Mr Howes,

EU ENVIRONMENTAL NOISE DIRECTIVE (2002/49/EC): ADOPTION OF ROUND 3 AIRPORT NOISE ACTION PLAN

I am writing to inform you that I have formally adopted the Noise Action Plan for Gatwick Airport, as required by the Environmental Noise Directive and the Environmental Noise (England) Regulations 2006 (as amended).

In line with the updated guidance for airport operators on revision of airport Noise Action Plans, I am formally requesting that the final plan be published in an electronic format within 28 days.

The action planning process has provided a valuable opportunity for airports to bring together all their noise management activities into one living document. As living documents, the plans must be reviewed and, if necessary, revised with the participation of the public, whenever a major development occurs affecting the existing noise situation, and at least every five years.

Yours sincerely,

[redacted]

DR THERESE COFFEY MP

16 ANNEX SIXTEEN
KEY STATISTICS 2018

Gatwick served more destinations than any other UK airport in 2018 (source OAG)

- **Total passengers:**
  46.1 million
- **Aircraft movements:**
  284,000
- **Total cargo:**
  113,000 metric tonnes
- **Total number of aircraft seats:**
  53.1 million
- **Average number of passengers per flight:**
  165
- **Average load factor:**
  86.7%
- **Biggest airline:**
  easyJet carrying 18.7m passengers
- **Long haul passengers:**
  8.6m (+18%)
- **Top destination served:**
  Barcelona (1.6m passengers)

OUR AIRLINES

Uniquely, we're home to a large mix of airline operators, with over 50 currently operating regularly from Gatwick. This means that we can offer our passengers a greater choice, through a combination of full service, low-cost and charter services, with many destinations having multiple daily services.

In 2018, Gatwick welcomed five new airlines. We will continue with our strategy of encouraging new airline partnerships, so that we can offer our passengers the best selection of travel options.

OUR DESTINATIONS

In an open market where airlines can choose where to fly from, Gatwick has been competing successfully with other London airports to win new routes to the UK's key trading partners, as well as leisure destinaitons. In 2018, we added 17 new destinations to our ever-growing network. These included nine long-haul destinations, such as:

- Buenos Aires — Argentina
- Chicago, Austin and Tampa — USA
- Halifax — Canada
- Doha — Qatar
- Shanghai — China

There were also new short-haul routes added, with even more choice to countries such as Germany, Poland, Jordan, Greece and Montenegro.

KEY STATISTICS 2018

PASSENGER PROFILE

- Sex: Male 47%; Female 53%
- Socio-economic group: AB: 38%; C1: 43%; C2: 13%; DE: 4%*
- Nationality: UK 63%; Overseas 37%
- UK business 10 %
- UK leisure 60 %
- Overseas business 7 %;
- Overseas leisure 23 %

* Due to rounding up/down does not add up to 100%

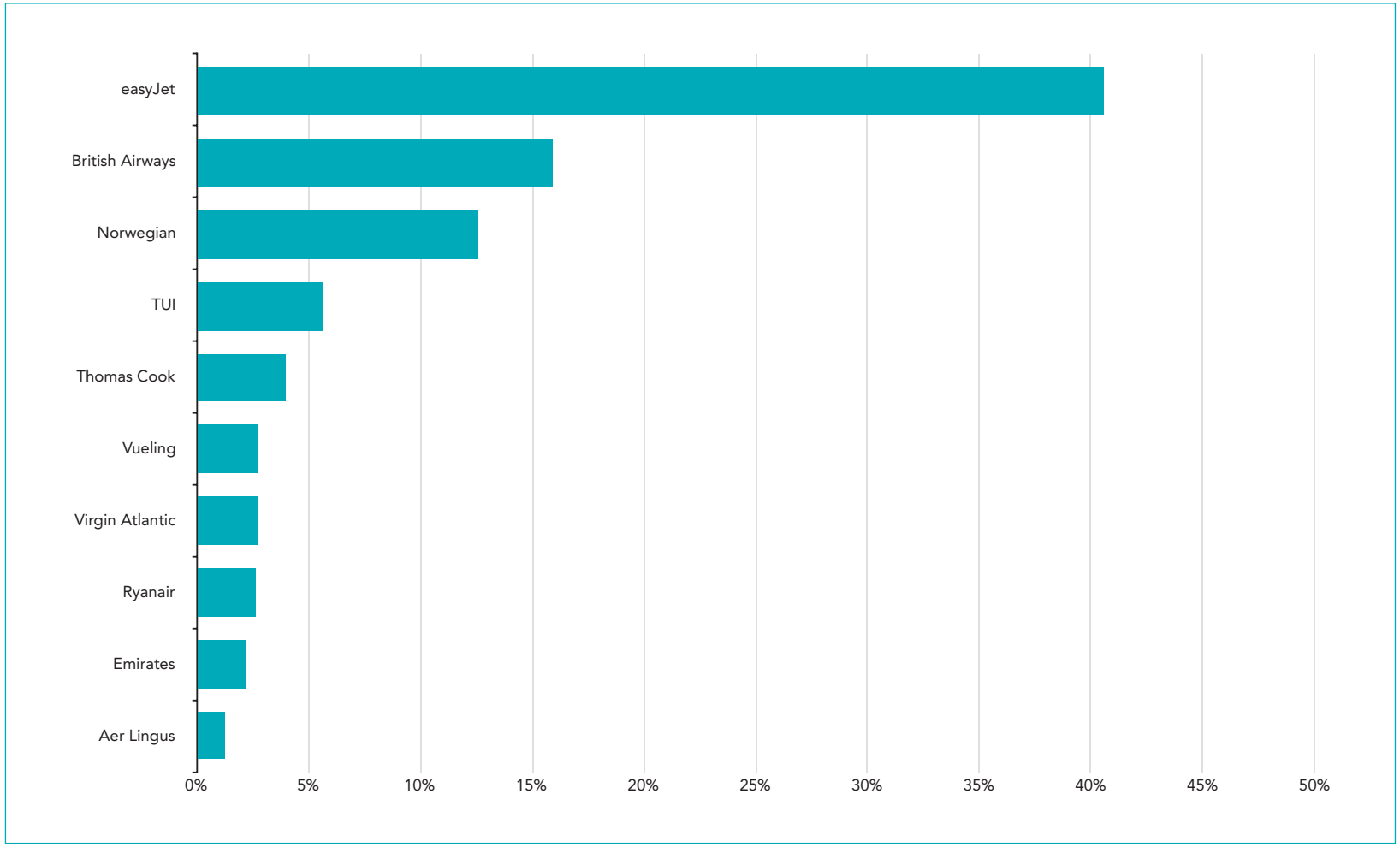
AWARDS

We're proud of Gatwick Airport and our achievements and we're delighted that some of our work is being recognised by external organisations. Below are just a few of our hard won awards from 2018 and 2019.

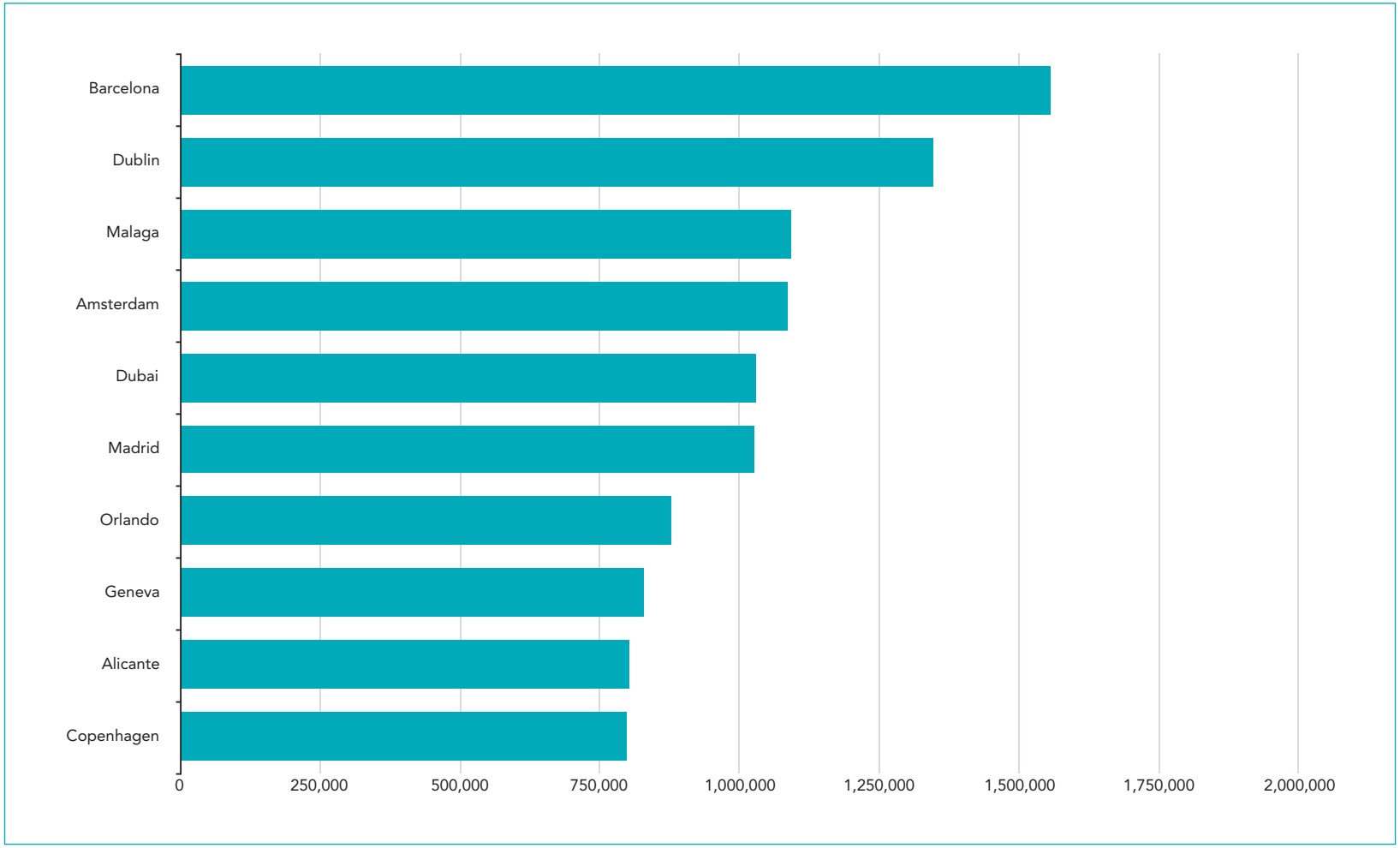
- **The Wildlife Trust** — Biodiversity Benchmark Award
- **Carbon Trust** — Best combined reduction of carbon, waste & water
- **Disability Smart Award** — Inclusive Service Provider of the Year
- **Future Travel Experience Europe** — Most Innovative Airport in Europe
- **London Transport Awards** — Airport of the Year
- **Loo of the Year** — Airports winner, England
  Transport sector winner
  Three platinum awards for toilets
- **National Technology Awards** — Mobile Innovation of the Year for our passenger app
- **Real IT awards** — Mobile App of the Year for passenger app
  Cloud Project of the Year
- **Royal Society for the Prevention of Accidents** — Gold Medal Award for five years of achieving Gold Standard
- **Security & Fire Excellence Awards** — Counter Terrorism Project of the Year
- **Top 50 companies for customer service** — Named in the top 50 UK companies for excellence in customer services
- **UK IT Industry Awards** — IT project team of the year for network refresh (with Hewlett Packard Enterprise)

KEY STATISTICS 2018

Top 10 Airlines by Passenger volume (2018)

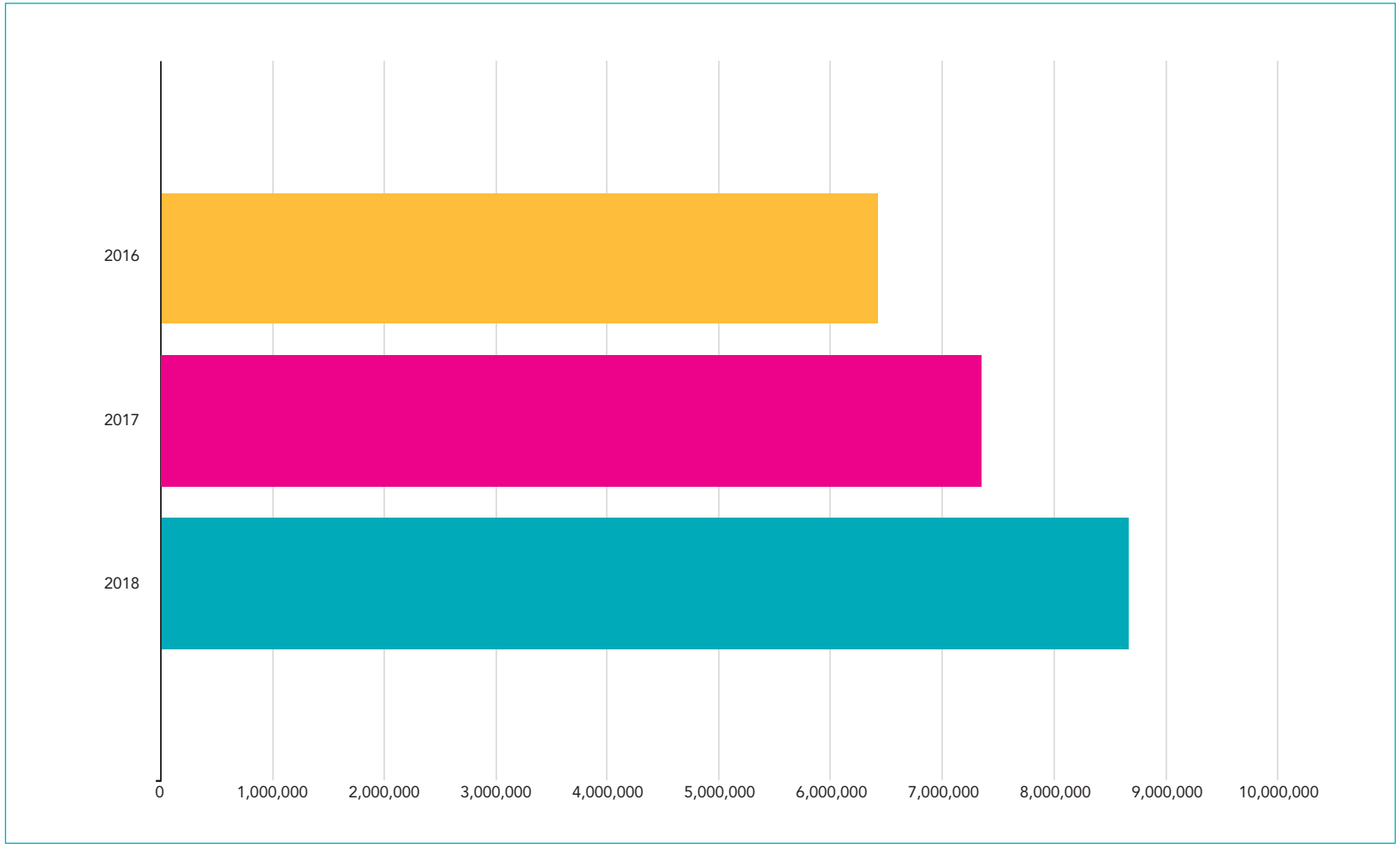


Top 10 Routes by Passenger volume (2018)

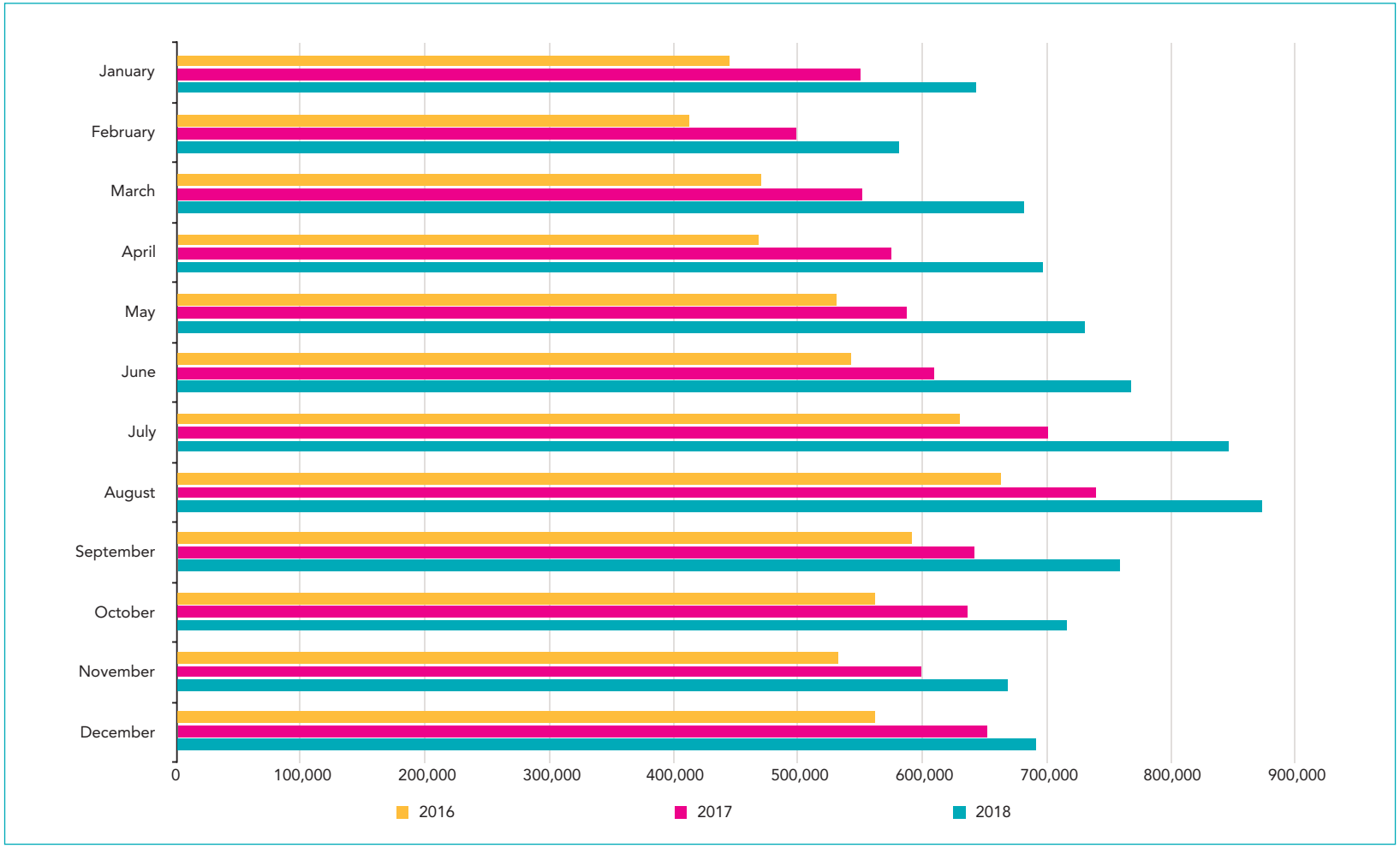


KEY STATISTICS 2018

Long haul passenger growth by year (2016-2018)



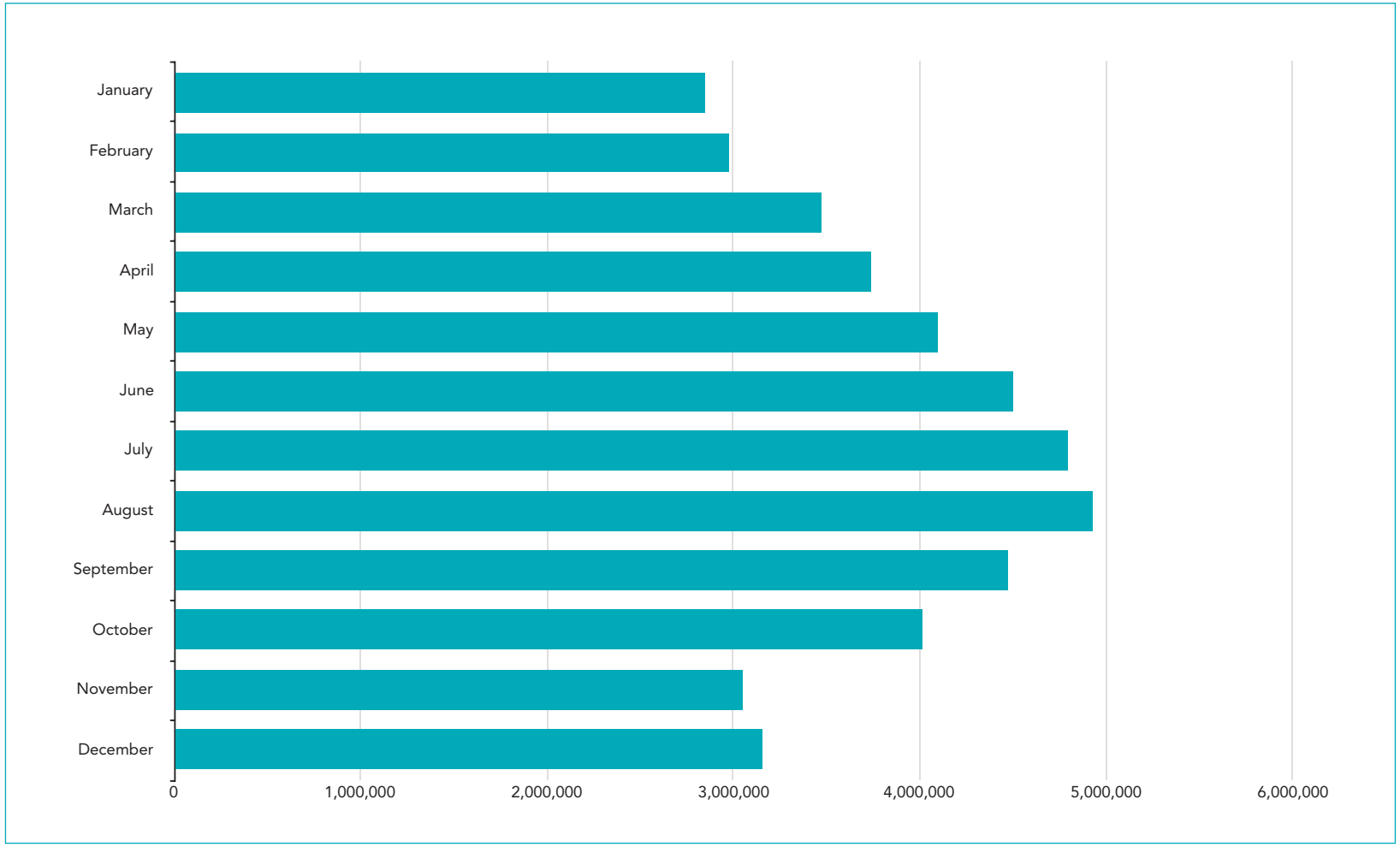
Long haul passenger growth by month (2016-2018)



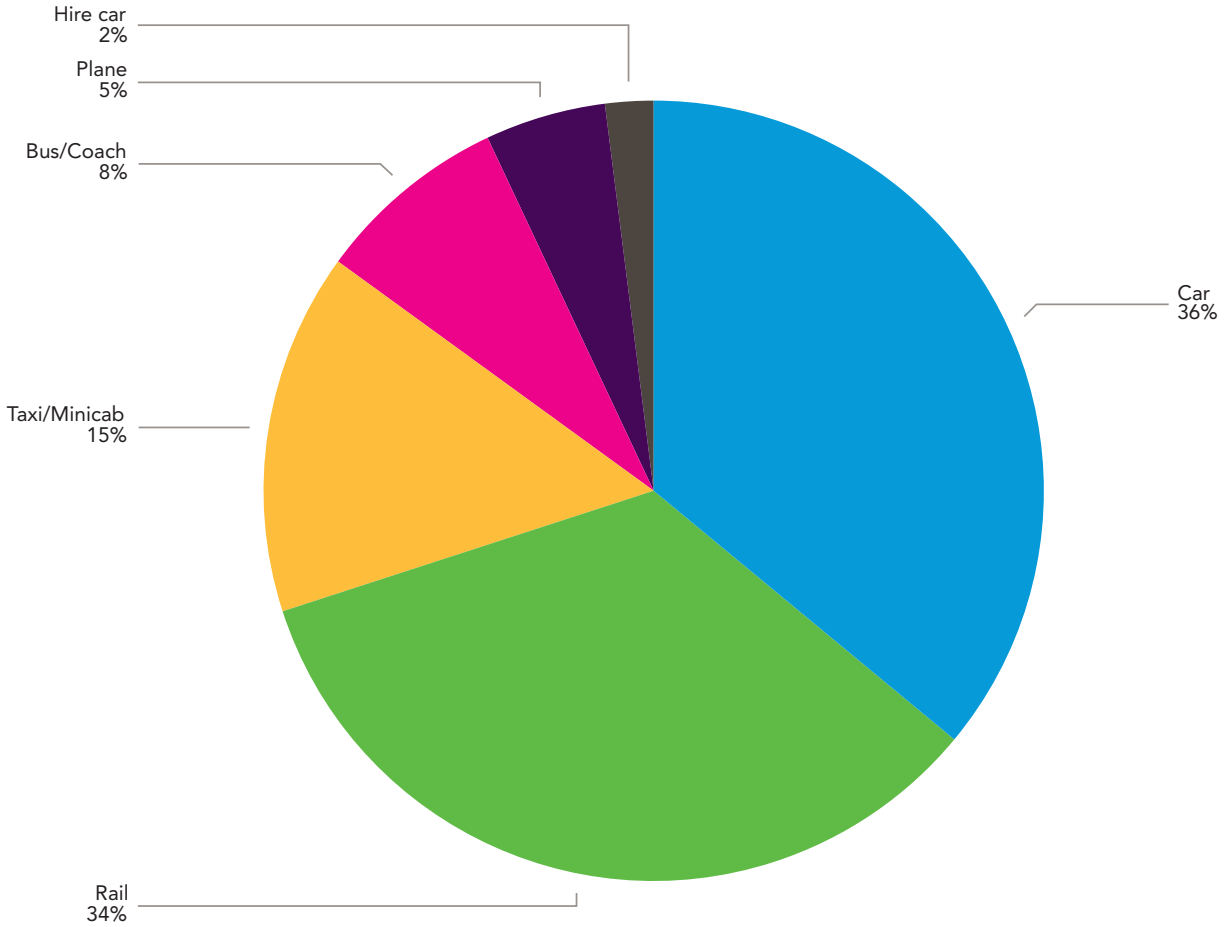
ANNEX SIXTEEN

KEY STATISTICS 2018

Passenger volume by month (2018)



How passengers get to Gatwick



YOUR LONDON AIRPORT
Gatwick

ISSUED BY GATWICK AIRPORT LIMITED

Corporate Affairs, Planning and Sustainability
7th Floor Destinations Place
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KMT 03/19

Our ref: Q900064/JR
Your ref:
Email: john.rhodes@quod.com
Date: 2 January, 2019

Quod

Manston Airport Case Team
National Infrastructure Planning
The Planning Inspectorate
Temple Quay House
Temple Quay
Bristol, BS1 6PN

For the attention of Kelvin MacDonald

By email

Dear Mr MacDonald

Application by RiverOak Strategic Partners Limited for an Order granting Development Consent for the upgrade and re-opening of Manston Airport: PINS REF: TR020002

Thank you for providing us with a copy of your letter of 11 December 2018 setting out the proposed approach of the Examining Authority in relation to examining the DCO application at Manston Airport (the "**Rule 6 letter**"). I act on behalf of Stone Hill Park Limited ("**SHP**"), together with Messrs Pinsent Masons.

I confirm that SHP does wish to attend the Preliminary Meeting on 9 January 2019 and also the Issue Specific Hearing dealing with matters relating to the draft Development Consent Order on 10 January and to take part generally in the Examination. SHP does not currently intend to attend the Open Floor Hearings referred to in the Rule 6 letter.

Attendance at the Preliminary Meeting and Issue Specific Hearing will be representatives from SHP, legal representatives from Pinsent Masons and Counsel and planning advisers Quod.

I hope it may be helpful if I explain below SHP's intended approach to the examination to assist your consideration in advance of the Preliminary Meeting.

As you are aware from SHP's Relevant Representation dated 8 October 2018 ("**RR**"), SHP is the freehold owner of the vast majority of the land affected by the proposed development by RiverOak Strategic Partners Limited ("**RSP**"), including Manston Airport. SHP has a number of fundamental concerns with the application, which raises a highly unusual set of circumstances. These start with a concern that the application should not have been accepted by the Planning Inspectorate as it does not relate to a Planning Act 2008 compliant NSIP and hence it is our view that the examination itself is not legitimate, in the sense that Development Consent cannot ultimately lawfully be granted for the application.

SHP wishes to assure the ExA that it will assist the ExA throughout the examination as best it can, but SHP's participation is entirely without prejudice to this fundamental position.

Initial assessment of principal issues

We are aware that the Initial Assessment of principal issues is not intended to be comprehensive or exclusive and that the ExA will examine all important and relevant matters. Nevertheless, we consider that there appear to be some notable omissions from the Initial Assessment of Principal Issues and I hope it may be helpful to list and explain them here ahead of the Preliminary Meeting.

In doing so, I focus on those matters of principal interest to SHP. As you know from SHP's RR and other correspondence, SHP raises fundamental concerns with regard to the DCO application including in particular:

- that the application does not propose an NSIP, but also that the scale of Associated Development proposed very substantially exceeds that which could be lawfully consented in any event;
- that there is no need for the project, no prospect of it being viable and no adequate evidence that it will be funded or delivered; and
- that there is no basis on which powers of compulsory acquisition can be granted to the applicant.

These in principle concerns and the matters which support them will be the focus of SHP's participation in the examination. It is not SHP's intention to spend time and resources in relation to other matters such as air quality, noise, nature conservation, other environmental issues, socio economic or transport issues. That does not mean, of course, that SHP accepts RSP's case in relation to those topics – simply that SHP trusts that the ExA will be able to examine those matters thoroughly without further input from SHP. Our RR set out the principle of our concerns in these regards. We stand by those concerns but we do not propose to add to them, unless it would assist the ExA for us to clarify any matters. Our principal concerns are even more fundamental.

In this context, SHP will be making the following points in relation to the initial assessment of Principal Issues at the Preliminary Meeting:

Capability: we are aware from pre-acceptance correspondence and meeting notes that the ExA is seized of this issue. The current capability of Manston Airport is of fundamental importance to whether the application is properly to be treated as an NSIP but we note that the capability of Manston Airport is neither listed as a Principal Issue itself nor does it appear to fit within the Principal Issues as shown. Whilst the application has been accepted for examination, that decision appears to be based on information provided by the applicant, to which SHP and others have not had the opportunity to respond to in the context of the application for a DCO. To that end it is clearly important and relevant to the Secretary of State's decision (and necessary for the fairness of the process) to have a proper understanding of the existing capability of Manston Airport and for any assertion or evidence in that respect to be properly tested.

Compulsory Acquisition: in order to make a case for compulsory acquisition, the applicant will need at a minimum to demonstrate the need for, viability of and deliverability of the project and that there is a compelling case in the public interest for its development. These matters should be clearly identified as Principal issues.

It will also be necessary for the ExA to understand the relative need for the proposed development compared with alternative proposals for the use of the land. This would of course include SHP's proposals for the Manston airport site which address the urgent need for housing in the area and which SHP can show are both credible and deliverable in contrast to RSP's project. Furthermore, and in order to ensure a full and proper hearing on compulsory acquisition, SHP asks the ExA to recognise that it will also be necessary to address the extent of land required for the scale of airport operation and air transport movements said by RSP to be envisaged by its application.

Funding: whilst this issue is identified, as it clearly it will be necessary to test the viability of the proposals and whether they have a realistic prospect of proceeding, it was surprising to see that the initial list of Principal Issues appears only to raise questions in relation to the funding of land acquisition, blight and noise mitigation. We consider it is essential that the availability of funds to implement and deliver the scheme is examined.

Under this heading, the listed issues fall short of those identified in the Planning Inspectorate's s.51 advice as matter which it expects to examine.

Central to this is viability. We believe that it is essential that the ExA does examine properly the viability of the project, especially given the evidence submitted by SHP in its section 42 consultation response and RR as well as the independent evidence gathered by Thanet District Council that demonstrates that an airport at Manston is not a viable proposition.

Local Policies: given that the current emerging Local Plan (which has been submitted) is proceeding on a policy basis now in relation to Manston airport that is contrary to its own evidence base and officer advice, the ExA needs to have evidence so that it can understand and consider the relative need for the allocation of the land for housing, rather than an unviable airport.

Need: we consider it is essential that the ExA is able to examine and consider evidence as to the need for the development of Manston as a cargo airport, and does not limit itself to understanding issues related to national need and policy.

Operational issues: it is not clear from the listed Principal Issues whether this issue is limited to operational matters or to matters relating to the reality of the forecast air traffic movements, the implications of the applicant's stated position in relation to night flights or the credibility of the phasing proposals. SHP consider that it is clearly important and relevant for the ExA to have evidence and be able to test all of the applicant's claims in this regard.

Other environmental issues: as stated above, it is not SHP's intention to engage further in the testing of these issues in the examination unless, of course, the ExA wishes to raise matters directly with SHP. SHP's RR, does however, make the fundamental point that the submitted EIA does not assess the development applied for, nor propose any caps or restrictions to limit the development to that which has been assessed.

Other procedural issues

I confirm that SHP will engage with and use its best endeavours to agree the Statement of Common Ground on the specific issues relating to Special Category Land listed in Appendix F of the Rule 6 letter.

At the Preliminary Meeting, SHP will be making the case for a number of the matters listed above to be the subject of issue specific hearings.

SHP also formally will request that the Examining Authority exercise its discretion to allow SHP to cross examine the applicant, particularly in relation to:

- aviation need and forecasts at Manston Airport;
- scheme viability and funding; and
- the existence of a compelling need to compulsorily acquire its land.

SHP considers these matters to be fundamental both to its own rights as the owner of the airport and to an effective examination. Targeted cross examination in this way can help the ExA by crystalizing issues which are fundamental to its recommendation on the application. In addition, and as raised in SHP's RR, we ask the ExA to consider whether it is necessary for a technical expert assessor to be appointed to assist the ExA in addressing the evidence on this issue. RSP's entire case (as summarised in the Planning Statement) relies on the need and benefits claimed in the Azimuth Associates reports, not only in presenting the case for development consent to be granted, but also in seeking the grant of extensive powers of compulsory acquisition. This evidence is, therefore, central to the examination of a number of other issues. The availability to the ExA of independent technical expertise would inevitably help to ensure that the case is fully tested.

I trust that this letter is helpful in explaining our position in advance of the Preliminary meeting but I confirm, of course, that I would be pleased to respond to any queries.

Yours sincerely,

John Rhodes

Director

Our ref: Q900064/JR
Your ref:
Email: john.rhodes@quod.com
Date: 2 January, 2019

Quod

Manston Airport Case Team
National Infrastructure Planning
The Planning Inspectorate
Temple Quay House
Temple Quay
Bristol, BS1 6PN

For the attention of Kelvin MacDonald

By email

Dear Mr MacDonald

Application by RiverOak Strategic Partners Limited for an Order granting Development Consent for the upgrade and re-opening of Manston Airport: PINS REF: TR020002

Thank you for providing us with a copy of your letter of 11 December 2018 setting out the proposed approach of the Examining Authority in relation to examining the DCO application at Manston Airport (the "**Rule 6 letter**"). I act on behalf of Stone Hill Park Limited ("**SHP**"), together with Messrs Pinsent Masons.

I confirm that SHP does wish to attend the Preliminary Meeting on 9 January 2019 and also the Issue Specific Hearing dealing with matters relating to the draft Development Consent Order on 10 January and to take part generally in the Examination. SHP does not currently intend to attend the Open Floor Hearings referred to in the Rule 6 letter.

Attendance at the Preliminary Meeting and Issue Specific Hearing will be representatives from SHP, legal representatives from Pinsent Masons and Counsel and planning advisers Quod.

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SHP wishes to assure the ExA that it will assist the ExA throughout the examination as best it can, but SHP's participation is entirely without prejudice to this fundamental position.

Initial assessment of principal issues

We are aware that the Initial Assessment of principal issues is not intended to be comprehensive or exclusive and that the ExA will examine all important and relevant matters. Nevertheless, we consider that there appear to be some notable omissions from the Initial Assessment of Principal Issues and I hope it may be helpful to list and explain them here ahead of the Preliminary Meeting.

In doing so, I focus on those matters of principal interest to SHP. As you know from SHP's RR and other correspondence, SHP raises fundamental concerns with regard to the DCO application including in particular:

- that the application does not propose an NSIP, but also that the scale of Associated Development proposed very substantially exceeds that which could be lawfully consented in any event;
- that there is no need for the project, no prospect of it being viable and no adequate evidence that it will be funded or delivered; and
- that there is no basis on which powers of compulsory acquisition can be granted to the applicant.

These in principle concerns and the matters which support them will be the focus of SHP's participation in the examination. It is not SHP's intention to spend time and resources in relation to other matters such as air quality, noise, nature conservation, other environmental issues, socio economic or transport issues. That does not mean, of course, that SHP accepts RSP's case in relation to those topics – simply that SHP trusts that the ExA will be able to examine those matters thoroughly without further input from SHP. Our RR set out the principle of our concerns in these regards. We stand by those concerns but we do not propose to add to them, unless it would assist the ExA for us to clarify any matters. Our principal concerns are even more fundamental.

In this context, SHP will be making the following points in relation to the initial assessment of Principal Issues at the Preliminary Meeting:

Capability: we are aware from pre-acceptance correspondence and meeting notes that the ExA is seized of this issue. The current capability of Manston Airport is of fundamental importance to whether the application is properly to be treated as an NSIP but we note that the capability of Manston Airport is neither listed as a Principal Issue itself nor does it appear to fit within the Principal Issues as shown. Whilst the application has been accepted for examination, that decision appears to be based on information provided by the applicant, to which SHP and others have not had the opportunity to respond to in the context of the application for a DCO. To that end it is clearly important and relevant to the Secretary of State's decision (and necessary for the fairness of the process) to have a proper understanding of the existing capability of Manston Airport and for any assertion or evidence in that respect to be properly tested.

Compulsory Acquisition: in order to make a case for compulsory acquisition, the applicant will need at a minimum to demonstrate the need for, viability of and deliverability of the project and that there is a compelling case in the public interest for its development. These matters should be clearly identified as Principal issues.

It will also be necessary for the ExA to understand the relative need for the proposed development compared with alternative proposals for the use of the land. This would of course include SHP's proposals for the Manston airport site which address the urgent need for housing in the area and which SHP can show are both credible and deliverable in contrast to RSP's project. Furthermore, and in order to ensure a full and proper hearing on compulsory acquisition, SHP asks the ExA to recognise that it will also be necessary to address the extent of land required for the scale of airport operation and air transport movements said by RSP to be envisaged by its application.

Funding: whilst this issue is identified, as it clearly it will be necessary to test the viability of the proposals and whether they have a realistic prospect of proceeding, it was surprising to see that the initial list of Principal Issues appears only to raise questions in relation to the funding of land acquisition, blight and noise mitigation. We consider it is essential that the availability of funds to implement and deliver the scheme is examined.

Under this heading, the listed issues fall short of those identified in the Planning Inspectorate's s.51 advice as matter which it expects to examine.

Central to this is viability. We believe that it is essential that the ExA does examine properly the viability of the project, especially given the evidence submitted by SHP in its section 42 consultation response and RR as well as the independent evidence gathered by Thanet District Council that demonstrates that an airport at Manston is not a viable proposition.

Local Policies: given that the current emerging Local Plan (which has been submitted) is proceeding on a policy basis now in relation to Manston airport that is contrary to its own evidence base and officer advice, the ExA needs to have evidence so that it can understand and consider the relative need for the allocation of the land for housing, rather than an unviable airport.

Need: we consider it is essential that the ExA is able to examine and consider evidence as to the need for the development of Manston as a cargo airport, and does not limit itself to understanding issues related to national need and policy.

Operational issues: it is not clear from the listed Principal Issues whether this issue is limited to operational matters or to matters relating to the reality of the forecast air traffic movements, the implications of the applicant's stated position in relation to night flights or the credibility of the phasing proposals. SHP consider that it is clearly important and relevant for the ExA to have evidence and be able to test all of the applicant's claims in this regard.

Other environmental issues: as stated above, it is not SHP's intention to engage further in the testing of these issues in the examination unless, of course, the ExA wishes to raise matters directly with SHP. SHP's RR, does however, make the fundamental point that the submitted EIA does not assess the development applied for, nor propose any caps or restrictions to limit the development to that which has been assessed.

Other procedural issues

I confirm that SHP will engage with and use its best endeavours to agree the Statement of Common Ground on the specific issues relating to Special Category Land listed in Appendix F of the Rule 6 letter.

At the Preliminary Meeting, SHP will be making the case for a number of the matters listed above to be the subject of issue specific hearings.

SHP also formally will request that the Examining Authority exercise its discretion to allow SHP to cross examine the applicant, particularly in relation to:

- aviation need and forecasts at Manston Airport;
- scheme viability and funding; and
- the existence of a compelling need to compulsorily acquire its land.

SHP considers these matters to be fundamental both to its own rights as the owner of the airport and to an effective examination. Targeted cross examination in this way can help the ExA by crystalizing issues which are fundamental to its recommendation on the application. In addition, and as raised in SHP's RR, we ask the ExA to consider whether it is necessary for a technical expert assessor to be appointed to assist the ExA in addressing the evidence on this issue. RSP's entire case (as summarised in the Planning Statement) relies on the need and benefits claimed in the Azimuth Associates reports, not only in presenting the case for development consent to be granted, but also in seeking the grant of extensive powers of compulsory acquisition. This evidence is, therefore, central to the examination of a number of other issues. The availability to the ExA of independent technical expertise would inevitably help to ensure that the case is fully tested.

I trust that this letter is helpful in explaining our position in advance of the Preliminary meeting but I confirm, of course, that I would be pleased to respond to any queries.

Yours sincerely,

John Rhodes

Director

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT") FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS PUT AT THE FIRST DEVELOPMENT CONSENT ORDER ISSUE SPECIFIC HEARING HELD ON 10 JANUARY 2019

1. **BACKGROUND**

1.1 The first Issue Specific Hearing ("ISH") regarding the Development Consent Order was held at 10:00am on 10 January 2019 at Margate Winter Gardens, Margate, CT9 1HX.

1.2 The ISH took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") on 21 December 2018 (the "Agenda").

1.3 The format of this summary follows that of the Agenda and only refers to parts of the Agenda where Stone Hill Park Limited ("SHP") made substantive comments.

1.4 Present from SHP were Celina Colquhoun (Counsel for SHP), Richard Griffiths (partner at Pinsent Masons LLP) and Jamie Macnamara (for SHP).

2. **AGENDA ITEM 4 – OVERALL ISSUES ON DRAFTING**

2.1 In response to the ExA's request that the Applicant explain the drafting changes necessary as a result of the Housing and Planning Act 2016, the Applicant confirmed that it had produced a table to provide this explanation.

2.2 Counsel for SHP confirmed to the ExA that given the extent of compulsory acquisition in the Application and as SHP is the owner of the majority of the land the subject of that compulsory acquisition request, SHP is interested in how the draft Order has applied the Housing and Planning Act 2016. Accordingly, SHP will review the table once it is submitted into the Examination and, if necessary, provide comments to the ExA.

3. **AGENDA ITEM 5 – ASSOCIATED DEVELOPMENT WHERE THE EXA NOTED THAT IT WISHED TO EXPLORE THE APPLICANT'S APPROACH TO ASSOCIATED DEVELOPMENT**

3.1 All submissions made are without prejudice to SHP's position, as set out in its Relevant Representation (RR-1601), that the Application before the ExA contains no Nationally Significant Infrastructure Project ("NSIP").

3.2 Prior to setting out a summary of SHP's oral submission, a brief summary of the discussion between the ExA and Counsel for the Applicant is noted in sections 3.3 to 3.8 in order to provide context for SHP's oral submission. Sections 3.12 to 3.14 also provide additional background context regarding the degree to which material concerns regarding the Applicant's approach to Associated Development have been raised with the Applicant previously.

3.3 The ExA explained that Associated Development was an important issue, not only for the ExA understanding the nature of the proposed scheme and whether the way in which the draft Development Consent Order is formulated accords with statute and statutory guidance, but also whether the Applicant's request for compulsory acquisition powers over land can be justified and whether there are any doubts as to whether particular works should rightfully form part of the Application.

3.4 The ExA referred to the Guidance on Associated Development (Guidance on associated development applications for major infrastructure projects, April 2013) and explored the Applicant's approach to Associated Development. In doing so, the ExA highlighted a number of discrepancies and lack of information contained in the Application documents, including in respect of:

3.4.1 discrepancies between the works listed in the NSIP Justification document (APP-008) and the draft Development Consent Order (APP-006);

3.4.2 a restriction by use class does not restrict the use to airport related development – there is therefore no linkage between the development proposed on the Northern Grass and the NSIP (as offered in paragraph 45 of the NSIP Justification document);

3.4.3 the absence of any information in the draft Development Consent Order between those works that were considered by the Applicant to be the NSIP and those works that the Applicant considered to be Associated Development.

3.5 The ExA confirmed that it would need to examine whether the works identified by the Applicant as being Associated Development could justify its request for Compulsory Acquisition powers. The ExA explained that a direct link must exist between Associated Development and Principal Development.

3.6 The ExA noted that the Explanatory Memorandum states that there is no need to distinguish between those parts that are the NSIP and those parts that are Associated Development. The ExA referred the Applicant to the statutory guidance that states Applicants should explain which parts of the proposal are Associated Development and why.

3.7 In response to Counsel for the Applicant explaining that the main purpose of the Associated Development was to maximise the attraction of the airport to the market, the ExA noted that the Guidance is clear in stating that if part of the proposal is there to cross subsidise the principal development, it should not be treated as Associated Development. The ExA also noted there is a total absence of a business model or information on financing and funding that would be necessary to allow an assessment of whether the requested works do not contravene guidance principles, matters which would require to be assessed and tested in the examination.

3.8 The ExA asked the Applicant to explain when the works on the Northern Grass (work numbers 15-17) would be phased in the Masterplan. Counsel for the Applicant explained that 50,100 sq metres of these works (referred to as Landside Business Development in the Masterplan) would be carried out during Phase 2 (2020–2023) and also confirmed that the refurbishment of the runway would take place in Phase 1 (2019-2020). *SHP, having checked this detail post the Hearing, would bring to the*

ExA's attention that the information provided on phasing was not accurate. The Applicant's Masterplan shows 55,000 sq metres of Landside Business Development during Phase 1 (2019–2020), in addition to the 50,100 sq metres proposed for Phase 2.

3.9 Counsel for SHP welcomed the ExA picking up on how Associated Development is reflected in the draft Development Consent Order, and noted that Counsel for the Applicant had agreed that the Applicant would confirm which works listed in Schedule 1 of the draft Development Consent Order are Associated Development. However, Counsel for SHP submitted that it is vital that the Applicant also sets out which works in Schedule 1 of the draft Development Consent Order comprise the NSIP itself, having regard to the fact that only those works that satisfy section 23 of the Planning Act 2008 can be the NSIP. Alongside this list there needs to be a full and clear explanation that provides rationale for the categorisation of each element of the works, which can then be tested in the examination against both section 23 (in respect of the NSIP) and against the Guidance on Associated Development (for all works that are not the NSIP, or part of the NSIP).

3.10 Counsel for the Applicant stated to the ExA that the information could be provided for Deadline 3. Counsel for SHP noted that this information should be provided as soon as possible, on the basis that SHP was required to submit its written representations by Deadline 3. It is the rationale for why a work is, or part of, the NSIP or is Associated Development that is most important to both SHP and the examination, and any delay in providing this information would be prejudicial to SHP. Furthermore, this explanation should have been provided in the Application. It is unfortunate that it has not been provided when SHP has been making these exact points pre-submission (see further below). Waiting until one month into the examination for the explanation is unreasonable when the Applicant should have this information now.

3.11 In response to a query from the ExA, Counsel for the Applicant again stated it would provide the list of what is the NSIP and what is Associated Development for Deadline 1 and the rationale would be provided for Deadline 3. The ExA then urged that the full information is provided for Deadline 1. The ExA explained that a list is useful but not as useful as an explanation of why certain works are NSIP and why other works are Associated Development. Counsel for the Applicant confirmed that it would aim to provide as much information as possible by Deadline 1.

3.12 For additional context, there can be absolutely no justification for the Applicant's failure or inability to clearly set out and provide justification for the elements of its proposal that it purports to be the NSIP and that which it considers to be Associated Development.

3.13 In numerous pieces of correspondence dating back over 15 months, SHP has explained in detail the material issues with the Applicant's inclusion of elements of development that are neither the NSIP nor satisfy the statutory requirements for Associated Development.

3.14 This includes letters to the Planning Inspectorate dated 10 October 2017 and 17 November 2017 (both of which were copied to the Applicant's solicitors) and SHP's s42 consultation response in February 2018. Each of these documents were also appended to SHP's relevant representations submitted in October 2018. Despite this, to date the Applicant has been unwilling, or unable, to provide rationale to

justify how the works in its proposed project complies with guidance related to Associated Development.

4. **AGENDA ITEM 7 – DISCUSSION ON SPECIFIC PARTS OF THE dDCO**

4.1 Counsel for SHP asked that the ExA consider a specific concern in relation to Article 18, which deals with entering on to land to undertake surveys. SHP has an existing Parking Services Agreement with the Secretary of State for Transport under which SHP is obligated to provide parking services on its land in relation to Operation Stack (or equivalent) at short notice, should SHP be notified of the requirement by Highways England. As a result, the provisions contained within Article 18 are not appropriate as there is no provision which recognises that entry to the land must be refused in certain circumstances.

4.2 Mr Macnamara, for SHP, explained that the Applicant is aware of the existing arrangements and that the s53 Authorisation issued to the Applicant in 2018 includes provisions that could be used as a starting point for the drafting of this article. SHP would then be able to comment on the revised drafting. In response to a query from the ExA as to whether the agreement can be triggered unilaterally by Highways England, it was confirmed that SHP are under an obligation to provide such services when requested.

4.3 Following confirmation from Counsel for the Applicant that the Applicant is content to include provisions to allow this to continue, Mr Macnamara noted that it is important the draft Development Consent Order does not place obligations on SHP that are in conflict with its obligations to Secretary of State.

4.4 Counsel for SHP raised two points in respect of the environmental impact assessment:

4.4.1 First, Counsel for the Applicant has made it clear in her oral submissions that the Applicant's approach is to ensure that the proposed development would not give rise to anything that is "materially worse" than the effects outlined in the environmental statement. However, the Applicant has made it clear in its Application that whilst the proposed development has the capability of accommodating 83,220 air transport movements per year, the environmental impact assessment has only assessed 17,170 air transport movements on the basis that the Applicant considers that it is "no more than a very remote possibility" that the airport would operate at its maximum capability. However, there is nothing in the draft Development Consent Order that clear restricts the operation of the airport to the number of movements that have been environmentally assessed and on which the mitigation has been based. This needs to be examined and tested.

4.4.2 Secondly, the Applicant's approach to ecological mitigation breaches relevant law as the ExA, and ultimately the Secretary of State, does not have in front of them sufficient information to determine the likely significant environmental effects of the proposed development. It is established case law that such surveys cannot be secured by a condition/requirement.

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Mr Richard Price
Case Manager
The Planning Inspectorate
Room 3/8 Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

Date 8 March 2019

Dear Richard,

Proposed Manston Airport Development Consent Order
Application ref: TR020002

Please find the submission of Stone Hill Park Limited ("SHP") for Deadline 4 enclosed.

The submission comprises this letter and various enclosures, which cover the following areas;

- Section 1: comments on the Applicant's Responses to the Written Questions from the Examining Authority ("ExA");
- Section 2: comments on Local Impact Reports submitted by Thanet District Council and Kent County Council;
- Section 3: initial comments on the Applicant's first revised dDCO; and
- Section 4: response to Rule 13 and Rule 16 letter issued on 8 February 2019.

1. Comments on the Applicant's Responses to the Exa's Written Questions

1.1 Annex 1 and its appendices comprises SHP's comments (which have been prepared with assistance of its advisory team) on a number of the Applicant's answers to the first round of the ExA's written questions. Please note that SHP has not commented on answers on certain topics where it considers that other statutory bodies are better placed to challenge or correct assertions made by the Applicant.

1.2 In its submission, SHP has provided detailed comments on a number of answers where it considers the Applicant's answers in certain cases have been disingenuous, misleading, incomplete or, at best, ill informed. Where such concerns have been raised, these have been supported by evidence contained within the body of Annex 1 and supporting appendices. For example;

1.2.1 SHP has provided a detailed response to the Applicant/Azimuth Associates' answer to question ND.1.41. As explained in the comments, the Applicant has demonstrated a very serious lack of understanding of the UK freight market and

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Manston Airport Case Team
The Planning Inspectorate
Room 3/8 Eagle Wing
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Date 29 March 2019

For the attention of Mr Kelvin MacDonald

Dear Mr MacDonald,

Proposed Manston Airport Development Consent Order (Application ref: TR020002)

Please find the submission of Stone Hill Park Limited ("SHP") for Deadline 5 enclosed.

The submission comprises this letter and various enclosures, which are outlined below;

1. Written summaries of Oral Submissions

1.1. Written summary of SHP's oral submissions put at the Compulsory Acquisition hearing held on 20 March 2019 (Annex 1 with accompanying appendices).

1.2. Written summary of SHP's oral submissions put at the Need and Operations hearing held on 21 March 2019 (Annex 2 with accompanying appendices).

1.3. The documents enclosed under paragraphs 1.1 and 1.2 include an appendix recording SHP's fundamental concerns regarding the hearings, in particular the lack of basic information and evidence placed before the hearings by the Applicant and the lack of sufficient time afforded to SHP to question the Applicant's case in a manner that allowed the Applicant's case to be properly and fairly tested, whilst giving SHP a fair chance to put its case in response to the proposed compulsory acquisition of its land and the DCO generally.

1.4. Written summary of SHP's submissions put at the Noise hearing held on 22 March 2019 is attached as Annex 4 – the note has been prepared by York Aviation, who represented SHP at the Noise hearing.

2. Comments on any further information requested by the Examining Authority and received to Deadline 4.

2.1. SHP's comments on the Applicant's Comments on the Written Representations (in respect of SHP's Written Representations only) are submitted as Annex 3 together with supporting appendices;

2.2. With regard to the Applicant's Compulsory Acquisition Status Report, SHP would respectfully refer the Examining Authority to previous comments in SHP's response to written question CA.1.17, which was submitted at Deadline 3 (Document reference still to be issued). SHP's comments highlight the misleading and incomplete nature of the information submitted by the Applicant. SHP would also note that there were a number of other discrepancies flagged at the Compulsory Acquisition hearing, which the Applicant provided a commitment to remedy.

Yours sincerely,

[redacted]

For and on behalf of
Stone Hill Park Ltd

ANNEX 3: MANSTON AIRPORT EXAMINATION - DEADLINE 5

SHP'S COMMENTS ON THE APPLICANT'S COMMENTS ON THE WRITTEN REPRESENTATIONS

The table below provides SHP's comments on the Applicant's comments on the Written Representations submitted on 8 March 2019. Please note that SHP has focused solely on the Applicant's comments on SHP's Written Representations.

In summary, it is considered that the Applicant has never properly considered or addressed the issues raised by SHP in all its representations and correspondence going back to 2017, as is reflected in the nature of the Applicant's comments, which gloss over issues and make assertions that are not supported by the evidence. SHP has kept its comments brief, but considers it important to address the Applicant's comments.

2.9	**Section 2 and Appendix 1 – NSIP status**
2.9.1	<u>Applicant's Comments</u> SHP is still questioning whether the project is a nationally significant infrastructure project. It is, however, obvious common sense that increasing the number of cargo stands from two to 19 will dramatically increase the capability of the airport by well over the threshold of just under 28 air transport movements a day. In any event, as became clear at the preliminary meeting and the DCO hearing in January, the ExA considers that having accepted the application, it considers the matter closed. <u>*SHP's Comments*</u> *The Applicant's comments are simplistic and fail to take note of the s51 advice provided to it by the Planning Inspectorate on 11 May 2018. As set out in Appendix 1: Rebuttal of NSIP Justification to SHP's Written Representations [REP3-025], the Planning Inspectorate was clear in its view that the capability of the Applicant's proposed project was 17,170 cargo ATMs, and that if existing capability was less greater than 7,171 cargo ATMs, the project would not satisfy the s23 NSIP criteria. SHP has set out its position in detail in Appendix 1: Rebuttal of NSIP Justification [REP3-025].* *SHP would also take issue with the Applicant's claim that "as became clear at the preliminary meeting and the DCO hearing in January, the ExA considers that having accepted the application, it considers the matter closed."* *This statement is not supported by the facts. As Quod (for SHP) set out in its letter of 15 January 2019 [REP1-021] summarising its submission to the Preliminary Hearing, SHP drew attention to the necessarily limited basis upon which the decision was made to accept RSP's application as a DCO application (i.e. that it excluded consideration of anything other than RSP's application) and that a view on the capability of the airport was central to that decision. The letter also noted that the Applicant did not raise any objection to the question of the status of the project as a NSIP being a proper issue for the Examining Authority or the Secretary of State to consider. The letter also thanked the Panel for its confirmation at the Preliminary Meeting that this issue would be examined. Further context is provided in section 2 of Appendix 1: Rebuttal of NSIP Justification [REP3-025].*

2.9.2	<u>Applicant's Comments</u> Although the Applicant has now proposed a cap on air transport movements of 26,468 movements per day so that this is now somewhat redundant, SHP continues to be wrong in law by confusing environmental assessment with capability. An airport can have a capability of 83,220 ATMs but its likely significant effects, which are the subject of environmental assessment, could arise from a lower figure corresponding to the likely use of the facility, just as highways do not assess the effects of the maximum possible number of vehicles they could accommodate. <u>*SHP's Comments*</u> *The Applicant has again tried to gloss over fundamental shortcomings in the way it approached the assessment of the environmental effects. It has now offered a cap on ATMs in order to try to avoid the issue, however this just further undermines its comments in paragraph 2.9 regarding satisfaction of the NSIP criteria.*
2.9.3	<u>Applicant's Comments</u> The insinuation that the Applicant is seeking to secure ownership of the land for development unrelated to its use as a freight airport is not just untrue but flies in the face of the facts: the Applicant expended considerable time and effort successfully defeating a planning appeal that sought to change the use of some of the buildings on the site to non-airport use, and has spent millions of pounds to date on developing and promoting an airport DCO application and demolishing the case for housing on the site. There is literally no evidence to suggest otherwise. <u>*SHP's Comments*</u> *The Applicant continues to ignore deadlines set by the Examining Authority and withhold information on its beneficial owners and funders. Without having an understanding of the parties/individuals that own or control MIO Investment's Ltd (the Belize registered entity that holds 90% of the shares in the Applicant), how is the Examining Authority or an interested party to have any comfort regarding the objectives of the Applicant. We further heard at the Compulsory acquisition hearing that the Applicant had misled the Examining Authority in its answers to written questions regarding the "Joint Venture agreement" referred to in the Funding Statement.* *We would also highlight to the ExA the numerous examples whereby the Applicant has demonstrated an ignorance of the characteristics of air freight market and its complete lack of understanding of the operations of competitor type airports such as East Midlands airport. When combined with an inability to explain or justify the NSIP and associated development it has applied for, and failure to provide any proper evidence of funding, it is difficult to believe that the Applicant truly intends to develop an airport.* *The fact that an Applicant has spent millions of pounds is not in itself evidence that its project has any merit.*

2.9.4	**<u>Section 3 (part) and Appendix 2 – site history</u>** <u>Applicant's Comments</u> The history of the site is not relevant when the infrastructure that is being proposed as part of this development is fundamentally different than what has previously operated; indeed, it is the lack of investment to bring it to this greater capability that has contributed to previous failures. <u>*SHP's Comments*</u> *The Applicant's claims that the history of the site is not relevant are baseless. On the particular point the Applicant raises, we would note that the Wiggins Group plc invested £7m on new aprons and taxiways, in order to increase the freight capacity to 200,000 tonnes per annum. This was during the period that RSP director Tony Freudmann was a prominent executive at Wiggin Group plc, holding roles of Managing Director and Chairman of the entity owning and operating the airport between 1999 and 2005.* *Is it the Applicant's case that Wiggins Group plc misinformed investors in its 2002 Financial statements and other formal stock exchange announcements, including for example, on 10 December 2003, when Wiggins stated the following in relation to Manston;* > *"A new apron and linked taxiways were completed last year increasing annual freight apron capacity from 36,000 tonnes to approximately 200,000 tonnes."* *Despite this investment, Manston was not successful in growing freight tonnage. Lack of Manston capacity was not the factor as explained in the York Aviation and Altitude Aviation reports [included in REP3-025].* *It is noted that Mr Freudmann stated at the Compulsory Acquisition Hearing on 20 March 2019 that it was ridiculous to suggest that Manston could handle that much cargo. Mr Freudmann also referred to himself as "foot soldier" at Wiggins Group plc.* *In his roles as Managing Director and Chairman of Manston Airport, Mr Freudmann and his colleagues attended quarterly meetings of Kent International Airport Consultative Committee (KIACC), that also comprised Kent County Council, Thanet District Council, Canterbury City Council, Dover District Council and other parish and town councils. It is informative that the minutes of the KIACC meeting held on 25 September 2003 (one of the few Mr Freudmann, then the Chairman, was unable to attend) show the Chief Executive informing local authority stakeholders of the following under paragraph 5.4.1.* > *"Mr Lansbury said that Wiggins' investment of £6m on new taxiway and aprons had increased cargo-handling capacity from 30,000 to over 250,000 tonnes p.a."* *Copies of the relevant pages of the Minutes are attached for information as Appendix 2.9.4 (full copies of the minutes can be provided if required).*

2.9.5	**<u>Section 3 (remainder), Section 6 and Appendix 4 – need</u>** <u>Applicant's Comments</u> The rest of section 3 and all of section 6 concern themselves with the SHP case that there is no need for a cargo airport at Manston. The core of the argument is the claim that there is no demand for dedicated freighter capacity in the UK; even if there were, Manston is in the wrong place; and even if it were in the right place it would have to have night flights at a much greater rate than proposed for it to be viable. <u>*SHP's Comments*</u> *SHP's case is set out in detail in the reports prepared by York Aviation and Altitude Aviation which form Appendices 4 and 5 of SHP's Written Representations (REP3-025). These reports are commended to the Examining Authority.*
2.9.6	<u>Applicant's Comments</u> The Applicant's case is firmly that none of that is correct. The demand for dedicated freighter capacity is evidenced by (a) the share of bellyhold and dedicated freighters outside the UK being far more balanced, whereas in the UK bellyhold dominates the market; (b) that the two major cargo airports in the south-east, Heathrow and Stansted, are focusing on passenger expansion rather than freight (and that East Midlands Airport serves a different function and is not in the south east), and (c) that fact that goods are currently trucked through the Channel Tunnel to and from airports in mainland Europe to access dedicated freighter services not conveniently available in the South East. An expanded Heathrow will not open until 2026 at the earliest and is to be phased over 10 years; Manston will have opened well before then. <u>*SHP's Comments*</u> *SHP's case is set out in detail in the reports prepared by York Aviation and Altitude Aviation (see Appendices 4 and 5 of SHP's Written Representations (REP3-025)). These reports show the arguments made by the Applicant to be baseless, simplistic and displaying a gross lack of understanding of the dynamics of the air freight market. We would also refer the Examining Authority to pages 27 to 62 of SHP's comments on the Applicant's responses to Written Questions, which provides a comprehensive rebuttal of the claims made by the Applicant.*
2.9.7	<u>Applicant's Comments</u> As and when the UK leaves the European Union, the demand for both imports from and exports to countries further afield will become ever more urgent and for the UK to be best-placed to exploit such opportunities it should not be restricted to serving cities to which passengers fly or only to exporting and importing goods that can be contained in passenger aircraft. The trend towards low-cost carriers (both short-haul and increasingly long-haul) will further reduce the availability of bellyhold cargo as they do not carry it. <u>*SHP's Comments*</u> *The Applicant provides no evidence for its assertions. The Applicant's claim regarding the trend towards low-cost carriers reducing the availability of bellyhold cargo is contrary to the evidence that bellyhold capacity is increasing. We would refer the Examining Authority to the extensive analysis contained in the York*

	Aviation and Altitude Aviation reports appended to SHP's Written Representations [REP3-025] and SHP's comments on the Applicant's response to written questions (e.g. in respect of ND.1.9, ND1.11, ND.1.19, ND.1.20 and ND.1.38)
2.9.8	Applicant's Comments Government policy is expressed as supportive of airports other than Heathrow making best use of their existing runways, indeed that is the title of the June 2018 policy paper on the future of UK aviation, which is what this proposal does. Given the extreme difficulty of bringing forward a new runway in the UK, very serious consideration should be given before this national asset is lost to aviation. *SHP's Comments* *It is clear that the Applicant is aware that there is no explicit policy support for a reopened Manston. We would refer the Examining Authority to evidence submitted by SHP including SHP's comments on the Applicant's responses to Written Questions (e.g. ND.1.1, ND.1.2, and ND.1.46) and as set out in SHP's written summary of its oral submissions to the Need and Operations hearing, submitted at Deadline 5.*
2.9.9	Applicant's Comments Concerning Manston's location, as the Altitude report at Appendix 5 states, it is within three hours of London and the South East of England, one of the largest conurbations in the world; furthermore there is dual carriageway or better from the edge of the airport site to those locations and there is a railway line offering high speed services to London running close by. This high quality connectivity is complemented by the fact the site is close to the sea on three sides meaning that its noise and other environmental impacts affect a relatively small number of people. *SHP's Comments* *The reports from both York Aviation and Altitude Aviation (Appendices 4 and 5 of SHP's Written Representations (REP3-025)) clearly set out the evidence showing why Manston's peripheral location is a major disadvantage and that these airports are better located relative to the market and the key locations for distribution within the UK.*
2.9.10	Applicant's Comments On night flights, the Applicant's evidence is that these only tend to be at night either because of a traditional integrator operation as at East Midlands Airport, which the Applicant is not seeking to reproduce, or because passenger flights are dominating the daytime schedule, as at Stansted. For example, although there are a similar number of cargo flights year-round at Stansted, there are fewer during the night in winter, when there are fewer passenger flights during the day, i.e. the cargo flights take place during the day when they can. Furthermore, Frankfurt Airport carries the highest number of dedicated freighter flights in Europe and yet has a night-time ban on flights. *SHP's Comments* *The Applicant has demonstrated a fundamental lack of understanding of the role night flights play in the air cargo market. We would refer the Examining Authority to the detailed evidence submitted by SHP including, the York Aviation and Altitude*

	Aviation reports (Appendices 4 and 5 of SHP's Written Representations (REP3-025) and SHP's comments on the Applicant's responses to Written Questions, particularly questions ND.1.2, ND.1.16, ND.1.18, ND.1.31, ND.1.37, ND.1.38 and ND.1.41. We would also refer the Examining Authority to the evidence summarised in SHP's written summary of its oral submissions to the Need and Operations hearing, submitted at Deadline 5.
2.9.11	<u>Applicant's Comments</u> Finally, to quote the York Aviation Ltd Note on Freight Connectivity for Transport for London appended to Appendix 4: "It is reasonable to assume that around 14,000 freighters a year [required in 2012] could still be accommodated in the vicinity of London by using capacity at airports such as Manston, which already handles some long haul freighters. However, capacity equivalent to an additional 54,000 freighter movements per year could be required to ensure demand [in 2050] is met, although this could be mitigated to an extent if the freighter capacity was prioritised for freight to and from the UK with less transit freight." <u>*SHP's Comments*</u> *It has been made clear to the Applicant on numerous occasions that the Applicant continues to rely erroneously on York Aviation's work for TfL and the FTA. As explained in York Aviation's report appended to SHP's Comments on the Applicants responses to Written Questions, York Aviation had made Dr Dixon of Azimuth Associates fully aware of the misinterpretation of this work in 2017 (see comments on ND.1.7 and correspondence attached at Appendix B to that submission). In view of the continued misrepresentation of the York Aviation work and selective quoting of that work during the hearings, paragraphs 2 – 17 of Appendix NOPS.5.1 to SHP's written summary of oral representations to the Need and Operations hearing provides a correct interpretation of York Aviation's work for the FTA and TfL.*
2.9.12	<u>Applicant's Comments</u> A fuller assessment of the need for dedicated freighter capacity in the south east of England in response to the Stone Hill Park reports from Altitude Advisory and York Aviation, provided by Northpoint Aviation, is included as TR020002/D4/WRC/Appendix. <u>*SHP's Comments*</u> *SHP has only had limited time to consider the Northpoint report, however it appears to be a clear attempt by the Applicant to produce a post event corroboration of the Azimuth forecasts that are used to underpin the entirety of its case.* *Paragraphs 28 – 38 of Appendix NOPS.5.1 to SHP's written summary of oral representations to the Need and Operations hearing, provides an explanation as to why the Northpoint analysis does not corroborate the Azimuth forecast, and indeed tends to confirm the reasons why the airport could not succeed.*

2.9.13	*Section 4 and Appendix 3 – housing* Applicant's Comments This section promotes SHP's housing proposal, although is based rather more on the general need for housing in Thanet than the proposal itself. Manston airfield is not a sustainable location for residential development, it is located entirely in the countryside, remote from the services, public transport and utilities that would be required to serve a substantial number of houses. It is also situated on an aquifer, and would result in a high risk of water contamination. No transport improvements are proposed to cope with the travel needs of an additional 3,700 households. The proposal has attracted significant objections from statutory bodies and the local community (over 375 objections in total) and has progressed little since an application was first made in May 2016. ***SHP's Comments*** *A copy of the Planning Statement that accompanies SHP's planning application is appended as Appendix 2.9.13.*
2.9.14	Applicant's Comments There are many sites available for housing in the UK but virtually none available for airport development. There is no shortage of housing land in Thanet. There is no requirement to develop the airfield for housing to meet Thanet's housing needs *SHP's Comments* *We would refer the Examining Authority to SHP's representations to the draft local plan, which concludes inter alia;* • *the Manston Airport site should be allocated for comprehensive mixed use redevelopment including at least 2,500 homes over the plan period* • *that the alternative Strategic Sites put forward for the Council would require development of agricultural and greenfield land* • *it is also unlikely that the alternative will generate sufficient critical mass to deliver necessary infrastructure and are therefore likely to place additional pressure on existing facilities and services;* • *like TDC's Officers, it is consider that the redevelopment of the former Manston Airport Site for one comprehensive development is preferable to this 'piecemeal' approach;* • *we are not convinced that the quantum of homes proposed in these locations have a reasonable prospect of being delivered over the course of the plan period in any event as there is no evidence that they are all available, deliverable and achievable.* *A copy of these representations are attached as Appendix 2.9.14(a) together with the letter from the Secretary of State for Housing, Communities and Local Government putting on public record his concerns about the low level of housing supply and delivery in Thanet (Appendix 2.9.14(b)).*
2.9.15	*Section 5 – size of proposal* Applicant's Comments This section questions the size of the development given the number of flights that are expected. As explained in the NSIP Justification, paragraph 29, "First,

	significant 'headroom' is required to be able to withstand operational issues that regularly arise and so is for reasons of resilience. Secondly, our business model is to provide sufficient capacity to be able to accommodate aircraft when the airline wants to operate rather than to suit the airport through slot management, which requires a much greater availability of stands." <u>*SHP's Comments*</u> *We would refer the Examining Authority to paragraphs 5.1-5.5 of SHP's Written Representations and section 6 "Justification for the Facilities Proposed" of the York Aviation report contained in Appendix 4 (REP3-025). Notwithstanding the lack of credibility of the Applicant's forecasts, York has provided a detailed assessment of the infrastructure required to accommodate this level of activity using industry accepted measures for infrastructure requirement. This compares with the failure of the Applicant to explain or justify how its forecast translate into a physical requirement for infrastructure. In such circumstances, how can the Examining Authority have confidence in the assertions being made by the Applicant. York Aviation conclude that the land required to accommodate the maximum number of ATMs forecast by the Applicant is considerably less than has been sought.*
2.9.16	<u>Applicant's Comments</u> It questions the size of the northern grass as well, citing the Pegasus Business Park at East Midlands Airport. However that is only one area of commercial development at that airport, whose brochure states that it has 218 acres of commercial property (882,000m2, eight times the size of the northern grass), with a further 50 acres available (202,000m2). <u>*SHP's Comments – email to EMA*</u> *The Applicant's comments again glosses over the issues with its application, and in doing so, provides a wholly misleading and inaccurate summary of the position at East Midlands airport. We would note whilst it is correct that the brochure states that it has 218 acres of commercial property, this relates to total land area and the non-airside airport related business space is only a very small part of this. It is highly revealing that the Applicant does not understand this. We look forward to seeing the Applicant's explanation that was promised at the hearings.* *Furthermore, we would again highlight to the Examining Authority, the Applicant's failure to provide any explanation or justification of the works that it claims comprise the NSIP and associated development. As set out in our Deadline 3 and Deadline 4 submissions, we consider it unacceptable that the Applicant still refuses to provide the most basic, yet fundamental, information about its "project" to the examination. The only conclusion that can be reached is that the Applicant is unable to provide any proper justification or explanation.*
2.9.17	<u>Applicant's Comments</u> Also, the size of the northern grass is not 'completely out of proportion to the principal development', as alleged - it is 26 acres of developable land compared to 800 for the whole site area. <u>*SHP's Comments*</u> *The Applicant has mischaracterised the comments made in paragraph 5.11 of the Written Representations. The paragraph did not refer only to the northern grass*

	but stated that the scale of "Associated Development is completely out of proportion to the principal development (see particularly Appendix 1 paragraph 5.16)". As this paragraph 5.16 demonstrates, none of the 141,350m2 of building footprint sought by the Applicant appears to meet the NSIP development criteria. Section 5 of the Appendix 1 also explains in detail why large elements of the proposed development do not meet the tests for associated development. *Without prejudice to the position set out both above and in SHP's written representations, even if the Applicant was correct in its claims regarding what is NSIP development and associated development, which it is not, it is clear that the northern grass development (works 15-17) comprise c75% of the total building floorspace. Comparing the area of building footprint for B1/B8 use to the overall land area of c.740 acres, which will largely comprise of grass, the existing runway (and adjacent hardstanding is), is clearly not an appropriate comparison.*
2.9.18	*Section 7 and Appendix 5 – financing* Applicant's Comments Appended to this response is a report from Northpoint Aviation rebutting the allegations made in the Altitude Aviation report. *SHP's Comments* *Whilst the Applicant states that it has dealt with the matters raised in Section 7 (Funding, Viability and Deliverability) of SHP's Written Representations (REP3-025), a review of the Appendix makes clear it has not. As the matters had not in fact been addressed in the appendix, we sought clarification from the Planning Inspectorate as to whether there was a missing section or document from the Applicant's Deadline 4 submission. The Planning Inspectorate confirmed that all documents had been uploaded and accordingly, it is apparent that the Applicant has elected not to address the matters on funding, viability and deliverability raised in SHP's Written Representations.* *At the hearing on Need and Operations on 21 March 2019 we also heard the startling admissions from Azimuth Associates that it had developed its forecasts without any consideration of costs or viability. Azimuth also confirmed that it had no involvement in the preparation of a business plan. As a result, its "forecasts" and the "business plan" submitted at Deadline 3 should carry no weight in this examination.* *This followed on from serious issues that emerged at the Compulsory Acquisition hearing regarding the Applicant's funding position and the veracity of the information it had provided to the Examining Authority. Further information on this is set out in SHP's Written summaries of oral submissions made at the hearings.*
2.9.19	*Appendices* Applicant's Comments These are rather confused, as there is no indication where each appendix starts or ends. Pages 27 - 236 of the representation seem to be repeats. The Applicant has assumed that those 209 pages should be ignored and Appendix 1 starts on page 237. All but Appendix 6 are covered in the remarks above.

	<u>SHP's Comments</u> *We would note that the Applicant refers to a discrepancy in the way the documents had been uploaded to website, which resulted in Appendices being out of sync. PINS has confirmed that it has corrected the position so that the ordering of the appendices is now correct.*
2.9.20	*Appendix 6 – compensation* <u>Applicant's Comments</u> To the extent that the quantum of compensation is properly within the remit of the examination, the last two acquisitions of the site were for just £1 and then £7m, both in 2014, although in the latter case the buyer borrowed that amount from the seller, a related company, to acquire the site. The Applicant's consultant CBRE's estimate of £7.5m four years later is therefore clearly a generous one. *<u>SHP's Comments</u>* *It is not the role of the Examining Authority to assess the level of compensation payable, but it is quite clearly within the Examining Authority's remit to ensure that the Promoter has sufficient funds for the likely worst case figure that covers Compulsory Acquisition costs, Blight and Noise mitigation related costs. The Examining Authority must be satisfied that the amount is sufficient as otherwise they will not be able to satisfy themselves under the Guidance and any DCO Article or escrow account would be defective. This would be prejudicial to SHP and would have consequential human rights implications given land is being taken away.* *The precise amount of compensation is not for the Examining Authority, and if the Compensation figure from the Upper Tribunal is lower than the escrow account, then the remaining amount can be returned to the Promoter. But it should not be the other way around, that there are insufficient funds to pay third parties for their land. Therefore, the Examining Authority must take a precautionary approach and look at the higher figure for security purposes.* *The position as it stands is that the Applicant has offered a total consideration of £20m with SHP retaining the benefit of a restriction against residential development on the land. It is revealing that the Applicant has elected not to disclose this to the Examining Authority in its response to First Written Questions. It must therefore follow that the amount of compensation payable for SHP's land interests alone could be significantly higher than £20m, particularly if SHP also were to lose the benefit of a restriction on title preventing residential development on the site. The costs of acquiring all the other land, the noise mitigation and blight costs must also be added to this.* *Finally, it is worth highlighting to the Examining Authority the confused and incoherent nature of the Applicant's response;* • *Firstly, the claim that SHP borrowed £7m to fund the acquisition of the site is inaccurate. There was significant new equity funding injected. Notwithstanding this, the relevance of SHP's funding arrangements are unclear, particularly when the acquisition by SHP followed earlier offer from RiverOak Investment Corporation LLC (RSP's predecessor in the DCO) to acquire the land for £7m. As George Yerrall confirmed in evidence to the Transport*

	Committee, RiverOak had made an offer of £7m; "The highest offer was £7 million. We were rejected at £4 million. We were rejected at £5 million. We ultimately offered £7 million, which we were told was the asking price."
	• *Secondly, the Applicant claims its "consultant CBRE's estimate of £7.5m four years later is therefore clearly a generous one" is highly contradictory. We are losing track of what the Applicant's position is. In documentation submitted to the examination, RSP has claimed all of the points (i) – (iv) below, and elected not to disclose point (v);*
	  i. As noted in its response to Written Representations, the Applicant claims CBRE has estimated the value of the SHP land at £7.5m;
	  ii. In CBRE's letter of 10 October 2018 (appended to SHP's responses to Written Questions) it placed a value of £2m on SHP's land;
	  iii. In the Applicant's response to Written Question F.1.10 and F.1.13 it states that the £7.5m includes £0.5m for Blight costs;
	  iv. In paragraph 13 of the Applicant's Funding Statement it claims that the £7.5m includes all the land interests (we would note that this includes the Jentex site the Applicant has acquired for £2.3m);
	  v. The Applicant offered (in writing) to acquire SHP's land for a total consideration of £20m as set out in SHP's response to Written Question CA.1.17. The Applicant elected not disclose any of this material information to the Examining Authority when responding to Written Question CA.1.16. We would like to make clear to the Examining Authority that the Applicant was not prevented from doing so by any confidentiality agreement with SHP.
	• *It is also noteworthy that the Applicant's response completely ignores the basis on which a Lands Tribunal would assess compensation payable. The evidence presented in Appendix 6 to SHP's Written Representations (REP3-025) is robust, and is strengthened by the content of the Applicant's recent submissions at Deadlines 3 and 4. Notwithstanding SHP's view of viability, as noted in section 5 of Appendix 6, any offer must reflect the value of the site as a viable airport. It must therefore follow that the value must reflect the so-called "business plan" submitted by the Applicant at Deadline 3.*
	• *Furthermore, we would also note that paragraph 3.2 of the "Review of Potential Noise Mitigation Measures" (submitted at Deadline 4) provides the Examining Authority with an estimate of the costs of constructing a runway extension. The Applicant's adviser, Osprey Consulting Services, has conservatively estimated the construction costs of building 500m of runway at "in excess of £8m." As Osprey makes clear, this excludes land and other related infrastructure costs which could be significant. This analysis from Osprey is helpful in demonstrating the intrinsic value of the existing 2,748 runway (ignoring all other infrastructure on site) would equate to >£44m based on Osprey's estimate. We note the Applicant's comments in paragraph 3.3.153 of the Environmental Statement that "the existing runway appears to be in good condition" but would accept that some refurbishment costs may be required.*

	• *It is clear that the Applicant's submissions on this matter lack any coherence and that they have fallen well short of its obligations under the Compulsory Acquisition guidance.*

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APPENDICES

2.9.4	Minutes from the meeting of Kent International Airport Consultative Committee (26.09.2003)
2.9.13	SHP Planning Statement relating to Hybrid Planning Application TDC reference OL/TH/18/0660
2.9.14 (a)	SHP's representations to Thanet District Council's draft local plan and Enclosure 3 (Analysis of "Option 2" Housing sites)
2.9.14 (b)	Letter from the Secretary of State for Housing, Communities and Local Government to the Leader of Thanet District Council dated 28 January 2019

MANSTON AIRPORT CONSULTATIVE COMMITTEE
Minutes of meeting held at 7.30pm on 25th September 2003
in the Departure Lounge London-Manston Airport

PRESENT	
Sir Alistair Hunter	Chairman
Tessa Sherriff	Secretary
Paul Tipple	Wiggins Group plc
Alastair Robertson	London Manston Airport
Roger Latchford	Thanet District Council
Mike Roberts	Thanet District Council
John Fullarton	Kent County Council
Ron Flaherty	Canterbury City Council
John Bragg	Dover District Council
Stephen Sadler	SEEDA
Malcolm Kirkaldie	Manston Airport Group
Sam Hodgson	Acol Parish Council
John Garland	Birchington Parish Council
Peter Bagley	Manston Parish Council
Gerry Glover	Minster Parish Council
Nick Cole	Monkton Parish Council
Dennis Hart	Ramsgate Residents
Bernard Clayson	St Nicholas Parish Council
Martin Robinson	KAPC Dover
Len Claisse	KAPC Canterbury
Vera Hovenden	Cliffsend Residents Association
ALSO PRESENT:	
Brian Lear	Thanet District Council
Geoff Lansbury	Wiggins Group plc
APOLOGIES	Apologies for absence were received from
Tony Freudmann	Wiggins Group
Leigh Herington	KCC
Bob Weaver	Cliffsend (Vera Hovenden alternate)
Bob Bayford	Broadstairs Town Council
Paul Martin	TDC

5. SITUATION REPORT - Wiggins Group plc

5.1 The Chairman welcomed Geoff Lansbury, congratulating him on his appointment as Chief Executive of the Airport.

5.2 Mr Lansbury said his appointment was a statement of the confidence and ambitions Wiggins had for the airport. It was felt important that a main Board Director should be Chief Executive of the airport, thereby giving the Airport representation on the main Board of Wiggins.

5.3 Referring to the suspension of Wiggins shares, Mr Lansbury said the shares had been suspended at the request of the company as it had been negotiating the terms for a sizeable refinancing package. Negotiations were virtually complete and it was anticipated that, subject to Stock Exchange approval, a circular to shareholders would be issued on 6th October, and the AGM scheduled for the end of October. This would provide the Wiggins Group with a significant injection of funds effectively removing its indebtedness and providing a platform for expansion of the Planestation network – now a core element of the business. The name of the company would likely change to ***Planestation***, highlighting the company's move away from property development. As such, shares would be listed under *Transport* rather than *Building/construction*.

5.4 Business Development:

5.4.1 Mr Lansbury said that Wiggins' investment of £6m on new taxiway and aprons had increased cargo-handling capacity from 30,000 to over 250,000 tonnes p.a. The current month's throughput figures would be close to a record.

5.4.2 With regard to the local community, Mr Lansbury emphasised the importance of MACC as a conduit to ensure that the Airport's growth was sustainable and took into account the view of the community as a whole. As Chief Executive, he would be available to both MACC and any member of the public wishing to discuss any element of the business. The company tried to minimise disturbance, whilst benefiting the community. It was appreciated that the movement of cargo brought the benefit of jobs, but what was probably more important to local people was the opportunity to fly from Manston.

5.4.3 The company had recently announced that it had signed an agreement with the city of Melborne in Florida where a new international terminal was to be built. The initial element of business for Wiggins would be using the terminal for flights to and from other Planestation airports, notably Manston. Mr Lansbury believed that was likely to be the first significant benefit to the community in terms of international flights. This new terminal was expected to be opened in the Spring of 2005, although before then it was hoped to utilise the

Report

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Planning Statement (ref. SHP2-4)

Stone Hill Park

April 2018

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Appendix 1 Briefing Note: Previously Developed Land

Appendix 2 Schedule of Existing Buildings and Built Structures

Appendix 3 Planning History

Appendix 4 Operation Stack Development Consent Order

Appendix 5 SHP Representations to RSP Consultation

Appendix 6 SHP Representations to PINS concerning RSP proposals

Appendix 7 TDC Letter to RSP Consultation, 16th February 2018

Appendix 8 Commercial Viability of Manston Airport by AviaSolutions (September 2016)

Appendix 9 Proposed Revisions to Draft Local Plan, Policy SP05 (January 2017)

Appendix 10 Review of Azimuth & Northpoint Forecast for Manston Airport by AviaSolutions (August 2017)

Appendix 11 Local Plan Representations Final Report by AviaSolutions (August 2017)

Appendix 12 Cabinet Report and Minutes, 25th October 2017

Appendix 13 Overview and Scrutiny Report and Minutes, 21st November 2017

Appendix 14 DCLG Letter re: Local Plan Intervention, 16th November 2017

Appendix 15 Full Council Report and Minutes, 18th January 2018

Appendix 16 History of Efforts to Keep Manston Airport Open

Appendix 17 History of Manston's Performance

Appendix 18 Summary Report Analysing Use of York Aviation Material by RiverOak Strategic Partners Limited and Assessment of Capability of Manston Airport by York Aviation (November 2017)

Appendix 19 Estimated Job Creation

Prepared By: Elle Milimuka
Reviewed by: Nick Alston

For and on behalf of GVA Grimley Limited

1. Introduction

1.1 This Planning Statement has been prepared in support of a Hybrid Planning Application ('the Application') for mixed use redevelopment of the former Manston Airport ('the Site') in Thanet District Council. The Application is submitted by Stone Hill Park Limited ('the Applicant').

1.2 The Application seeks outline planning permission (with all matters reserved except access) for comprehensive redevelopment of the Site for a new settlement, with full planning permission sought for the change of use of retained buildings. The Application is the culmination of extensive consultation undertaken with Thanet District Council, Kent County Council, other statutory stakeholders and local residents and businesses, the details of which are set out in the submitted Statement of Community Involvement. It represents the Applicant's enhanced vision for the site, building upon the extensive consultation undertaken on the original masterplan, which was submitted in May 2016.

1.3 This Planning Statement has been prepared by GVA on behalf of the Applicant. Its purpose is to set out the planning rationale that underpins the proposed development and to demonstrate its acceptability in planning terms. The Statement is structured as follows:

- **Section 2** describes the Site and its surrounds;
- **Section 3** provides an overview of the history of the Site, including its relevant planning history;
- **Section 4** provides a description of the Applicant and summarises their experience in delivering regeneration on large, redundant brownfield sites;
- **Section 5** describes the proposed development and the application specification;
- **Section 6** sets out the national, regional and local planning policy framework against which the application will be considered;
- **Sections 7-13** evaluate the application proposal in the context of relevant planning considerations; and
- **Section 14** summarises our conclusions in support of the application.

2. The Site and Surrounds

The Site

2.1 The Site extends to 296ha and is located centrally within the District of Thanet, approximately 4km southwest of Westwood Cross, 5km west of Ramsgate Town Centre, 7km west of Broadstairs and 6km south of Margate.

2.2 The Site is bounded by Spitfire Way (B2190), Manston Road and an unnamed road to the north; Manston Court Road, existing agricultural fields, and the fence line of the former airport to the west; Hengist Way (A299) to the south; and Spitfire Way (B2190) to the west.

Existing Buildings/Infrastructure

2.3 The Site is previously developed. Existing buildings and hardstanding make up approximately 100ha of the site, with other soft-surfacing surrounding fixed infrastructure and hardstanding bringing the total to 262ha of previously developed land, comprising 88.5% of the site (see Appendix 1).

2.4 It accommodates numerous buildings, areas of hardstanding, and soft surfacing associated with its former use as an airport, including (but not limited to):

- The former terminal building, located at the eastern perimeter of the Site;
- The 'old' control tower, originally constructed during WWII and located to the north of Manston Road;
- The 'modern' control tower of more recent origin, located north of the runway;
- The fire station, associated with the former airport use and situated directly east of the 'modern' control tower;
- Various warehouse/shed structures located across the Site, both south of Spitfire Way and south of the former terminal building, which were last used in connection with the general running/maintenance of commercial and freight operations on the Site;
- The runway, which is 2,748m long, 61m wide and totals 65ha, and is sited along the southern boundary of the Site;
- Taxiways and parking areas for planes north of the runway, which extend across the Site including to the north of Manston Road;
- A large surface level car park at the eastern boundary of the Site;
- Other fixed infrastructure including sub-station, radar dishes and remnants of former airport use; and

- Areas of cleared, soft surfacing once an integral part of the layout and design of the active airfield (including runway safety areas and areas for the manoeuvrability of aircraft, and aircraft servicing), extending throughout the Site.

2.5 The Site also includes the RAF Manston Museum and Spitfire and Hurricane Museum, which are situated near the north-western boundary of the Site, north of Manston Road. Whilst it is likely that these buildings originally formed part of the airport, over time they have evolved into their own distinct use and are now considered to form a separate planning unit.

2.6 A full schedule of existing buildings and built structures on Site is attached at Appendix 2 and depicted on Parameter Plan 6: Demolition & Retention.

2.7 The Site does not include any designated heritage assets or locally listed buildings.

Permitted Use Class

2.8 With the exception of the two museums on Site (which operate under Use Class D1) the permitted use of the Site is Sui Generis (airport).

2.9 With the exception of the museums, the site is vacant and unused.

Environment/Landscape Characteristics

2.10 The Site is predominantly flat, sloping gently from south to north. The runway is the most significant landscape feature on the Site and forms a ridgeline just to the north of the southern boundary. The runway provides unencumbered long-distance views to the south, including to Pegwell Bay.

2.11 There are no trees, bushes or ecological features on the Site. Soft-surfacing is primarily grass, and managed regularly to prevent overgrowth.

2.12 The entirety of the Site (including much of the District) falls within a designated Environment Agency Groundwater Source Protection Zone. Parts of the Site fall within Zone 1, 2 and 3.

2.13 The majority of the Site is enclosed by a secure boundary fence.

Access

2.14 The Site is a secure, privately-owned Site to which the public has no access.

2.15 The main vehicular access point for the southern part of the Site is off Manston Road, via an internal estate road which provides access to the former terminal building and surface car park, as well as servicing to warehouse/sheds to the south.

2.16 Direct access to existing warehouses/sheds along the north/western boundary of the Site is taken directly off Spitfire Way. There are also two vehicular access points for emergency services, one to the west of B32 and the other directly opposite Merlin Way.

2.17 The main vehicular access point to the part of the Site north of the B2050 (sometimes referred to as 'the Northern Grasslands') is via a small estate road off Manston Road. The main vehicular and pedestrian entrances to the two museums are taken directly off Manston Road.

2.18 There is evidence of a number of additional former access points into the Site linked to its history of military/commercial operations, including:

- An airplane taxiway to the immediate east of the museums which was previously used to allow planes to cross the B2050 to reach the northern part of the Site;
- An airplane taxiway east of Bell Helicopters which was associated with the (then larger) airfield;
- A controlled estate road (for authorised vehicles only), which provided vehicular access to the 'old' control tower from directly off Manston Road (B2050);
- A controlled estate road (for authorised vehicles only), which orbited the Northern Grasslands with access taken off Manston Road (B2050); and
- A single lane former adopted public highway (Canterbury Road West), running south of the runway from Minster Roundabout in the west to just east of Cliffsend Roundabout, which was stopped up following Kent County Council's completion of Hengist Way (A299).

2.19 Pedestrian/cycle access to the Site is extremely limited. The Site is situated within a network of public footpaths and bridleway; however with the exception of an existing Public Right of Way at the eastern edge of the Site, these public footpaths do not extend across or around the Site. The only other pedestrian access to the Site is via the main vehicular entrance to the former terminal building and to the museums directly off Manston Road.

2.20 The Site benefits from excellent existing vehicular access and connections to the neighbouring towns, major towns of Kent and the south east region. Manston Road (B2190) provides connections to the A253 and A28 via the A254. The A253 runs east to west connecting Ramsgate and Canterbury. The A28 runs east to west connecting Margate and the M2 leading to Gillingham. The A256 which is accessed to the south of the site runs north to south connecting Ramsgate and Dover.

2.21 Ramsgate Rail Station is located approximately 5km east of the Site. It provides existing services to Dover, Canterbury, London and Ashford, including a high speed service via High Speed 1 (HS1). In addition to the existing services, the planned Rail Station 'Thanet Parkway' is located just over 500m southeast of the Site and will connect to the HS1 service via the Ashford - Ramsgate line. This will increase rail connectivity between East Kent, London and the wider Kent area.

2.22 The Site is also served by three bus lines: two routes (no. 11 and 38) have existing stops along the B2050 and provide services to Birchington-on-Sea, Acol, Manson Village, Westwood Cross, Ramsgate; and a third (no. 9) provides regional services from Ramsgate to Canterbury via Hengist Way (A299).

2.23 In addition to the local and regional connections, the Site also benefits from close proximity to the Ports of Ramsgate and Dover, as well as the Channel Tunnel at Folkestone which provide important passenger and freight connections to Europe.

Surrounding Area

Land Uses

2.24 The nearest residential settlements to the Site are Minster (to the southwest), Cliffsend (southeast), Manston (west) and Acol (northwest). The largest village by population size[1] is Minster (3,007 residents), and the smallest is Acol (295 residents). The built-up extent of Ramsgate is approximately 800m to the east of the site at its closest point.

2.25 There are also a number of smaller residential areas which fall outside defined settlement boundaries. These include: a number of residential properties along Spitfire Way, Manston Road and Manston Court Road; Smuggler's Leap Residential Park (to the west); an area of housing associated with the historic military/commercial use of the Site around Esmonde Drive (to the north); and three caravan parks (to the north and west). An additional area for 785 new homes was consented in 2015 on either side of Haine Road which is referred to locally as 'Manston Green' (ref. OL/TH/14/0050).

2.26 Non-residential uses in the surrounding area are primarily located towards the western end of the Site. Immediately north (opposite Spitfire Way) is Manston Business Park, the largest strategic employment allocation within Thanet (17.5ha). 'The Loop' area was originally developed to support wartime activities and formed part of the operational airport (i.e. the Site), however in time became 'Kent International Business Park' and has since been carved out of the airport site. The business park was granted outline planning consent for a northern extension in 1995 for Use Classes B1/B2/B8 (ref. OL/TH/95/0838). In November 2011, the Planning Committee resolved to grant full planning consent for 138,000 sqm (totalling c. 20 units) of Class B1c/B2/B8 floorspace however no decision notice was issued (commonly referred to as the 'China Gateway' scheme). Manston Business Park has not been fully developed and activity is relatively low, albeit a number of smaller general industrial units have been built on land south of Invicta Way in recent years. Current occupiers appear to be oriented towards traditional manufacturing and distribution.

[1] Source: Office for National Statistics. Usual resident population (2011 census).

2.27 The Ministry of Defence Fire Training and Development Centre ('the MoD Site') is located north of the Site and is currently used to deliver fire training to the Royal Air Force (RAF), Ministry of Defence (MOD) and contractor fire fighters. We are unsure of the MOD's long-term intentions for the site.

2.28 Bell Helicopter (between the Site and Manston Business Park) and Polar Helicopters (south of Spitfire Way north of B2) are located along Spitfire Way. Bell Helicopter is an independent retailer and customer service facility for maintenance of UK Bell Helicopters. Polar Helicopters is a CAA Flight Training Organisation which provides pilot training.

2.29 A solar park is located just beyond the northeastern corner of the Site, which was originally permitted in November 2012 (F/TH/12/0722) with a northern extension granted in July 2013 (ref. F/TH/13/0315). We note an application for an additional 13.8ha solar farm immediately west of the Application Site was refused in October 2014 due to loss of agricultural land F/TH/14/0645).

Surrounding Environment/Landscape

2.30 There are a number of sites of designated international, national and local biodiversity value within the surrounding area. The Thanet Coast is designated as a:

- Special Area of Conservation (SAC) under the European Union's Habitats Directive;
- Special Protection Area (SPA) under the European Union's Directive on the Conservation of Wild Birds (in particular, the European Golden Plover, Ruddy Turnstone and the Little Tern);
- Ramsar wetland site of international importance designated under the Ramsar Convention; and
- Site of Specific Scientific Interest (SSSI) under the Wildlife and Countryside Act.

2.31 In addition, Pegwell Bay (situated south-east of the Site) is designated as a Local Nature Reserve and Special Landscape Area.

2.32 A large proportion of the District (including the Site) falls within the Central Chalk Plateau Landscape Character Area. This area is characterised by a generally flat or gently undulating landscape, with extensive, unenclosed fields under intensive arable cultivation. We note that the description also acknowledges that this landscape is fragmented by large-scale developments such as the former airfield.

2.33 As described in para 2.12, a large portion of the District (including the Site) falls within designated Environment Agency Groundwater Source Protection Zones, varying between Zones 1-3.

Local Socio-Economic Context

2.34 Thanet is the eastern-most District in Kent, and is surrounded by the sea to the north, east and south. The District shares many of the problems and socio-economic disadvantages associated with peripheral seaside locations. Data demonstrates that Thanet performs poorly in a number of key economic performance indicators, albeit it has improved in recent years. In particular:

- There are a lower proportion of individuals in Thanet (77.4%) who are classified as 'Economically Active' compared with Kent (78.9%), South-East region (81.0%) and Great Britain (77.8%)[2];
- 3,450 Thanet residents claim benefits under Universal Credit (representing 4.2% of the population), more than double both the regional and national average (1.2% and 2.0% respectively)[3];
- 5.5% of Thanet residents aged 16-64 have no formal qualifications[4];
- Thanet is the most deprived local authority in Kent and scores 28th out of all 326 authorities in England on the Indices of Multiple Deprivation (with 1st being the most deprived)[5];
- Earnings for district residents are significantly below both the regional and national average[6].

2.35 Further details regarding the existing socio-economic context and projections are set out in the Socio-Economic Chapter of the Environmental Statement.

Summary

- This 296ha site is located just beyond the built-up extent of Ramsgate (the largest settlement in Thanet).
- The site is previously developed. Existing buildings and hardstanding make up approximately 100ha of the site, with other soft-surfacing surrounding fixed infrastructure and hardstanding bringing the total to 262ha of previously developed land, comprising 88.5% of the site.
- The site is vacant and unused with the exception of the two museums (in Class D1 use). Otherwise, the permitted use of the site is Sui Generis (airport).
- It is well served by existing bus routes and is around 500m from the planning Parkway Station, which will provide fast services between Ramsgate and London. The site is adjacent to the strategic highway network.
- There are no heritage assets or environmental designations which preclude the principle of redevelopment.

[2] Environmental Statement February 2018, ref. 6.20.
[3] Source: Offices of National Statistics. Data period: January 2018.
[4] Source: Offices of National Statistics. Data period: January 2015-December 2015.
[5] Source: Kent County Council statistics. Data period: 2015.
[6] Source: Offices of National Statistics. Data period: 2017.

3. Site History

3.1 Key periods in the Site's aviation history are as follows:

- 1915-1999: the Site was historically used for military aviation purposes, migrating to a dual military and commercial function, before the military use completely ceased in 1999.
- 1998-2005: the Site was acquired by Wiggins Group and became a purely commercial enterprise which was rebranded as 'London Manston Airport'. The owner went into administration in 2005 following low passenger numbers.
- 2005-2013: the Site was acquired by Infratil Ltd from administrators. Over this period, the owners made repeated attempts to increase passenger and freight growth to sustainable levels, publishing a draft masterplan for the airport which set ambitious targets for growth over 10 and 25 year time horizons. Despite ambitious plans and sustained efforts to increase passenger numbers and grow freight traffic, the company incurred substantial losses and the Site was put up for sale in March 2012.
- 2013-2014: the Site was sold to Manston Skyport Limited in December 2013 (for one pound), who intended to operate the site as an airport. Expansion opportunities with Ryanair and cargo operators also failed to materialise and it became clear that there was no credible prospect of the airport becoming profitable. The scale of losses could not be sustained and the airport closed on 15th May 2014.
- (2014-Present day): Since closure, all airport operations on Site have ceased. With the exception of the two museums, the Site is vacant. Thanet District Council (TDC) considered and rejected the possibility of making a CPO (as a means of re-commencing airport use) on three separate occasions (December 2014, October 2015 and again in June 2016).

Planning History

3.2 The planning history related to the Site is extensive, and set out in detail at Appendix 2. Applications of particular relevance to the Application are summarised below.

Airport

3.3 In 1988, permission was granted for the erection of a passenger terminal building, new access road and car parking facilities on a site then referred to as the 'civilian enclave' to the east of the airport, south of Manston Road (ref. F/TH/88/0121). This permission was subject to a s.106 Agreement which included night-time flying restrictions.

3.4 In 1998 the military use of the major part of the airfield ceased, and the Site was sold to the Wiggins Group plc. The same year, the Ministry of Defence applied for four Lawful Development Certificates (LDCs) under section 192 of the Town and Country Planning Act 1990 to confirm that use of the whole of the Site as a civilian airport would be lawful and would not require planning consent. The Council granted two LDCs in 1998 (ref. 98/398 and 98/399) and a further two in 1999 (98/400 and 99/377). These certificates related to:

- the proposed use of the airfield for civilian purposes (ref. 98/398);
- retention of existing airfield buildings on site (ref. 98/399);
- proposed use of those buildings in association with the civilian use of the airfield (ref. 98/400); and
- use of crown and airfield land and buildings for commercial civilian airport use (ref. 99/377).

3.5 The LDCs did not specify details or restrictions relating to the operation of the airport. Two of the LDCs (ref. 98/377 and 99/400) were subject to a subsequent Judicial Review, mounted on grounds that in not adding any restrictions or conditions on the way the airport could operate, the LDCs failed to follow the correct approach in decision making. The challenge failed, as did a further challenge to that decision.

3.6 In 2000, the first major application was submitted to facilitate the extension of use of the airport for civilian purposes. The application sought permission for the replacement and upgrading of passenger aprons adjacent to the existing passenger terminal, the upgrading of the cargo apron around the existing western cargo shed, improvements and part realignment of linking taxiways, and the construction of a new hangar adjacent to the cargo apron. It was permitted in June 2000 (ref. F/TH/00/0297).

3.7 On 26th September 2000, a s.106 Agreement was entered into by the Council, Kent International Airport and Wiggins Group plc (the former landowner). Unusually, this Agreement was not associated with a planning application, although its implementation was associated with the revocation of an older s.106 Agreement related to the 1988 grant of permission for the passenger terminal. The agreement imposed restrictions on flights between 2300-0700 (requiring submission of a Night Flying Policy to the Council before they could take place, and imposing fines if noise quotas were exceeded), set out certain restrictions on routes for flights departing and landing at the airport, and dealt with other matters relating to monitoring impact. The term of the s.106 was set for 3 years, however would remain in force if a subsequent agreement was not reached.

3.8 In April 2004 an Application was submitted on behalf of the airport owners for construction of a 2,029 space car park with associated roads, landscaping, security fence, etc. (ref. TH/04/0463). The application was granted on 19th June 2008, and was accompanied by a s.106 agreement setting out required off-site highways works. The consent was implemented and 659 spaces have been constructed. A total of 1,100 car parking spaces may be constructed before a further Traffic Impact Assessment is required which identifies the full surface access impact of the remaining car parking spaces and measures that may be required to address that impact.

3.9 In October 2004 a proposed replacement draft of the 2000 s.106 agreement was brought to Thanet District Council for discussion. The proposed agreement sought to maintain restrictions on night-time flights (with exceptions for passenger flights between 0600-0700 and a limited number of relief emergency flights and scheduled flights for mechanical or safety or other substantive reasons). Due to public sensitivities regarding night-flights, the Full Council published the details of the agreement for twelve weeks of public consultation, from 21st October 2004 to 13th January 2005. No agreement was reached on the content of a revised s.106 agreement and the original remains in force.

3.10 On 27th October 2011, a proposed Night Time Flying Policy was submitted to the Council pursuant to clauses 1.2 and 1.3 of Schedule 2 of the s.106. The policy sought scheduled passenger and freight services in the night time period, with a limit on total movements and total permitted Noise Quota Count (in which operating aircraft are assigned a Quota Count value and these are totalled over the year with an upper limit set). The submission stated that the introduction of night-flights was a crucial factor in attracting a regular air freight service provider, and was needed to improve the financial viability of the airport in the short-term.

3.11 The Council instructed Parsons Brinckerhoff to review and validate the technical data submitted by the operator. The report (January 2012) found that negative impacts of night-time flying (on noise, environmental, health) were underestimated and benefits (on jobs and economic benefits) may have been overstated. Between February and March 2012 the Council also conducted a public consultation on the contents of the submitted night-time flying policy. The Council received 2,275 responses from the public, of which 73% were opposed to night flights.

3.12 The consultation obligations under the s.106 agreement did not give the Council a right or power to approve/disapprove or give consent for/refuse authorisation of the proposed night time flying policy, however the Council stated that they expected the airport operator to take into account the Council's comments. On 10th May 2012 the Cabinet voted that they could not support the introduction of night flights.

Change of Use of Buildings 1-4

3.13 On 23rd May 2015, four applications were submitted to Thanet District Council on behalf of the Applicant for the change of use of four buildings on Site considered suitable for re-occupation. The intention of these applications was to avoid the adverse issues associated with having a vacant site and respond to current occupier demand for the type of accommodation available on Site. The applications sought consent for:

- temporary change of use of Building 1 (B1 on Parameter Plan 6) from Sui Generis to Class B2 use, for a period of 3 years (ref. F/TH/15/0460);
- proposed change of use of Building 2 (B2 on Parameter Plan 6) from Sui Generis to Class B2 use, plus a small extension and associated elevational and surface works (ref. F/TH/15/0457);
- application for change of use of Building 3 (B3 on Parameter Plan 6) from Sui Generis to Class B8 use (ref. F/TH/15/0459); and
- application for change of use Building 4 (B4 on Parameter Plan 6) from Sui Generis to Class B2 use (ref. F/TH/15/0458).

3.14 The application for Building 2 was refused by TDC Planning Committee on 21st October 2015, against Officers' recommendation for approval. The reason for refusal was that "t*he proposed development, by virtue of the loss of a building for airport use, would create the potential need for additional buildings within the countryside and would not constitute essential airside development, contrary to Thanet Local Plan Policies CC1 and EC4 of the Thanet Local Plan, and paragraphs 14 and 17 and guidance within the National Planning Policy Framework*" (Decision notice, 22nd October 2015). The applications for Buildings 1, 3 and 4 were not determined.

3.15 In January 2016, four appeals were lodged concurrently against Thanet District Council's refusal of the application for Building 4 (ref. PP/Z2260/W/15/3140990) and the non-determination of Buildings 1, 3 and 4 (ref. PP/Z2260/W/15/ 3140995, 3140992 and 3140994) and a Public Inquiry took place in March 2017. Based on the local plan evidence base (in particular, the AviaSolutions report), the Council concluded that they were unable to defend the reason for refusal and did not participate in the Inquiry. RSP were granted Rule 6 status and participated in the Inquiry. Having regard to the information before him, the Inspector concluded that until such time that a new policy framework exists, Policy EC4 of the Thanet Local Plan (2006) should continue to carry significant weight in the planning balance. He considered that the benefits of the appeal schemes were not of sufficient weight to warrant a decision other than in accordance with the Development Plan and dismissed the Appeals on 13th July 2017.

Pending Masterplan Application

3.16 In May 2016, a hybrid planning application for comprehensive mixed use redevelopment of the former Manston Airport ('the Site') was submitted to Thanet District Council by Stone Hill Park Limited ('the Applicant'). The application comprised:

- Up to 2,500 new residential dwellings[7], across a wide range of housing types, sizes and tenures, with up to 250 units age-restricted for elderly persons;
- Up to 85,000 sqm (GIA) of employment floorspace, with a focus on advanced manufacturing with some storage/distribution/office use, with detailed consent sought for the first four units (Phase 1);
- A new local centre, with provision for shops (including a small/medium-sized foodstore), services, cafes/restaurants, GP and pharmacy, community hall, hotel and other leisure facilities;
- Two new primary schools, with combined capacity of up to four forms of entry;
- Potential for a small-scale campus for higher/further education located in close proximity to the employment hub, which will train people in the skills needed to support future businesses;
- 130 hectares of managed public open space, including a repurposed runway recreational area, habitat and ecological areas and structural planting, connected by a network of local green spaces;
- 'East Kent Sports Village', including provision for a 50m swimming pool, outdoor 'wave garden', and outdoor sports pitches, courts and track;
- Retention and integration of a number of existing buildings on Site through proposed Change of Use;
- Creation of a new museum hub, providing space and opportunity for expansion of the museums, with adjacent heritage park designed to accommodate the landing historic aircraft on occasion during the year; and
- A network of new streets, pedestrian/cycle routes, associated car parking, and site preparation/enabling/landscaping/infrastructure works.

3.17 The application was registered and validated by TDC on 3rd June 2016 (ref. OL/TH/16/0550). In response to representations made by the Council and other statutory consultees, additional work was undertaken to support the application. A number of amendments were also proposed. An Addendum submission was submitted in October 2017. The original masterplan is currently live, pending determination with Thanet District Council.

[7] Throughout this statement, the term 'dwellings' is used when referring to both residential units (Class C3) and age-restricted bedspaces (Class C2)

Operation Stack

3.18 The Town and Country Planning (Operation Stack) Special Development Order 2015 came into effect on 2 September 2015, granting temporary permission for "*consisting of use of certain land on the Manston Airport site for the stationing of goods vehicles and use of the control tower building as a co-ordination centre and the provision of other temporary structures including those needed to provide lighting and other facilities*". The order was originally granted for nine months to expire on 1 June 2016, and was then extended for a further 18 months in 2016, and then further extended until 31 December 2019. See Appendix 4.

Development Consent Order

3.19 A private party (RiverOak Strategic Partners, or 'RSP') has entered into pre-application discussions with the Planning Inspectorate with the intention of seeking a Development Consent Order (DCO) to reopen the airport for cargo and freight operations. A DCO is a means of obtaining planning permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP). Section 23 of the Planning Act 2008 sets out various criteria for airport related development to qualify. To qualify, application for alterations to an existing airport would need to:

- Increase by at least 10 million per year the number of passengers for whom the airport is capable of providing air passenger transport services, or
- Increase by at least 10,000 per year the number of air transport movements of cargo aircraft for which the airport is capable of providing air cargo transport services.

3.20 RSP undertook Statutory Consultation on the plans, which closed 16th February 2018. At the time of writing, the Planning Inspectorate's website indicates that the application is expected to be submitted Q1 2018. After receipt of the application, the Planning Inspectorate will have 28 days to review the application and decide whether or not to accept it for examination.

3.21 SHP (as landowner) has submitted representations to RSP as part of the formal consultation (Appendix 5), and expressed various concerns to both RSP and the Planning Inspectorate regarding RSP's plans (Appendix 6). We note that significant concerns have also been raised by Thanet District Council the 'host' authority for any potential DCO application (Appendix 7)

Summary

- Since 1999, multiple competent and qualified parties have tried and failed to operate the site as a viable airport. In May 2014, the airport closed after sustaining significant financial losses. It has been vacant and unused ever since.

- The site has an extensive planning history associated with its former airport use. Applications and legal obligations consulted upon during the airport's use attracted significant public opposition, mainly in relation to the issue of night flights.
- An application for redevelopment of the site for a new mixed-use settlement was submitted by the Applicant in May 2016 and remains pending determination.
- A public inquiry concerning the change of use of four buildings from Sui Generis (aviation) to employment (B Class) was dismissed by an Inspector, who ruled that until such time that a new policy framework exists, Policy EC4 of the Thanet Local Plan (2006) should continue to carry significant weight in the planning balance.
- Part of the site is subject to the Town and Country Planning (Operation Stack) Special Development Order.
- RSP has entered into pre-application discussions with the Planning Inspectorate with the intention of seeking a Development Consent Order (DCO) to reopen the airport for cargo and freight operation. The Applicant has expressed various concerns regarding these plans.

4. The Applicant

4.1 Stone Hill Park Limited ('the Applicant') is a joint venture company (previously under the name Lothian Shelf (718) Limited). The Applicant acquired the Site in September 2014, with the aspiration to comprehensively redevelop it in entirety for a new settlement. The Applicant's aspiration is to deliver a 'total place' mixed-used environment, which will transform the Site into a commercially viable initiative that brings real economic, social and environmental benefits to the local community and East Kent.

Experience

4.2 The majority shareholders for Stone Hill Park Ltd. have a demonstrable track record of investing in and successfully regenerating large, redundant, brownfield sites for mixed use development. We describe their experience with strategic employment/mixed-use development sites in the UK briefly below.

Discovery Park, Sandwich

4.3 The Discovery Park site was originally the European Headquarters for Pfizer, who set up at the site in 1954 who developed the site over a 50 year period. In February 2011, Pfizer vacated the site, resulting in the loss of almost 1,800 jobs. In July 2012 the site was acquired by Discovery Park Ltd (DPL) a consortium which included the owners of the Site. Since acquiring the site, DPL managed to achieve enormous success growing the site from five tenants to more than 150, employing 2,400 people. The site now has a strong science and technology presence, supported by a broad range of business enterprises.

4.4 In September 2015, outline planning permission was granted across the site for up to 500 homes, 120,000 sqm of new commercial/education floorspace, retention and reuse of existing floorspace for employment uses, two hotels, a new supermarket and ancillary uses. In 2016, the site was sold to investment company Discovery Park Estates Limited, who will take forward the delivery phase of the masterplan.

4.5 In the coming years, many of the research companies currently operating in Discovery Park will reach the manufacturing stage of product development. This will require larger premises than can be offered at Discovery Park. The aspiration is that these premises can be provided at Stone Hill Park, ensuring that businesses can continue to capitalise from proximity to Discovery Park and ensuring that business is not lost to competing propositions outside the region.

Wynyard Park, Wynyard

4.6 Wynyard Park is a 280ha site in Teeside which formerly comprised microwave and computer monitoring factories operated by Samsung. In 2004 Samsung announced closure of the plant, with the loss of more than 400 jobs. Wynyard Park Ltd was founded by the owners of the Application Site in 2005 as a joint venture with the intention of creating a world class business park complemented by homes and supporting facilities. Since acquisition, the site has attracted more than £250 million of private investment including tenants such as Huntsman, one of the world's leading chemical companies, and logistics firm Clipper with its occupation resulting in 500 jobs.

4.7 Wynyard Park is currently 90% let and is home to over 65 companies of varying sizes and currently provides in excess of 2,000 jobs. Continued further investment is planned and the site recently acquired resolution to grant outline planning permission in April 2014 for 101,858 sqm of commercial floor space, up to 600 dwellings, a 2-form entry primary school, local centre, changing facilities, playing field and open space. Upon completion some 4,000 homes will be delivered.

Northumbria Park, Newcastle

4.8 In November 2015, the majority stakeholders of Stone Hill Park purchased the site of the former Sanofi plant in Newcastle. At the end of July 2015, the factory ceased production, with the resultant loss of more than 400 jobs. The site has now been fully redeveloped into a science and technology park with inward investor Accord taking the majority of the space for pharmaceutical production.

Flaxby New Settlement, Harrogate

4.9 The owners of Stone Hill Park purchased a 113ha former Golf Course in Harrogate. The site had been promoted by its previous owners for a new town (including up to 2,500 homes); however plans stalled when they went into liquidation in March 2016. Proposals for the site are currently being prepared, following consultation with the Council, key stakeholders, and local community for 3750 new homes

Summary

- The Applicant is qualified, capable, and has a proven track record of delivering on the promise of regenerating large, disused strategic sites for much needed development at speed.

5. Proposed Development

5.1 This section describes the Proposed Development for which planning consent is sought and the specifications of the submitted application.

Vision for Stone Hill Park

5.2 The Applicant's vision is to create a high quality, distinctive new settlement which will not only answer Thanet's growing housing needs, but also deliver thousands of high-tech and advanced manufacturing jobs. We will also put Manston on the map as a regional sport and leisure destination. From a new country park to an improved aviation heritage component, the proposals will open a successful new chapter for Manston and a prosperous one for Thanet.

5.3 The settlement will be structured around five key components:

1. Thousands of much needed homes for all stages of life, including a range of high quality homes, across a range of tenures and sizes (from executive homes to starter and micro-homes)

2. Thousands of jobs and training opportunities. A new advanced/hi-tech manufacturing park will provide modern, flexible employment floorspace in a variety of sizes. Construction jobs will be created during the 15-20 year build out.

3. A heritage airport comprising the re-use of the western most 1,199m for heritage flights, alongside new facilities for the two existing museums and associated aviation facilities including café, hangars, as well as event and education space.

4. A new country park including hundreds of acres of publically accessible open space with parks, sports pitches, trim-trails, new woodland, communal gardening/allotments and new habitat space. This will include part of the former runway which will be transformed into a unique recreational and events space.

5. East Kent Sports Village, which will deliver regional leisure facilities of a regional scale (including a 'Wave Gardens', 50m swimming pool, and outdoor sports pitches).

5.4 All this will be supported by a range of supporting facilities (including retail, service, education, leisure, community use) which will ensure delivery of a truly sustainable community.

5.5 The Application represents the culmination of more than two years of continuous engagement with the local authority, statutory consultees and the local community regarding the future of the Site. In sum, the Proposed Development includes:

- Up to 3,700 new residential dwellings[8], across a wide range of housing types, sizes and tenures, with up to 250 units age-restricted for elderly persons;
- Up to 46,000 sqm (GIA) of employment floor space, with a focus on advanced manufacturing with some storage/distribution/office use;
- Retention and re-use of the western 1199m of the existing runway for use by heritage, vintage and classic aircraft, alongside relocation of the existing RAF Manton Museum and Spitfire and Hurricane Museum to new facilities directly adjoining the runway;

  'East Kent Sports Village' directly adjoining the new heritage aerodrome, including provision for a 50m swimming pool, outdoor 'wave garden', outdoor sports pitches, hotel and other ancillary deveopment;
- One main new Local Centre, with provision for shops (including a small/medium-sized foodstore), services, cafes/restaurants, GP and pharmacy, community hall, hotel and other leisure facilities, with smaller satellite village centre to serve the immediate needs north of Manston Road;
- Two new primary schools, with combined capacity of up to six forms of entry;
- Potential for a small-scale campus for higher/further education located in close proximity to the employment hub, which will train people in the skills needed to support future businesses;
- 133 hectares of green infrastructure (45% of the total site area), including a repurposed runway recreational area at the eastern extent of the runway, habitat and ecological areas and structural planting, and community orchard and allotments, all connected by a network of local green spaces;
- Retention and integration of a number of existing buildings on Site through proposed Change of Use;
- A network of new streets, pedestrian/cycle routes, associated car parking, and site preparation/enabling/landscaping/infrastructure works.

Description of Development

5.6 The application is submitted in hybrid form: full planning permission is sought for part of the development and outline planning permission (with all matters reserved except Access) is sought for the remainder.

5.7 The proposed description of development is as follows:

> *Comprehensive redevelopment of the site involving the demolition of existing buildings and structures and removal of hard standing and associated infrastructure, partial retention of runway for airport use, and provision of mixed use development. Application submitted in hybrid form (part-outline and part-detailed).*

[8] Throughout this statement, the term 'dwellings' is used when referring to both residential units (Class C3) and age-restricted bedspaces (Class C2)

The outline element comprises an outline planning application (with all matters except Access reserved for future determination) for the provision of:

- *Buildings/floorspace for the following uses:*
  - *Employment (Use Classes B1a-c/B2/B8)*
  - *Aviation (Sui Generis)*
  - *Residential (Use Classes C3/C2)*
  - *Retail (Use Classes A1-A5)*
  - *Education and other non-residential institutions, including museums (Use Class D1)*
  - *Sport and recreation (Use Class D2)*
  - *Hotel (Use Class C1)*
- *Open space/landscaping (including outdoor sport/recreation facilities including recreational surface water body (wave garden))*
- *Car parking*
- *Infrastructure (including roads and utilities)*
- *Site preparation and other associated works*

The full/detailed element of the application comprises:

- *Change of Use of retained existing buildings*
- *Means of access*

Outline Element of Application

5.8 The specifications of the outline element of the application are defined by two primary control documents which are submitted 'for approval'. These set the rules and parameters which all subsequent Reserved Matters applications must follow and comprise:

- The Parameter Plans, which set a 'framework' that define the spatial areas within which new buildings are allowed; the height and density for new buildings within these defined spatial areas; the location of vehicular routes against defined allowable deviations/ tolerances; the disposition of land uses across the Site; the location of green/blue infrastructure; and buildings/hardstanding to be retained; and
- The Development Specification, which sets out the type (uses) and quantity of development that could be provided within the context of the Site-wide maximum.

5.9 An Illustrative Masterplan has been prepared to illustrate one way that the scheme could be delivered within the specifications of the Parameter Plans and Development Specification. This Indicative Masterplan is submitted for information purposes only and is not for approval.

Proposed Lane Use and Amount

5.10 The proposed land use and amount of development for which planning permission is sought is set out in Table 2.3 of the Development Specification

Layout

5.11 The layout of individual buildings is a matter reserved for future determination. However, approval is sought for the Parameter Plans, which collectively set:

- The shape and form of Development Zones within which buildings may be sited;
- The disposition of proposed land uses across the Site (including the location of the proposed local centre);
- The Character Areas, where specific controls on how development can take place are controlled ;
- Limits of deviation within which Primary and Secondary Roads must be sited;
- Areas within which only sub/surface infrastructure (including green infrastructure) may be sited;
- An area where the 'wave garden' will be allowed;
- The extent of the former runway to be safeguarded for heritage aviation use;
- The extent of the former runway to be repurposed for recreation/open space;
- Existing buildings to be retained; and
- A 'Special Control Area' along the perimeter of the (retained) runway within which new buildings should be staggered and will be subject to additional visual impact testing.

Scale

5.12 The scale of individual buildings is a matter reserved for future determination. However, together Parameter Plan 4: Character Areas and the Development Specification together set:

- Maximum Finished Floor Levels for both residential and non-residential uses;
- Maximum average residential units per hectare and density tolerance;
- A 'Special Control Area' along the perimeter of the (retained) runway within which new buildings will be subject to additional visual impact testing.

Access

5.13 Details of the proposed access arrangements are provided in the highways plans in the submitted Drawings for Approval pack. Approval is sought for the following points of access to the Site:

- The principle point of access in the south will be located on the A299 Hengist Way at the Cliffsend Roundabout. A fourth (northern) arm will be constructed to facilitate access.
- Access to the northern part of the site will be taken from Manston Road. A new north-south access road will be provided across the site facilitating access to the development but also serve as a phase of the Link to Westwood Cross proposed within the Thanet Transport Strategy that accompanies the draft TDC Local Plan. This link road will commence with a four arm roundabout junction in the south connecting Manston Road and the southern development site. Heading north, access points in the form of priority junctions will be provided to facilitate

access to the development zones and the road will terminate at the northern boundary of the site where a further phase of the Link to Westwood Cross will be able to tie in.

- A new roundabout junction will be provided on Spitfire Way as the main point of access on this road and will serve the heritage, leisure and residential areas.
- Two new access points to serve the new employment uses on Spitfire Way. These will take the form of priority junctions. The western most access will feature a ghost island right turn lane.
- An access on Spitfire Way to serve the aviation uses.
- An access onto Manston Road in the north west of the site to provide additional permeability to the northern development zones.
- Access to the retained buildings on Spitfire Way to be provided from existing point of access.

5.14 Approval is also sought for Parameter Plan 2: Access and Movement, which defines:

- Points of access to the Site for vehicles;
- Primary and Secondary vehicular routes within the Site, with allowable limits of deviation;
- Connection points to existing non-vehicular routes outside the Site;
- Requirements for the provision of pedestrian and cycle routes throughout the Site;
- Areas for localised upgrades of existing roads; and
- The existing public footpath to be retained.

5.15 Bus access to the site will be phased and secured through a comprehensive Public Transport Strategy tied to the s.106 agreement, which has been agreed in principle with the operator Stagecoach East Kent and Kent County Council.

Landscaping

5.16 Landscaping is a matter reserved for future determination. However, approval is sought for Parameter Plan 5: Green Infrastructure, Parameter Plan 6: Demolition & Retention and the Development Specification, which set:

- Extensive areas for structural open space, including green infrastructure (including structural landscape, planting and parks) and outdoor sports/recreation facilities (including playing fields, sports courts, allotments/community orchards and play areas);
- Structural landscaping to be provided within Development Zones, including tree planting, landscaped areas, pocket parks, child play space and SUDS infrastructure;
- An area where the 'wave garden' will be allowed;
- An area designated for structure planting and a community orchard/allotments along the eastern perimeter of the Site, to include a linear belt of native woodland;
- Areas of habitat open space, which will be managed to promote ecology and habitat creation; and
- The extent of the former runway to be retained.

Appearance

5.17 Appearance is a matter reserved for future determination. The suggested design language for the development is set out in the submitted Design and Access Statement (DAS) and the intention is that this will form the basis of a future Design Code which will set the design language for future Reserved Matters Applications and will be secured by condition.

Full Element of Application (Change of Use)

5.18 Full planning permission is being sought for the change of use of the existing buildings to be retained: the Fire Station (B8), the 'old' Control Tower (B14 & B14a), the 'modern' Control Tower (B9), a number of existing employment units along Spitfire Way (B2, B3 and B4).

5.19 The control documents for the change of use application comprise the Parameter Plan 6: Demolition & Retention and the Development Specification.

Proposed Land Use and Amount

5.20 Table 2.2 of the Development Specification lists those buildings subject to the application for change of use, as well total floorspace and existing and proposed uses.

5.21 In total, the existing buildings for which change of use is sought will provide up to 5,661 sqm (GIA) of employment floorspace (Use Class B1(c)/B2/B8) and 1,829 sqm (GIA) of restaurant/bar/community floorspace (Use Class A3/A4/D1). Flexible change of use is sought in order to provide maximum flexibility for potential operators, and is in accordance with the provisions of Class E Part 3 of Schedule 2 of the Town and Country Planning (General Permitted Development) Order 1995.

Layout

5.22 No changes to layout of the change of use buildings are proposed.

Scale

5.23 No changes to scale of change of use buildings are proposed.

Access

5.24 Access to existing buildings along Spitfire Way (B2, B3, and B4) will remain unchanged.

5.25 Access to the Fire Station (B8), the 'old' Control Tower (B14 & B14a), the 'modern' Control Tower (B9) will be dependent upon the internal access arrangements which will be secured as part of the wider masterplan.

Landscaping

5.26 No changes to landscaping are proposed.

Appearance

5.27 No changes to the appearance of the buildings are proposed.

Phasing/Implementation

5.28 The proposed development will be built in three 'stages' over the next 15-20 years. These will be:

- Stage 1: up to 1,100 homes (of which a maximum of 300 will be provided north of Manston Road) alongside up to 10,500 sqm of employment floorspace (limited to 5,661sqm of the wave garden is also delivered in Stage 1); the wave garden; museums; aviation uses; a proportion of main town centre uses; and one primary school.
- Stage 2: up to 1,400 homes (south of Manston Road) alongside up to 10,500 sqm employment floorspace (plus an additional 4,839sqm if the wave garden is provided in Stage 1); the remainder of the East Kent Sports Village; hotel; and a proportion of main town centre uses;
- Stage 3: remaining balance of 1,200 homes; one primary school; and the balance of all other proposed uses.

5.29 The application is accompanied by an Outline Phasing and Delivery Strategy which provides an indication of the likely order in which the proposal will be brought forward.

5.30 The applicant intends to perform the role of master-developer. It will be responsible for site preparation/enabling/infrastructure works and the development of some of the employment and housing phases. Other phases will be sold as serviced development parcels to other developers/housebuilders who will be responsible for delivering development.

5.31 We propose that a condition is attached to the outline consent which requires a detailed Phasing and Delivery Strategy to be prepared/approved by the Council prior to the commencement of development, with a provision for review during the course of the implementation stage.

Consultation

5.32 The Proposed Development has been subject to extensive and sustained pre-application consultation with Thanet District Council, Kent County Council, relevant statutory bodies (including the Environment Agency, Southern Water, Natural England and UK Power Networks), and local residents and businesses, all of which have directly influenced the evolution of the masterplan and the way it responds to surrounding development.

5.33 It represents an enhanced version of the Applicant's previous masterplan, which was for 2,500 homes and up to 85,000sqm of employment and leisure floorspace, amongst other supporting uses which was submitted to Thanet District Council for determination in May 2016. The 2016 application was subject to regular pre-application meetings with Thanet District Council from September 2015 to its submission in May 2016. Attendance at Pre-Application meetings comprised representatives from Development Control and Planning Policy, as well as Kent County Council (Highways). Invitations were extended to specific disciplines as necessary. Targeted sessions also took place with TDC Major Sites Group, KCC Growth and Economic Development Cabinet, KCC Technical Liaison Group, Thanet District Councillors (in the form of a Members Briefing).

5.34 In October 2017, a number of amendments and refinements were made to the 2016 application in response to representations made by the Council and other statutory consultees. In parallel, pre-application discussions with the Local Authority and other statutory consultees were taking place on the Applicant's enhanced masterplan vision for the site, which is the subject of the present application.

5.35 The Applicant's proposals for redevelopment of the site have been subject to regular and sustained engagement with local residents and businesses which has directly influenced the proposal, and include:

- Four public exhibitions:
  - 1st and 2nd July 2015 – introducing aspirations for redevelopment of the Site and key 'ingredients' for any future proposal
  - 3rd and 4th December 2015 – summarising the results of further investigations on Site issues and opportunities and seeking feedback on potential masterplan options;
  - 15th and 16th March 2016 – seeking feedback on the refined illustrative masterplan prior to submission of the 2016 application.
  - 20th and 21st November 2017 – consultation on the enhanced masterplan proposal for the site for up to 3,700 homes and retention of 1199m runway for heritage aviation uses.
- Design Review Panel with Design : South East
- Presentations and meetings with Minster, Manston, Cliffsend, and Monkton Parish Councils
- Presentations and meetings with local community groups including: Locate in Kent, Ramsgate Society, Invest Thanet, Kent Business Advisory Board, Thanet Swim Club; East Kent College; Defence of the Nation Museum and Education Centre; Thanet Destination Management Working Party;
- Dialogue with existing tenants and neighbours including Spitfire Museum, RAF Manston, Ministry of Defence, and KCC (as owner of Manston Business Park)

5.36 Full details of how the Applicant has engaged with the local community and comments have helped shape the Proposed Development are set out in the submitted Statement of Community

Involvement (SCI). The SCI demonstrates the wide reaching and comprehensive approach that the Applicant has taken to stakeholder consultation, which fully accords with and exceeds the requirements of the NPPF and the Thanet District Statement of Community Involvement.

Summary

- The Application represents the culmination of more than two years of continuous engagement with the local authority, statutory consultees and the local community regarding the future of the Site.
- The new settlement will be structured around five key components: homes, jobs, heritage aviation, East Kent Sports Village and a new country park, all of which will be supported by a range of facilities and services (including retail, service, education, leisure, community use) which will ensure delivery of a truly sustainable community.
- This is a hybrid application. All new development is proposed in outline. Detailed consent is sought for the proposed access arrangements, as well as the change of use of existing buildings.

6. Policy Framework, Material Considerations and Decision-Making Framework

6.1 This section summarises relevant adopted and emerging policy and guidance that applies to the Site and the Proposed Development, as well as other relevant material considerations relevant to determination. It then establishes the decision-making framework against which the application should be determined, and the weight which should be attached to relevant policies and other material evidence.

Legislative Context

6.2 As set out in ' Fixing the foundations: Creating a prosperous nation', the Government is clear on the need to promote the use of brownfield land to deliver an increase in much needed housing supply and has stated that it will remove all unnecessary obstacles to its redevelopment. These include avoiding the long term retention of sites allocated for employment use where there is no reasonable prospect of the site being used for that purpose and introducing future legislation to grant automatic planning permission in principle on brownfield land.

Housing and Planning Act 2016

6.3 The Housing and Planning Act 2016 introduced several measures intended to speed up the planning system in order to expedite the delivery of housing. In February 2016 the DCLG published the '*Technical Consultation on Implementation of Planning Changes*' for consultation. The document confirms the Government's commitment to ensure that 90% of suitable brownfield sites have planning permission for housing by 2020 and seeks views on identifying suitable sites, and the proposed content of such registers to inform the regulations.

Housing White Paper

6.4 On 7th February 2017 the Government published 'Fixing Our Broken Housing Market', a Housing White Paper setting out the government's plans to reform the housing market and boost the supply of new homes in England. The measures of particular relevance to the consideration of this application are:

- Need to make as much use as possible of previously-developed ('brownfield') land for homes so this resource is put to productive use. The Government intend to amend the NPPF to indicate that "great weight" should be attached to the value of using suitable brownfield land for homes (para 1.25);

- Need to make the most of the potential for new settlements alongside development in existing areas. Well-planned, well-designed, new communities have an important part to play in meeting our long-term housing needs (para 1.36); and
- Intent to amend the NPPF to introduce a clear policy expectation that housing sites should deliver a minimum of 10% affordable homeownership.

6.5 On the 14th September 2017 the DCLG published 'Planning for the right homes in the right places: consultation proposals' pursuant to the Housing White Paper. The paper sets out a number of proposals to reform the planning system to increase the supply of new homes and increase local authority capacity to manage growth. One such measure is the introduction of a new standard method for calculating local authorities' housing need.

6.6 As part of this, a 'Housing Need Consultation Data Table' has been published which sets out housing need for each local planning authority area using the Government's proposed method. For Thanet, the Government identifies a need for 1,063 dwellings per annum (dpa) for delivery between 2016-2026. This is a 24% increase on the 857 dpa currently identified within Thanet's Updated Assessment of Objectively Assessed Housing Need (September 2106), upon which the last version of the emerging Local Plan (January 2017) is based.

6.7 The Housing White Paper states that, as an incentive to get up-to-date plans in place, after 31st March 2018 the new standardised method for calculating local housing need should be used when calculating housing need for all those authorities which do not have a Local Plan in place (para 48). This applies to Thanet.

6.8 The significant and pressing need for housing delivery in the District is a material consideration which must be given considerable weight in the determination of this application.

National

Published NPPF

6.9 The National Planning Policy Framework (NPPF) (March 2012) sets out the Government's overarching planning policies for England and how they are to be applied and is a material consideration in the determination of planning applications (para 196).

6.10 At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as 'a golden thread running through both plan-making and decision-taking' (para 14). The planning system should seek gains in the following 'three dimensions' of sustainable development:

- an economic role: contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation;

- a social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and
- an environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

6.11 Pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life, including (but not limited to): job creation; improving the conditions in which people live, work, travel and take leisure; achieving net bio-diversity gains; improving design; and widening the choice of high quality homes (para 9).

6.12 In assessing and determining development proposals, the NPPF states that local planning authorities should apply the presumption in favour of sustainable development (para 14). For decision-making this means approving development proposals that accord with the development plan without delay, or (where the development plan is absent, silent or out-of-date) granting permission unless:

- Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or
- Specific policies (relating to sites protected under the Birds and Habitats Directives and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, Heritage Coast or within a National Park; designated heritage assets; and locations at risk of flooding or coastal erosion indicate) indicate development should be restricted.

6.13 In accordance with the NPPF, local authorities are instructed to:

- avoid the long term protection of sites allocated for employment use where there is no reasonable prospect of a site being used for that purpose. Where there is no reasonable prospect of a site being used for the allocated employment use, applications for alternative uses of land or buildings should be treated on their merits having regard to market signals and the relative need for different land uses to support sustainable local communities (para 22);
- boost significantly the supply of housing, and determine applications for housing in the context of the presumption in favour of sustainable development (para 47). Relevant policies for the supply of housing should not be considered up-to-date if the local planning authority cannot demonstrate a five-year supply of deliverable housing sites (para 49);

- promote a mix of uses in larger scale residential developments in order to provide opportunities to undertake day-to-day activities including work on site. Where practical, particularly within large-scale developments, key facilities such as primary schools and local shops should be located within walking distance of most properties (para 38);
- encourage a balance of land uses so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other services (para 37);
- encourage the effective use of land by re-using land that has been previously developed (brownfield land), provided that it is not of high environmental value (para 17);
- place significant weight on the need to support economic growth through the planning system (para 19); and
- seek to approve applications for sustainable development where possible. Local planning authorities should work proactively with applicants to secure developments that improve the economic, social and environmental conditions of the area (para 187).

6.14 The National Planning Practice Guidance (NPPG) was launched on the 6 March 2014 and provides a web-based resource in support of the NPPF. A number of planning policy guidance documents were revoked following its launch, as detailed within the Written Ministerial Statement, and replaced with updated guidance.

Draft NPPF

6.15 On 5th March 2018, the Government published an updated draft National Planning Policy Framework for consultation. The draft NPPF seeks to enhance the coherency of national policies, following recent Written Ministerial statements and case law.

6.16 Paragraph 11 (D) of the draft NPPF sets out the presumption in favour of sustainable development for decision-making, where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date. It states that in these instances, permission should be granted unless:

i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed[7]; or
ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

6.17 Footnote 7 clarifies that the "policies" referred to are those contained in the NPPF, and include those policies relevant to environmental protection (e.g. Green Belt, Local Green Space, AONB, National Park, etc). The footnote clarifies that "it does not refer to policies in development plans".

6.18 Paragraph 120 states that where a local planning authority considers there to be no reasonable prospect of an application coming forward for the use allocated in a plan they should a) reallocate the land for more deliverable use as part of the local plan review and b) in the interim,

prior to reviewing the plan, support applications for alternative uses "where the proposed use would contribute to meeting an unmet need for development in the area".

6.19 Other relevant changes/clarifications are as follows:

- In determining the minimum number of homes needed, strategic plans should be based upon a local housing need assessment, conducted using the standard method in national planning guidance, unless there are exceptional circumstances that justify an alternative approach (para 61);
- Where major housing development is proposed, decisions should expect at least 10% of homes delivered to be available for affordable home ownership (para 65);
- Strategic plans should contain a clear strategy for accommodation objectively assessed needs, in a way that makes as much use as possible of previously-developed or 'brownfield' land (para 117);
- Decisions should support development that makes efficient use of land, taking into account the need for housing and other forms of development and the availability of suitable land for accommodation it (para 122); and
- Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities and ensure that developments make optimise use of the potential of each site (para 123)

6.20 Where the draft revised NPPF includes policies that are different in key ways to the existing NPPF policies, we address these in the Planning Statement.

6.21 Consultation on the draft NPPF closes on the 10th May 2018. The document is expected to be published in its final form later this summer.

Aviation Policy Framework

6.22 The Government published the Aviation Policy Framework (APF) in March 2013. The APF is a high-level strategy document which set out the Government's overall objectives for aviation and the policies which will be used to achieve those objectives. Paragraph 1.91 states that "where a planning application is made that is likely to have an impact on an existing aerodrome's operations, the economic benefit of the aerodrome and its value to the overall aerodrome network as well the economic benefits of the development will be considered as part of the application process."

Adopted Planning Policy and Guidance

Local Plan

6.23 The adopted Local Development Plan comprises the Thanet District Local Plan, which was adopted in 2006. Relevant policies were Saved in 2009, pre-publication of the NPPF. In accordance with the para 215 of the NPPF, due weight should be given to relevant policies in the Local Plan according to their degree of consistency with the NPPF - the closer the policies in the Local Plan to the policies in the NPPF, the greater the weight that may be given.

6.24 The Local Plan sates that "[it is] intended to cover the period to the year 2011. It thus only identifies land use provisions related to development needs envisaged within that period." The plan is therefore 'time capped' and time expired.

6.25 The following site-specific Local Plan Saved Policies also relate to the Site:

- Saved Policy EC2 sets planning criteria proposals to develop/expand/diversify Kent International Airport;
- Saved Policy EC4 reserves land adjacent to the airport for airside development. Development proposals here require specific justification to demonstrate that an airside location is essential to the development proposed and will be required to retain sufficient land to permit access by aircraft of up to 65m wingspan to all parts of the site; and
- Saved Policy EC5 restricts land to the east of the existing airport terminal for airport-terminal related purposes.

6.26 By virtue of falling outside urban and village area confines, the site is designated as 'countryside' by the Local Plan. Saved Policy CC1 states that within the countryside, new development will not be permitted unless there is a need for development that overrides the need to protect the countryside.

6.27 The Site is located within Central Chalk Plateau Landscape Character Area. Saved Policy CC2 states that particularly care here should be taken to avoid skyline intrusion and the loss or interruption of long views of the coast and the sea. Proposals which conflict with this principle will only be permitted where it can be demonstrated that they are essential for the economic or social well-being of the area.

6.28 The entirety of the Site (including much of the District) falls within a designated Environment Agency Groundwater Protection Zone. Saved Policy EP13 states that development in these areas that have the potential to result in a risk of contamination of groundwater sources will not be permitted unless adequate mitigation measures can be incorporated to prevent contamination from taking place.

Emerging Planning Policy and Guidance

Emerging Local Plan

6.29 The Council is currently in the process of preparing a new Local Plan which will cover the period up to 2031.

6.30 The Preferred Options Local Plan was consulted on between January and March 2015 and proposed setting a requirement for 12,000 additional homes and a minimum of 5,000 additional jobs to be provided in the District up to 2031. Proposed Policy SP05 of the Preferred Options Local Plan suggested designating of the Site as an "Opportunity Area", with future use to be explored as part of an Area Action Plan. Representations were made to the Council on behalf of the Applicant questioning the soundness of this approach, on the basis that housing figures were based on an out-of-date assessment of housing need and the plan failed to put in place a conclusive policy position to guide future development of the Site which is necessary to ensure the proper planning of the District.

6.31 Proposed Revisions to the Preferred Options Draft Local Plan were consulted on between 20th January and 17th March 2017. The Proposed Revisions reflected updated evidence undertaken to support the Local Plan and addressed some of the key issues which arose during the Preferred Options consultation. This included:

- The Strategic Housing Market Assessment (SHMA) (January 2016) and Updated Assessment of Objectively Assessed Housing Need (September 2016), which identify an objectively-assessed need (OAN) for 17,140 additional homes in the District up to 2031 (857 dwellings per annum);
- An independent report on the Commercial Viability of Manston Airport (September 2016) by AviaSolutions (the AviaSolutions Report) (Appendix 8) which considered whether viable airport operations could be re-instated on the former Manston Airport Site and concludes that, even applying assumptions favourable to Manston Airport, "airport operations at Manston are very unlikely to be financially viable in the longer term and almost certainly not possible in the period to 2031" (paragraph 2.5); and
- The New Settlement Strategy (November 2016), which explored the option of meeting part of the District's housing needs through a new settlement, and included a comparative assessment of potential settlement sites one of which was the Application Site.

6.32 Based on the updated evidence base, the Council concluded that there was insufficient evidence to justify a policy that protects the existing airport use and that the best use for the site was for a new settlement. Policy SP05 therefore proposed allocating the site for a mixed use settlement comprising a minimum 2,500 homes and 85,000sqm of employment and leisure floor space amongst other supporting uses (see Appendix 9).

6.33 Following consultation on the Proposed Revisions, the Council received a number of responses concerning the future of the airport site and, in particular, the 2016 AviaSolutions Report. To respond to these concerns, AviaSolutions were instructed by the Council to review and respond to the representations received. This takes the form of the following two reports, which also comprise part of the local plan evidence base:

- Review of Azimuth & Northpoint Forecast for Manston Airport (August 2017) (Appendix 10), which considers the cases put forward for the re-opening of Manston Airport by Azimuth Associates and Northpoint on behalf of RiverOak Strategic Partners, and concludes that neither report puts forward a sufficiently credible case, nor provides the evidence, for AviaSolutions to change its views on the financial viability of Manston Airport; and
- Local Plan Representations Final Report (August 2017) by AviaSolutions (Appendix 11), which likewise advises that Local Plan Representations do not make a credible case, nor provide the evidence for AviaSolutions' to change its views on the financial viability of Manston Airport. Based on updated market information since the publication of the 2016 study, they continue to advise that Manston Airport does not represent a financially viable investment opportunity under normal market conditions.

6.34 On this basis, Council officers concluded that there was insufficient evidence to justify an allocation which safeguarded the site for aviation use and continued to recommend that Members allocate the Application Site for mixed use development including up to 2,500 homes, subject to minor changes to policy wording.

6.35 On the 25th October 2017, Cabinet followed Officer's recommendations and agreed to recommend that the full Council publish the draft Local Plan for consultation (Appendix 12). On the 21st November 2017 the plan went to the Overview and Scrutiny Panel, who made no recommendations (Appendix 13).

6.36 On the 16th November 2017 the Secretary of State notified Thanet District Council of possible intervention if the Council fails to make progress with the preparation of the emerging Local Plan (Appendix 14).

6.37 On the 18th January the draft Plan was presented to the Full Council, with Officers and Cabinet's recommendation to publish the plan for consultation (Appendix 15). Members rejected the plan by a motion of 20 to 35. The primary area of contention comprised the future use of the Application Site and the quantum and distribution of housing need within the District. On the basis that the remaining elements of the emerging Local Plan were not controversial, we have continued to have consideration of other emerging policies when assessing the Application.

6.38 Following the rejection of the draft Local Plan by members on the 18th January 2018, the expectation is that the Secretary of State will now intervene to assist in the preparation of the Local Plan. As the emerging Local Plan will not have been submitted to the Secretary of State for

examination by the 31st March 2018 deadline set by the Government, we anticipate that the new MHCLG methodology for calculating housing need will be adopted, which will raise the housing requirement for Thanet from 857 dwellings per year to 1,063 dwellings per year. The expectation is therefore that the OAHN within the District over the duration of the plan period will increase from 17,140 to 21,240 homes.

Material Considerations

6.39 Material considerations relevant to defining the decision-making framework (particularly in respect to housing policies) comprise:

- 5 Year Housing Supply Position
- High Court Judgements and Appeals

6.40 We summarise these below.

5 Year Housing Supply Position

6.41 Adopted Local Plan housing policies expired on 2011 and are not based on NPPF/NPPG compliant objective assessment of housing need. Therefore the Council is not capable of demonstrating a 5-year supply of deliverable housing land (for the purposes of the NPPF para 49).

6.42 The Council's latest SHMA Update (September 2016) was undertaken by independent consultants GL Hearn and identified an objectively-assessed need (OAN) for Thanet of 17,140 dwellings between 2011-2031 (857 dwellings per annum). The Council's most recent Annual Monitoring Report (2016) demonstrates that only 1,565 homes have been delivered in Thanet since 2011 (an average of 313 dpa). This is significantly below the Council's OAN of 857 dpa, and the MHCLG's figure of 1,063 dpa. As of 1st April 2016, unmet housing need in the District equates to between 2,720 and 3,750 homes depending upon which method is used. There is therefore currently a three to three and a half year shortfall on housing delivery.

6.43 The Council's 2016 AMR indicates that the Council has identified land with capacity to accommodate 4,521 homes between April 2016 and March 2020 (relevant five year period). The Planning Statement Addendum: Housing Need (ref. SHP2-4.1) confirms that the Council's estimated supply of housing falls significantly short of the NPPF requirement to demonstrate a five year housing supply, even before considering whether or not identified supply is in fact deliverable. When taking deliverability into account, our analysis shows that the Council only has a five year supply of 3,374 homes. This represents a shortfall of 621 units (against the Council's OAN plus 20% buffer scenario) or shortfall of 1,857 homes (against the HCLG housing need figures plus 20% buffer).

Relevant High Court Judgements and Appeals

6.44 In July 2013, a judgement[9] provided clarity on the matter of prematurity with respect to applications for housing in advance of the adoption of Local Plans. Stratford upon Avon District Council launched a challenge to a decision by the Secretary of State to grant planning permission for up to 800 dwellings on the grounds that the Secretary of State had failed to comply with the National Planning Policy Framework's policy on housing requirements and that the decision had been premature in the light of the Council's emerging local plan. The High Court rejected the Council's challenge, declaring that "*the Aarhus Convention does not require a blanket stop to be put on development that, potentially, might adversely impact on future policy; nor can it be used as a weapon for those who wish to inhibit development, in the hope that planning policy will change in the future to one which is more in line with their wishes*."

6.45 In December 2013 a judgement[10] in the Court of Appeal established a definitive answer to the proper interpretation of para 47 of the NPPF and in particular, the arrival at a fully, objectively assessed need. The judgement confirmed that LPAs cannot base their five year supply of housing on local plan targets based upon abolished regional spatial strategies. In this case, we note that the RSS was formally revoked in March 2013[11].

6.46 In June 2014, an appeal was allowed against Thanet District Council's decision to refuse an outline application made by East Kent Opportunities (EKO) for mixed use development including 550 homes, 63,000sqm employment floorspace (Use Class B1), a new local centre, and community facilities on greenfield land at New Haine Road, Ramsgate (ref. OL/TH/11/0910). The Inspector's Report confirms the Council's own position regarding housing need and the status of 2006 Local Plan policies relevant to the supply of housing. Para 94 confirms that the Council accepts that they can no longer rely upon the revoked South East Plan for housing requirements and, without an established target in a Local Plan, cannot now demonstrate a five year supply of housing land. Accordingly, Local Plan Policy H1 is out-of- date. Para 38 of the Inspector's decision states that "*Thanet District Council Planning Committee confirmed that the position of the local planning authority now is that the need for housing is such that the development would in principle amount to sustainable development in accordance with the National Planning Policy Framework*."

6.47 In May 2017 the Supreme Court delivered its verdict[12] on the meaning and application of paragraphs 49 and 14 of the National Planning Policy Framework. The judgement overturns the Court of Appeal's previous ruling on the interpretation of the phase "relevant policies for the supply of housing" (as set out in paragraph 49) which effectively broadened the application of

[9] Stratford On Avon District Council v Secretary of State for Communities and Local Government [2013] EWHC 2074 (Admin).
[10] St Albans City and District Council v Hunston Properties Limited and Secretary of State for Communities and Local Government. [2013] EWCA Civ 1610
[11] Regional Strategy for the South East (Partial Revocation) Order 2013.
[12] Suffolk Coastal District Court (Appellant) v Hopkins Homes Ltd and another (Respondents). Richborough Estates partnership LLP and another (Respondents) v Cheshire East Borough Council (Appellant) [2017] UKSC 37

the phrase to apply to all policies that create or constrain land for housing development, such as green belt designation.

6.48 With respect to the meaning and application of paragraph 49, the Supreme Court concluded that the "*straightforward interpretation is that these words refer to the policies by which acceptable housing sites are to be identified and the five-years supply target is to be achieved. That is the narrow view*" (paragraph 82). Therefore, when a Local Authority cannot demonstrate five years supply of housing, it is the housing supply policies only which are immediately to be considered out of date. Other policies (such as transport, employment, etc.) may also be found to be out-of-date, but are not automatically deemed so as they serve a different purpose.

6.49 Nevertheless, Lord Carnwath goes on to state that if Councils are unable to demonstrate a five year housing supply "*it matters not whether the failure is because of the inadequacies of the policies specifically concerned with housing provision, or because of the overrestrictive nature of other non-housing policies. The shortfall is enough to trigger the operation of the second part of paragraph 14*" (emphasis added, para 59). In this case, the presumption in favour of sustainable development will apply and the decision-maker should be disposed to grant the application unless the adverse impacts of doing so would 'significantly and demonstrably outweigh the benefits of the proposal' or 'specific policies in the Framework' indicate that development should be restricted. The Supreme Court judgement makes it clear that the "specific policies in the Framework" also mean the development plan policies (para 84-85).

Decision-Making Framework

6.50 Section 38(6) of the Planning and Compulsory Purchase Act (2004) states that planning applications should be determined in accordance with the development plan unless material considerations indicate otherwise.

6.51 In this instance, the statutory development plan comprises the Thanet District Local Plan (2006). In accordance with the NPPF, decision takers should only give due weight to relevant policies in the 2006 Local Plan according to their degree of consistency with the NPPF (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given).

6.52 We consider the weight which can be attached to individual policies, and the decision-making framework which should be applied in the determination of this application, in more detail below.

Policies Protecting Existing Permitted Use

6.53 Saved Policies EC4 and EC5 seek to protect the site for development for airport-related uses.

6.54 In July 2017 the Inspector at the Public Inquiry for the four change of use appeals on the Application Site considered the extent of weight that should be afforded to Policy EC4 of the

Thanet Local Plan (2006) and concluded that until such time that a new policy framework exists, Policy EC4 should continue to carry significant weight in the planning balance.

6.55 However, the Inspector had before him a limited amount of information regarding the prospect of aviation use on the site recommencing and the scope of the Inquiry was narrow (concerning only the change of use of four buildings). Since the Inquiry, the Council instructed independent aviation experts AviaSolutions to review submissions to the emerging Local Plan submitted by RSP and other statutory consultees concerning the prospect for the site returning to aviation use. AviaSolutions produced two reports (described in para 6.32 above) which advised that RSP's case was not sufficiently credible, and maintained their earlier conclusions that Manston Airport does not represent a financially viable investment opportunity under normal market conditions.

6.56 Thanet District Council Planning Officers concluded that "*following evidence and Government guidance, there is insufficient justification to retain the Airport designation during the period of the Local Plan*" (para 2.117), and recommended allocation of the site for mixed use development, including up to 2,500 homes. On 25th October 2017, Cabinet followed the advice of their officers and recommended that the Council publish the draft Local Plan for consultation. Despite conclusions of the Council's own evidence base, and the recommendations of both Planning Officers and Cabinet, the Council rejected the motion to pursue the current version of the plan on the 18th January 2018 by a vote of 20 to 35.

6.57 In addition to the Council's own local plan evidence base, SHP has instructed experts York Aviation to consider the case put forward by RSP for re-opening Manston Airport. In November 2017 they published 'Summary Report Analysing Use of York Aviation Material by RiverOak Strategic Partners Limited and Assessment of Capability of Manston Airport' (Appendix 11). York Aviation conclude that RSP's case is unsubstantiated, lacks credibility and, in any event, is entirely theoretical. York Aviation agree with AviaSolutions that there is little prospect of the re-opening of Manston Airport being a commercially viable proposition.

6.58 Notwithstanding the overwhelming evidence that there is no prospect of the site returning to aviation use, we understand that RSP intends to apply for a DCO to re-open the airport as an airfreight hub with associated business aviation and passenger services. The Applicant has serious concerns regarding the deliverability of such a scheme, which have been raised with both RSP and the Planning Inspectorate (see Appendices 5 & 6). In sum, these are that:

- RSP's proposals do not meet the thresholds necessary to qualify as an NSIP under the 2008 Act and as such RSP's proposed application for a DCO cannot proceed;
- There has been, and remains, a lack of clarity over both the identity of the proposed applicant (RSP) and its financial standing. There is no evidence that RSP is of adequate financial standing to meet the costs and compensation arising in relation to the application for DCO to be granted powers of compulsory acquisition, let alone deliver the proposals;

- RSP does not own or control any part of the Site and is unable to progress any application for compulsory acquisition powers as it has not demonstrated that they are a last result following meaningful attempts to negotiate or acquire the Site;
- The level of detail provided in the PEIR is insufficient to reach an informed view on the likely potential environmental effects of the development. Either it is incomplete, or is lacking in scope/depth; and
- The level of consultation has been inadequate.

6.59 For these reasons, we consider there are serious shortcomings with the proposed DCO application and considerable uncertainty as to whether the scheme itself could be delivered. This, coupled with the abundance of published evidence corroborating that there is no viable prospect of aviation use recommencing on site, constitute significant material considerations which indicate that there is no 'reasonable prospect' of the site being used for aviation use in the meaning of NPPF para 22. Thanet's own planning officers have confirmed this to be the case, advising that the Council was unable to support a policy protecting the site for aviation use, instead recommending it for mixed use development including housing.

6.60 As such, and in accordance with the NPPF, "alternative uses of land or buildings should be treated on their merits having regard to market signals and the relative need for different land uses to support sustainable local communities" (para 22).

Policies Relevant to Housing Supply

6.61 NPPF paragraph 49 states that "housing applications should be considered in the context of the presumption in favour of sustainable development. Relevant policies for the supply of housing should not be considered up-to-date if the local planning authority cannot demonstrate a five-year supply of deliverable housing sites."

6.62 There is no Local Plan policy which establishes the full objectively assessed need for housing in the District. Without an established target in a Local Plan the Council cannot demonstrate a five year supply of housing land. This has been confirmed by numerous Inspectors at appeal[13]. Accordingly, all policies which have the effect of restricting the location where new housing may be developed are out-of-date for the purposes of the NPPF and should be afforded no should be afforded no weight in decision-making. These include:

- H1 (residential development sites)
- H2 (dwelling supply)
- R1 (development in rural settlements)
- All other policies relating to housing delivery/allocations

[13] Westwood Lodge on 13th February 2017 (ref. APP/72260/W/16/3151686); 66 Monkton Road on 3rd April 2017 (ref. APP/Z2260/W/16/3164748); and Land South of Briary Close on 14th December 2017 (APP/Z2260/W/17/3178576).

6.63 The Local Plan also contains several policies which set targets and criteria for provision of facilities to support the assessed development needs of the area up to 2011 (such as sports facilities (SR4), play space (SR5), and formal (SR8) and informal (SR9) recreation space). These policies are based on an out-dated assessment of development need. As such, only limited weight should be attached. Nevertheless, the planning appraisal considers the application against relevant Saved Policy standards/criteria as there is no other policy benchmark against which we can assess the proposal.

Presumption in Favour of Sustainable Development

6.64 The Hopkins Homes vs. Suffolk Coastal District Council Supreme Court ruling makes it clear that where a Council is unable to demonstrate a five year supply of housing, NPPF paragraph 14 applies and the decision-maker should be disposed to grant the planning application unless the presumption in favour of sustainable development can be displaced. It can only be displaced on two grounds:

- Where the adverse impacts of granting consent would 'significantly and demonstrably' outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or
- Specific policies in this Framework indicate development should be restricted.

6.65 There is a wealth of evidence which indicates that there is no viable prospect of aviation use recommencing on the site. For this reason, Planning Officers were unable to support a policy which protected the site for aviation use. Likewise, we do not consider RSP's intention to apply for a DCO to provide any 'reasonable prospect' of the site returning to sole aviation use, for the reasons stated above. We therefore consider that material considerations indicate that there is no reasonable prospect of a site being used for the allocated employment use, and the application should be treated on its merits, consistent with NPPF paragraph 22. The weight which can be given to EC4 and EC5 is necessarily limited.

6.66 Furthermore, Policy EC4 and EC5 are not considered restrictive policies pursuant to paragraph 14 of the NPPF, as evidenced by the footnote 9 NPPF which specifies the types of policies envisaged here. This interpretation is supported by the draft NPPF, which clarifies that "restrictive policies in this Framework" in the meaning of the presumption in favour of sustainable development exclude Development Plan policies (see footnote 9, draft NPPF).

6.67 The key decision-making test is therefore the NPPF paragraph 14 and the presumption in favour of sustainable development, which states that permission should be granted unless the impacts of doing so would 'significantly and demonstrably' outweigh the benefits.

Summary

- The application is a departure from the Development Plan, specifically policies EC4 and EC5 which protect the site for aviation use.
- S.38(6) allows such applications to be approved where material considerations indicate that a decision other than in accordance with the development plan is acceptable. In this instance the principal material considerations are set out in the published NPPF, specifically paragraphs 22, 215, 49, and 14, as well as the draft NPPF which clarifies the intent and meaning of the presumption in favour of sustainable development.
- It can be demonstrated that there is no reasonable prospect of the site being used for its allocated use. Policies EC4 and EC5 are not consistent with NPPF para 22, and should therefore be afforded reduced weight, in accordance with NPPF para 215. As such, applications for other uses should be treated on their merit.
- The Council is unable to demonstrate a five year supply of housing and housing policies are therefore considered out of date in accordance with NPPF paragraph 49. The second part of NPPF para 14 is therefore engaged for the purposes of decision-making. This states that the application should be approved unless the impacts of doing so would 'significantly and demonstrably' outweigh the benefits.
- Likewise, para 11D of the draft NPPF carries forward the presumption in favour of sustainable development, and states that where policies which are the most important for determining the application are out of date, permission should be granted unless any adverse impacts of doing so would significantly outweigh the benefits, when assessed against the policies in this Framework as a whole.
- It will be demonstrated in this Planning Statement that there is significant merit in using the site for housing-led mixed use development, having regard to market signals and the relative need for such uses to support sustainable local communities.
- It will be demonstrated that the adverse impacts associated with the application would not significantly and demonstrably outweigh the benefits, when assessed against the policies in the Framework as a whole.
- Furthermore, there are no specific policies in the Framework that indicate that development should be restricted (and reduced weight should be given to Development Plan policies EC4 and EC5). Accordingly, permission should be granted.

7. Principle of Redevelopment

7.1 This application seeks permission for comprehensive redevelopment of a vacant, previously developed (PDL) site.

Policy

7.2 As set out in ' Fixing the foundations: Creating a prosperous nation', the Government is committed to promoting the use of brownfield land to deliver an increase in much needed housing supply and has stated that it will remove all unnecessary obstacles to its redevelopment. These include avoiding the long term retention of sites allocated for employment use where there is no reasonable prospect of the site being used for that purpose.

7.3 The NPPF seeks to proactively drive and support sustainable economic development to deliver the homes, businesses, infrastructure and thriving local places that the country needs; encourage the effective use of land by reusing land that has been previously developed (brownfield land); promote mixed use developments; and focus significant development in locations which are or can be made sustainable (para 17).

7.4 Saved Policy CC1 of the 2006 Local Plan identifies this Site as part of the countryside (defined as all areas of the District outside the identified urban and village confines) and restricts development here unless the need for development overrides the need to protect the countryside. As stated above, the Council cannot demonstrate a five year housing supply. Accordingly, the application should therefore be determined in accordance with the NPPF presumption in favour of sustainable development.

Assessment

7.5 The extent of the Site which qualifies as previously developed land (PDL) comprises 262ha and accounts for 88.5% of the total Application Site (see Appendix 1 for further details). The site is vacant, previously developed, and located in a sustainable location. Planning policies at all levels encourage the sustainable reuse of such sites. None of the buildings are protected. There are no statutory or locally listed heritage features on Site. The Site is not in a Conservation Area. Demolition is therefore acceptable.

7.6 The future of the site has been the subject of significant public interest, and there is general agreement from all parties (including the landowner, Thanet, KCC, and the wider public) that its redevelopment will be key to the future of the District. In accordance with core national planning principles, this should optimise the development potential of the site, respond to local development needs, be properly planned so as to embed the fundamentals of sustainable

development and internalise any necessary mitigation, and deliver public benefits. There is therefore agreement that the site should be redeveloped.

7.7 The proposed development provides a major opportunity to regenerate a vacant, previously developed site in an area of acute housing and socio-economic need. It will deliver a comprehensive mix of uses, including new homes, community, sports, education and retail spaces all set within a network of 133ha of green infrastructure.

7.8 The proposal is also in accordance with national planning policy requirements and the Government's commitment in the Housing and Planning Bill to optimise the use of brownfield locations for the delivery of a mix of uses.

Summary

- The site is a vacant, previously developed site.
- Planning policies at all levels encourage its reuse.

8. Loss of Existing Permitted Use

8.1 With the exception of the heritage aviation component, the application seeks consent for comprehensive redevelopment of the Site for alternative (non-airport use).

Policy

8.2 Local Plan Saved Policies EC4 and EC5 seek to protect the Site for development for airport-related uses.

8.3 Paragraph 182 of the NPPF requires Local Plans to be sound and advises that one of the key elements of soundness is that "the plan should be deliverable over its period".

8.4 Paragraph 22 of the NPPF states that "planning policies should policies should avoid the long term protection of sites allocated for employment use where there is no reasonable prospect of a site being used for that purpose. Where there is no reasonable prospect of a site being used for the allocated employment use, applications for alternative uses of land or buildings should be treated on their merits having regard to market signals and the relative need for different land uses to support sustainable local communities."

Evidence

8.5 There is a plethora of evidence which confirms that the resumption of sole aviation use on the Application Site is not feasible, viable or probable and is therefore not 'reasonable' in the meaning of NPPF paragraph 22. These reasons can be grouped into the following broad categories:

- History has proven that the market is not able to support a commercially viable airport on this site. This is evidenced by the fact that multiple competent, qualified, well-funded parties have tried and failed to operate a commercially successful endeavour on the site over a 15 year period. TDC have tried on three separate occasions to identify and secure an indemnity partner to underpin the use of CPO powers to compulsively acquire and reopen the site and were unable to find a suitable partner on three separate occasions;
- Evidence has been published by several qualified aviation experts on behalf of both TDC (as part of the local plan evidence base) and on behalf of the Applicant which all conclude that re-opening Manston Airport does not represent a financially viable investment opportunity and is unlikely to be viable even in the long-term;
- The Davies Commission has already concluded that Manston Airport would not provide the additional long-term capacity and connectivity required to satisfy UK runway capacity and has directed new capacity to Heathrow; and

- RSP as a company lacks credibility and we have serious concerns regarding RSP's intention to pursue a DCO, let alone whether the project would be deliverable.

8.6 We elaborate on these in further detail below.

History

8.7 Since the Ministry of Defence sold the airport in 1998, numerous owners have tried (and failed) to operate Manston as a successful, viable business. History has shown that despite considerable investment and concerted efforts throughout the duration of Manston's 15 years under private ownership, the airport consistently underperformed, never made a profit, and cost investors a total of over £100m.

8.8 A more detailed history of the history of efforts to keep Manston open is set out in Appendix 16, (with a corresponding history of its actual performance set out in Appendix 17), and can be summarised as follows:

- In 1998 Wiggins Group acquired Manston Airport for £4.75 million. According to their company accounts, between 1999-2000 the airport made an operating loss of £1.1m, between 2000-2001 made an operating loss of £3.6m and between 2001-2002 made an operating loss of £3.9m. In 2002, they stated that the airport would double its cargo traffic from 36,000 tonnes per annum to a profitable rate of 100,000 tonnes per annum within twelve months, however the most cargo traffic the airport was able to achieve was 43,000 tonnes (in 2003).
- In January 2004, Wiggins renamed itself Planestation and later that year bought 30% of the airline company EUJet, a budget airline. Subsequently, Planestation made a statement that the airport would break even if it were to achieve delivery of 70,000 tonnes of cargo per annum. Again, this was never achieved.
- In September 2004 EUJet started to operate passenger flights to destinations across Europe and in its busiest month in early 2005 the airport carried 62,709 passengers, however, by July 2005 all EUJet operations were suspended along with all non-freight operations including MK Airlines, Manston's main cargo customer, who left the airport for another site in Europe. As a result of significant financial losses incurred during ownership, Planestation consequently went into administration.
- In August 2005, Infratil Limited acquired Manston Airport from the administrator for £17m, and began to operate the airport for passenger and freight transport. During Infratil's ownership of the site (2005-2013) the airport never achieved more than 31,000 tonnes of freight per annum. Infratil regularly declared Manston airport as a specialised freight handler making a substantial contribution to the UK's air-transport freight capacity; however, we understand that these statements were significantly exaggerated, and Manston actually only contributed approximately 1.3% of national freight tonnage. Actual passenger numbers experienced at the former airport were significantly lower than forecast year after year. In fact, passenger

numbers failed to exceed 50,000 between 2006 and 2014 when the airport finally closed. Infratil's peak passenger year was 2011 when 48,450 passengers used the airport which represented 0.02% of the UK total.

- Between 2005 and 2013 seven different airlines tried and failed to sustain regular services, including: KLM, Cargolux, Kent Escapes, Flybe, Atlantic Holidays, Air Southwest, and Newmarket Holidays.
- Following the repetitive failure to even meet break-even levels of passenger and freight movements, in January 2012 Infratil decided to put Manston Airport up for sale and commissioned PWC to handle an extensive marketing process. Following a global search by Price Waterhouse Coopers (PWC) which lasted almost two years, not a single credible organisation was prepared to pay more than £1 for the site.
- The sale of Manston airport to Manston Skyport Ltd. was agreed in November 2013, and completed in December 2013. In November 2013, a business plan was put together to assess the degree to which the site could progress as a balanced airfield with work in hand to secure both passenger and cargo business. This business plan was well documented, but the potential for these new income streams quickly dried up. As documented in the Falcon Consultancy Report instructed by TDC to assess the commercial viability of the airport "no passenger airlines with any current activities had any interest to start operations at the airport" (Falcon Consultancy Ltd, 2014, pg. 18). Likewise, the hope that the Davies commission would recommend making best use of current runways in the South East (instead of building new runways) was dashed in December 2013, when they eliminated Manston as a possibility for meeting national aviation capacity requirements.
- Over the first 4 months of Manston Skyport's ownership, the airport incurred significant financial losses to the tune of £100,000 per week (KCC Position Statement, 2015). Following failure of the business plan, the airport closed in May 2014.
- Following the airport's closure, the site was sold in September 2014. The aerodrome and air traffic licences have been revoked.

8.9 It is also significant that Thanet District Council have been willing to use compulsory purchase powers to acquire the site and have investigated doing so on three separate occasions in 2014, 2015 and again in 2016. In each case, the Council they were unable to find a suitable indemnity partner and decided not to pursue a CPO.

8.10 On 31st July 2014 TDC's Cabinet resolved to carry out soft-market testing to identify a possible CPO Indemnity Partner. On 9 August 2014 the Council issued a Prior Information Notice (PIN) followed by a soft market testing document on 13 August 2014 in order to identify potential partners (a.k.a the 'Partner Identification Process'). We understand that four parties requested the questionnaire and two submitted returns. The Council then offered meetings with both responding partners, and only one company, RiverOak Investment Corp, responded to the request and agreed to progress through to the Due Diligence stage. Subsequently, upon receiving RiverOak's

the Council conducted due diligence on the company from 18 September 2014 to 18 November 2014.

8.11 In December 2014 the Council released their final report concluding that, in their opinion, RiverOak did not have the necessary financial capacity to support their plan for Manston and that RiverOak's business plan was insufficient. In their assessment of RiverOak's business plan, TDC commented that "*the plan does not provide for the CPO compensation cost, and this could be substantial. The business assumptions appear to be optimistic as regards revenues and the known costs of the operation. A 20 year business plan is required for a project of this scale to demonstrate long-term viability, and that the proposed operation is sustainable in the long term. Unless these requirements can be clearly demonstrated there is no prospect of achieving a CPO*" (Extraordinary Full Cabinet Council, 11 December 2014).

8.12 In addition, RiverOak's suggested approach of funding a CPO was rejected by TDC. In their statement, the Council concluded that they are "*not seeking a CPO on a speculative basis and would not wish to put itself in a position whereby full achievement and vesting of the site would depend on the partner's ability to generate investment in the project"* (Extraordinary Full Cabinet Council, 11 December 2014). Therefore, to accept RiverOak as the indemnity partner was deemed too high-risk, and as a result, the Council concluded that no further action was to be taken to pursue a CPO of Manston Airport.

8.13 In May 2015 the Council agreed to review its position regarding the potential for CPO after receiving an expression of interest from RiverOak Aviation Associates (a new company set up to deliver the project) for use of the site to recycle 'end of life' aircraft with some cargo and potential future passenger activity. On the 29 October 2015 the Cabinet decided that RiverOak did not fulfil the requirements for an indemnity partner and that no further action would be taken on a potential CPO of Manston Airport for a second time.

8.14 In 2016 Thanet District Council decided to carry out another soft market testing exercise to seek interest from external parties in becoming an indemnity partner for the acquisition of the former airport. On 15 January the Council issued a PIN and interested parties had until 9 February to register their interest. Five expressions of interest were received, and interested parties then had until 12 February to submit responses to a follow up questionnaire, of which a total of three valid submissions were received. On the 16th June 2016 the Cabinet reviewed the content of these submissions and concluded that "*one can draw the conclusions that in terms of the key lines of enquiry, the market cannot deliver on the Council's requirements; there is no established market which is able to deliver, or an adequate number of operators; the market has no capacity to deliver the requirements and there is no cost or other benefits in taking this matter further*" (Cabinet Report 16th June 2016). Thanet District Council decided, for the third time, to take no further action.

Evidence from Aviation Experts

8.15 Over the past four years the Council has instructed independent experts to produce four separate reports to assess the potential for a viable aviation use to recommence on site.

8.16 In July 2014 Falcon Consultancy Limited produced their Expert Opinion on the Prospects for the Viable Development of Manston Airport on behalf of TDC. This report confirms that growth in air cargo can be absorbed in the belly holds of passenger aircraft (pg. 3) and that the "the climate for cargo-only aircraft operations could not be much worse" (pg. 21). With respect to possible passenger services, the report concluded that "Manston has no natural sustainable passenger market…its catchment area and its propensity to travel is insufficient to generate for the airlines enough traffic on one route to sustain a twice daily operation – the minimum required to risk launching a service" (Page 8).

8.17 It concludes that "there is no commercial justification for re-opening and marketing the airport in the same configuration as it was upon closure" (pg.14) however does not eliminate the possibility of a commercially successful operation, provided that a suitable long-term business plan (20 year+) was developed with estimated required investment of £100m" (pg. 7). However, even then there would be 'no guarantee of success' (ibid). In light of this conclusion, the Council assessed the option of acquiring Manston from its current owners under Compulsory Purchase Powers, however was unable to find a suitable indemnity partner.

8.18 In September 2016 AviaSolutions on behalf of TDC published the Commercial Viability of Manston Airport. This report concludes that, even applying assumptions favourable to Manston Airport, "airport operations at Manston are very unlikely to be financially viable in the longer term and almost certainly not possible in the period to 2031" (paragraph 2.5).

8.19 In August 2017, AviaSolutions were instructed by TDC to review the cases put forward for the re-opening of Manston Airport by Azimuth Associates and Northpoint on behalf of RiverOak Strategic Partners. In their Review of Azimuth & Northpoint Forecast for Manston Airport report, they conclude that neither report puts forward a sufficiently credible case, nor provides the evidence, for AviaSolutions to change its views on the financial viability of Manston Airport.

8.20 At the same time, AviaSolutions produced their Local Plan Representations Final Report (August 2017), which similarly concludes that the Local Plan Representations do not make a credible case, nor provide the evidence for AviaSolutions to change its views on the financial viability of Manston Airport. Based on updated market information since the publication of the 2016 study, they continue to advise that Manston Airport does not represent a financially viable investment opportunity under normal market condition.

8.21 Based on this evidence base and the comments received, Council officers, correctly, concluded that there was insufficient evidence to justify an allocation which safeguarded the site for aviation use.

8.22 Evidence has also been prepared by York Aviation, on behalf of the Applicant, to consider the case put forward by RSP for re-opening Manston Airport. A 'Summary Report Analysing Use of York Aviation Material by RiverOak Strategic Partners Limited and Assessment of Capability of Manston Airport' (Appendix 17) was published in November 2017 and concludes that RSP's case is unsubstantiated, lacks credibility and, in any event, is entirely theoretical. York Aviation agree with AviaSolutions that there is little prospect of the re-opening of Manston Airport being a commercially viable proposition.

8.23 There is therefore overwhelming evidence, from various qualified aviation experts, which all confirm that there is no reasonable prospect of the site being used for a viable aviation use.

Davies Commission

8.24 Government policy supports the UK aviation sector and there is a critical need to increase capacity in and around London. However, the Airports Commission (or 'Davies Review'), concluded that this need can only be satisfied by expanding the capacity of airports in and around London (i.e. Heathrow, Gatwick, City, Stansted, Luton).

8.25 The Airports Commission were appointed by the government to investigate potential solutions to the Country's aviation capacity and were instructed with two core responsibilities which comprised:

- Identifying and recommending options for maintaining the UK's status as an international hub for aviation and immediate actions to improve the use of existing runway capacity in the next 5 years; and
- Assessing the environmental, economic and social costs and benefits of various solutions to increase airport capacity - considering operational, commercial and technical viability.

8.26 The Airports Commission Interim Report was published in December 2013, and sets out initial recommendations for making better use of the UK's existing runway capacity over the next five years. Various options to foster greater use of airports outside of London and the South East were investigated, including the potential to impose a congestion charge on the UK's busiest airports to incentivise airlines and their passengers to use other airports, including regional airports that are not yet fully utilised. However, the report concludes that most of the new services developed at less-congested airports under this policy would simply duplicate services already available at Heathrow, such as flights between London and New York. In addition, it recognises that there is little scope for Government intervention to force airlines and passengers to use less busy airports, noting that past measures of this kind have rarely (if ever), achieved their objectives.

8.27 The Interim Report concludes that 'intervening to redistribute the excess demand away from airports in London and the South East does not appear to be a credible option' (Airports Commission: Interim Report, 2013: 11), and instead recommended that one net additional runway in London and the South East should be delivered by 2030 to meet the nation's aviation capacity requirements (Airports Commission: Interim Report, 2013).

8.28 Importantly, the potential role of Manston Airport was specifically considered by the Airports Commission, who concluded "*that it did not fit with the Commissions remit or offer a solution to the key question of providing additional long-term capacity and connectivity for the UK*" (Appendix 2 of the Airports Commission: Interim Report pg. 16). The Davies Commission has therefore already considered and discounted the Application Site as not being suitable for meeting national aviation infrastructure requirements.

<u>Concerns regarding Credibility of RSPs proposals</u>

8.29 RSP have previously been considered by TDC as a potential indemnity partner for a CPO. TDC concluded that their proposed funding mechanism was too high risk and concluded that they did not fulfil the requirements for an indemnity partner. The same considerations would apply for compulsory purchase under a DCO. There remains significant uncertainty regarding RSP's ability to meet tests necessary to pursue a DCO.

8.30 The Applicant has also notified the Planning Inspectorate of serious concerns regarding RSP's intended pursuit of a DCO (see Appendix 6). In particular:

- RSP's proposals do not meet the thresholds necessary to qualify as an NSIP under the 2008 Act and as such its proposed application for a DCO cannot proceed;
- There has been, and remains, a lack of clarity over both the identity of the proposed applicant (RSP) and its financial standing. There is no evidence that RSP is of adequate financial standing to meet the costs and compensation arising in relation to the application for DCO to be granted powers of compulsory acquisition, let alone deliver the proposals;
- RSP does not own or control any part of the Site and is unable to progress any application for compulsory acquisition powers as it has not demonstrated that they are a last result following meaningful attempts to negotiate or acquire the Site;
- The level of detail provided in the PEIR is insufficient to reach an informed view on the likely potential environmental effects of the development. Either it is incomplete, or is lacking in scope/depth; and
- The level of consultation has been inadequate.

Assessment

8.31 As stated above, the starting point for consideration of the loss of the existing permitted use is the Adopted Local Plan and in particular Policies EC4 and EC5 which safeguard the Application Site for aviation use. However, in accordance with Section 38(6), we consider there to be significant material considerations which demonstrate that there is no reasonable prospect of the site returning to sole aviation use. These include the following:

- History has shown that despite considerable investment and concerted efforts from numerous capable owners throughout the duration of Manston 15+ years under private ownership, the airport consistently underperformed, never made a profit, and cost investors a total of over £100m;
- The Government has conclusively dismissed Manston as having a role in meeting national infrastructure capacity requirements, instead directing this to London and the South East;
- The Council's own evidence base confirms that airport operations at Manston are very unlikely to be financially viable in the longer term, and almost certainly not possible in the period to 2031;
- On the basis of this local plan evidence base, the Council's own Planning Officers confirm that there would be no justification for retaining the protective airport policy in the emerging Local Plan (para 2.115, Cabinet Report 17th October 2017). The Cabinet agreed with Planning Officers and formally recommended to the full Council publish the Local Plan for consultation on the 17th October 2017, however the motion was rejected by the Council on 18th January 2018 due to political reasons;
- The Applicant's own aviation experts York Aviation have similarly concluded that there is little prospect of the re-opening of Manston Airport being a commercially viable proposition;
- If the emerging Local Plan were to contain a proposed allocation for the Application Site which contained policies safeguarding the site for aviation use (similar to EC4 and EC5), the Local Plan would not be found sound at Examination in Public as it would not be based on evidence;

8.32 As such, the weight which can be attached to Policies EC4 and EC5 of the Local Plan should be reduced (in accordance with NPPF paragraph 215), and the application should be determined on its merits (in accordance with NPPF paragraph 22).

8.33 The enhanced masterplan now incorporates an element of aviation, through refurbishment of the western 1199m of the runway and introduction of a new heritage aviation hub. The aviation offer is at a scale which is considered to be deliverable and consistent with the overall vision for creating a sustainable new settlement. Advice from York Aviation and heritage aviation consultant is included in the Deliverability Report and confirms that heritage aerodrome is deliverable and responds to existing and forecast market demand.

8.34 Furthermore, the proposed development will generate significant and demonstrable environmental, social and economic benefits of regional significance that must be weighed in the planning balance, including:

- Regeneration of a vacant, previously developed, derelict site in accordance with the core land-use planning principles set out in the NPPF;
- Delivering 3.700 high quality homes in a range of sizes and types (including starter homes, family-sized homes, and specialist homes for seniors) and tenures (including affordable). This will deliver a significant proportion of the District's housing requirements over the plan period - where there has been persistent historic under-delivery and there is currently no 5 year housing supply - without relying upon greenfield land;
- Retaining and repurposing the westernmost 1,199m of the existing runway for heritage aviation use, alongside new facilities for the RAF Manston and Spitfire and Hurricane Museums alongside the runway;
- Delivering a comprehensive and sustainable mix of uses, including new homes, community facilities (including two new primary schools, health centre, community hall), sports facilities, education and retail spaces, that enables people to work, shop and access day-to-day services close to where they live.
- Delivering 1,474 full time equivalent (FTE) permanent and 1,732 temporary construction jobs on site, with an additional 9,620 FTE indirect jobs in the construction supply chain, in an area of acute socio-economic need and deprivation (see Appendix 19);
- A commitment form the Applicant to support opportunities for education/training, including new training and apprenticeships for young people and the long-term unemployed;
- Opening up a site which has been closed to public access for many years, and delivering substantial areas of managed high quality open space and green infrastructure, including significant contributions to biodiversity habitat;
- Introducing new regionally significant leisure facilities (including a wave garden, 50 metre swimming pool) which are currently not provided in the region, and therefore help increase tourist attraction in the local area and access to facilities for the local community;
- Creating new connections through the site, increasing permeability within the local area;
- Delivering the first leg of a north-south link road through the Site to Westwood Cross; and
- Resulting in direct financial benefits to Council in form of New Homes Bonus (£41.9m) and annual tax receipts (£7.0m).

Summary

- Policies EC4 and EC5 of the Local Plan safeguard the site for aviation use.
- There is a plethora of evidence which confirms that the resumption of sole aviation use on the Application Site is not feasible, viable or probable and is therefore not 'reasonable' in the meaning of NPPF paragraph 22. This includes: the 15 year history of the site which has

repeatedly failed to deliver a viable scheme despite the efforts of multiple landowners; published evidence from qualified aviation experts instructed by both Thanet District Council and the Applicant which conclude that there is no reasonable prospect of a viable aviation use on site; the conclusions of the Davies Commission regarding the unsuitability of Manston Airport for meeting the UK's runway capacity requirements; and the Applicant's serious concerns regarding the credibility and legality of RSP's intention to pursue a DCO on the site.

- As such, the weight which can be attached to Policies EC4 and EC5 of the Local Plan should be reduced (in accordance with NPPF paragraph 215), and the application should be determined on its merits (in accordance with NPPF paragraph 22).
- To respond to comments raised during consultation, the masterplan now seeks to re-use the westernmost 1199m of the runway for heritage aviation use, at a scale which is considered to be deliverable and consistent with the overall vision for creating a sustainable new settlement. It will therefore safeguard aviation use on the site.
- The proposed development will generate significant and demonstrable environmental, social and economic benefits of regional significance

9. Principle of a New Settlement

9.1 This application will deliver a sustainable new settlement, including residential (Use Class C3/C2), employment (Use Class B1a-c/B2/B8), heritage aviation (Sui Generis), retail (Use Class A1-A5), sports (Use Class D2), schools and community facilities (Use Class D1), all supported by a variety of green infrastructure and recreational public open space.

Policy

9.2 The NPPF specifically recognises the role that new settlements can play in providing for the Country's housing need. Paragraph 52 of the NPPF recognises that this can be best achieved by planning for new settlements that follow the principles of Garden Cities.

9.3 In March 2016 the Government published 'Locally-led Garden Villages, Towns and Cities' policy paper which reaffirmed the Government's attention to drastically speed up the delivery of new homes across the Country and set out their support for the garden cities and towns to help meet this need. The Policy Paper recognises that large new settlements have a key role to play, not only in meeting the country's short-term housing needs, but also in providing a stable pipeline of housing well into the future.

9.4 The Housing White Paper expresses the Government's support for new garden cities, stating that: "we need to make the most of the potential for new settlements alongside development existing areas. Well-planned well-designed new communities have an important part to play in meeting our long-term housing needs. Provided they are supported by the necessary infrastructure, they are often more popular with local communities than piecemeal expansion of existing settlements" (pg. 28).

Evidence

9.5 In November 2017 Town and Country Planning Association published Garden City Standards for the 21st Century: Practical Guides for Creating Successful New Communities. The guidance provides detail and case studies on a wide range of key issues concerning the creation of garden cities, including planning, investment, land assembly delivery and long-term stewardship.

9.6 The guidance recognises that well planned new communities provide an opportunity to create high-quality sustainable places, allowing for the highest sustainability standards, economies of scale, and better use of infrastructure. Key benefits include:

- The protection of green belt land and prevention of 'urban sprawl'

- Creation of a population with sufficient critical mass to support the range of facilities and opportunities necessary to make it into a new community, including shopping, education, jobs, cultural and leisure services, education, and more;
- The opportunity to embed the principles of sustainability within the design of the settlement itself, including walkable neighbourhoods, and low-carbon lifestyles
- The opportunity to deal with any potential negative impacts on the environment in a holistic way, so that it is integrated within the design of a new settlement; and
- Engaging the local community on a single large proposal, rather than on multiple small ones.

9.7 It states that "masterplanning at a large scale offers a unique opportunity to consider and plan for robust infrastructure that will support the aspirations of a sustainable community" (Guide 3, pg. 23).

9.8 In support of the emerging Local Plan, Thanet District Council prepared a draft New Settlement Mitigation Study (November 2016) where they assessed the possibility of a new settlement to address planned housing growth needed in the District over the plan period. The Council recognised that "the main advantage of planning an entirely new settlement is the ability to design in sustainability from the outset" (pg. 9). The study assessed the potential of a new settlement on the Application Site specifically (NS4 and NS5) and concluded that it was the only site that could provide the quantum of housing growth required that would not compromise other requirements for suitable open space and supporting retail, commercial education and opportunities.

Assessment

9.9 The application will deliver a significant proportion of the Council's projected housing need through a comprehensive, sustainable new settlement which encapsulates the core principles of a Garden City.

9.10 The application will deliver a sustainable mixed-use settlement that enables people to work, shop and access day-to-day services close to where they live. The masterplan encourages residents, employees and visitors to live sustainably by providing a range of necessary facilities and amenities within easy distance of their homes and places of work. Together, the proposed uses ensure that the proposed development is a genuinely sustainable, distinctive place which meets the needs of its residents and visitors and encourages them to live more sustainability. The proposal therefore fully embodies the principles of sustainable development.

9.11 The application is currently well served by public transport (bus) and improvements to bus services are proposed in order to enhance connectivity of the site to surrounding Towns. The accessibility of the site will increase in further following the opening of the Thanet Parkway Station, which will provide a direct railway link to Margate, as well as high speed services to London in just under an

hour. Further details on how the principles of sustainability have been incorporated within the heart of the proposal are set out in the DAS and Energy and Sustainability Strategy.

9.12 The application includes a comprehensive masterplan for the site, which will deliver a significant proportion of the District's housing requirements in a way which is planned positively, proactively, and with the principles of sustainability at its heart. The masterplan has been designed to serve as the backbone for the creation of a new community, which will grow and evolve over time. Up to 3,700 homes are proposed within the application boundary, which will create a critical mass of residents needed for the delivery of a rich mix of supporting infrastructure and services. However, the settlement has also been designed to allow for the potential integration of the MOD site to the north, should it come forward for redevelopment in the future.

Summary

- National planning policy recognises the importance that new settlements can play in meeting housing needs.
- New settlements provide the unique opportunity to robustly plan for the infrastructure necessary to support forecast population growth, and embed the principles of sustainability into design.
- The application will deliver a sustainable mixed-use settlement with the critical mass of new homes to support a range of supportive land uses which enables people to work, shop and access day-to-day services close to where they live. The masterplan will be the backbone on which a new community can grow over time.

10. Proposed Uses

10.1 This section considers acceptability of the proposed land uses which comprise:

- Housing;
- Employment;
- Aviation;
- Leisure (East Kent Sports Village);
- Main Town Centre Uses (retail, office, hotel);
- Community facilities; and
- Education.

Housing

10.2 The proposal seeks outline consent for 3,700 residential units (Use Class C3) to be delivered as part of a comprehensive, mixed use development. Up to 250 dwellings will be provided as age-restricted dwellings (Use Class C3 or C2), with the remaining at Class C3 dwellings.

Policy

10.3 Boosting housing supply is the Government's primary objective. The Government have tabled various measures and initiatives to 'fix' the housing market (including help to first time buyers, New Homes Bonus, etc), however in the 2017 Autumn Budget they confirmed that "the only sustainable way to make housing more affordable over the long term is to build more homes in the right places".

10.4 Saved Policy H2 of the Local Plan makes provision for 4,200 additional dwellings within the Local Plan Period (up to 2011). This figure was based on the South East Regional Spatial Strategy, which was formally revoked in March 2013. The High Court has declared that housing targets set by abolished Regional Spatial Strategies cannot be used by Local Authorities as a basis for calculating the five year supply of housing. There is therefore no Local Plan policy which establishes the full objectively assessed need for housing in the District. Without an established target in a Plan the Council cannot demonstrate a five year supply of housing land and all policies which have the effect of restricting the locations where new housing may be developed (including but not limited to Saved Policies H1, H2, CC1) are out-of-date for the purposes of the NPPF. Accordingly, the application must be considered in the context of the presumption in favour of sustainable development (para 49).

Evidence

10.5 The District has consistently under-delivered on housing and does not have a five year supply of housing. This has been confirmed by numerous appeal decisions.

10.6 The Council's own local plan evidence base confirms that:

- The Council's latest SHMA identifies a need for 17,160 additional dwellings in the District between 2011-2031 (857 dpa). Adopting the MHCLG's new standardised methodology for calculating housing need would increase total housing need to 21,260 homes (1,063 dpa). Since 2011, only 1,565 homes have been delivered in the District meaning that the Council are currently running at a shortfall of three to three and a half years;
- Actual housing delivery in Thanet in the last five year period (2011-2016) has averaged 313 dwellings per annum, meaning there is an immediate, acute need for housing ;
- The Council's 2016 AMR identifies a 5 year supply of deliverable housing land with capacity to deliver 4,521 dwellings, however even if these sites were deliverable this would not be sufficient to meet five year housing supply taking into account the current shortfall (of between 2,720 and 3,750 units). Furthermore, 1,000 units (22% total) are expected to be delivered on four strategic sites where there are significant challenges to delivery; and
- The rejected Draft Submission version of the Local Plan did not identify sufficient sites to meet the housing need generated when adopting the MHCLG's new standardised methodology for housing delivery, even accounting for the delivery of 2,500 homes on the Application Site.

10.7 Additional evidence of housing need and five year housing supply is set out within the Planning Statement Addendum: Housing Need (ref. SHP2-4.1).

10.8 Following the rejection of the emerging Local Plan by Council, Thanet District Council announced another 'Call for Sites' for housing development, recognising that without allocation of the Application Site for housing growth the local plan as it currently stands would not properly plan for the growth of the District. The call for sites closed on the 16th March 2018.

Assessment

10.9 There is no Local Plan policy which establishes the full objectively assessed need for housing in the District. Without an established target in a Plan the Council cannot currently demonstrate a five year supply of housing land. Local Plan Saved Policies are therefore not up to date for the purposes of NPPF paragraph 49. The presumption of sustainable development should therefore be applied and the LPA should grant planning permission unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the policies of the NPPF or the Development Plan as a whole.

10.10 There is an acute, sustained housing need in the District, the Council is unable to demonstrate a 5-year supply of housing land and historic housing completions have consistently failed to meet policy targets. In policy terms this means that the presumption in favour of sustainable development contained within NPPF paragraph 14 applies. There is a very significant existing and projected future shortage of housing in the district. The recently published CLG housing figures show Objectively Assessed Housing Need in Thanet is significantly (24%) greater than previously assessed in the Council's Updated SHMA (September 2106) – confirming that the housing shortage in the district is even more severe than previously thought. This application will help to address this need without requiring greenfield land or 'bolting on' to existing settlements without the delivery of supporting infrastructure in parallel.

10.11 The proposals will deliver a single settlement community with supporting services and facilities without requiring greenfield land. The proposal will deliver a significant component of the District's housing requirement over the plan period. The site is suitable for housing development and is available now. There is a willing developer in place and a Housing Association is committed to delivering the first 400 units. In other words, it is a deliverable site. The proposed redevelopment of the site for housing should therefore be given significant weight in the planning balance, and determined in light of the presumption in favour of sustainable development.

Employment

10.12 The application proposes up to 46,000 sqm of employment floor space across use classes B1a-c/B2/B8, of which a maximum of 1,700 sqm can be used for office or research & development use (class B1a/b). Office uses (Class B1a) are directed to the local centre, research & development and light industrial uses (Class B1b-c) will be allowed within the proposed mixed use area at the northwestern end of the local centre, with the broadest variety of traditional employment uses (Class B1(b-c)/B2/B8) concentrated in the designated employment areas south of Spitfire Way.

10.13 Full permission is sought for the change of use of three existing buildings along Spitfire Way to flexible B1(c)/B2/B8 use, together totalling 5,661 sqm.

Policy

10.14 The NPPF seeks to build a strong, competitive economy and places significant weight on the planning system in supporting economic growth and job creation. Specifically, the NPPF also requires Local Authorities to plan positively for the location, promotion and expansion of clusters or networks of knowledge driven, creative or high technology industries (para 21). For larger scale residential developments in particular, the NPPF encourages Local Authorities promote a mix of uses in order to provide opportunities to undertake day-to-day activities including work on site (para 38).

10.15 The three economic development and regeneration objectives of the 2006 Local Plan are:

- To allocate and maintain sufficient land resources to facilitate sustainable growth and diversification in economic activity;
- To provide a strategy for the encouragement of employment generation in order to redress the persistently high levels of unemployment[...]; and
- To help create the conditions necessary to bring about a significant reduction in unemployment levels towards the Kent average, and to raise local GDP significantly towards the Kent average by the end of the plan period.

10.16 By 2006, a total of 26.3ha of employment sites allocated in the 2001 Local Plan remained undeveloped, resulting in a surplus of 52% over Kent and Medway Structure Plan targets at the time. On this basis, Saved Policy EC1 of the Local Plan carried forward the five previous employment allocations in the District (including Manston Business Park) and concluded that no further economic development land was needed during the Plan period (up to 2011). As explained in para 6.23, the 2006 Local Plan only covered the period up to 2011, is significantly out of date, and should therefore hold limited (if any) weight.

10.17 The first strategic priority set out in the emerging Local Plan is to create additional employment and training opportunities, to strength and diversify the local economy and improve local earning power and employability. Proposed Policy SP02 sets a target to deliver a minimum of 5,000 additional jobs in the District up to 2031, with land identified and allocated to accommodate at least 65ha of employment space over the period to 2031. This target is based on projections based upon a dated evidence base which does not reflect changes in population growth and assumes the continued operation of an airport on Site. Projections on employment demand can therefore hold limited weight.

Assessment

10.18 The Applicant's vision is to create an advanced manufacturing hub for East Kent, capitalising on existing growth potential, supported by 'total place' environment of the type that is currently being sought by potential employers. The proposal will deliver a truly integrated mixed use environment, which brings forward 'traditional' B class employment space alongside institutional, innovation, residential and retail opportunities in order to deliver a sustainable 'total place' environment for new residents, employees and visitors.

10.19 The proposed development presents a significant opportunity to enhance Thanet's economic growth prospects by capitalising on existing growth potential by delivering a truly integrated, 'total place' environment of the type that is currently being sought by potential employers. By employing an innovative and flexible approach to development there is the opportunity to create a unique asset within the East Kent and wider County economy that can provide a base

for new inward investment and a location for activity to locate that complements and enhances the existing local drivers.

10.20 The masterplan will foster the creation of a new employment hub by concentrating the traditional employment area to the western end of the site the masterplan adjacent to Manston Business Park. This will allow occupiers on both sites to capitalise on agglomeration benefits, rather than allow these to disperse over a wider area. A mixed use area at the north-western end of the local centre is proposed in order to integrate the core 'advanced manufacturing hub' with the local centre residential uses.

10.21 It is intended that the majority of employment floor space will be taken up for B1(c) and B2 uses, however a wide, mix of traditional employment floor space is proposed in order to allow the flexibility to allow complementary mix of activities to co-locate in an economic hub and drive new forms of activity. The scale and mix of floor space proposed is driven by the aspiration to deliver a different offer to the market than can be achieved by existing sites, and generate sufficient critical mass and flexibility to allow this growth potential to be realised.

10.22 It will help to address some of the key economic issues within the District, including unemployment levels (consistently above regional and national averages), resident earnings (among the lowest in England), and the high proportion of people who leave the District to work (60%).

10.23 The Applicant will seek to cultivate a skilled and semi-skilled workforce to support the advanced manufacturing hub. In order to support this, the outline consent seeks consent for sufficient Class D2 floor space to accommodate a Higher/Further Education campus. The intention is that this facility will help train people in the skills needed to support businesses within the hub, as well as allow local employers to cultivate a bespoke, skilled local workforce to support constantly evolving business needs. There will also be opportunities for low-skilled jobs, as well as additional demand generated by downstream activities.

10.24 The Vision for the proposed employment space at Stone Hill Park is centred on the creation of a high quality environment which will foster the development of companies engaged in growth sectors of relevance to the economy of Thanet and East Kent. The proposed applications for Change of Use of existing warehouse/sheds along Spitfire Way will ensure that employment generating uses can occupy the Site in the short-term.

10.25 Sectors identified within Thanet District Council's Economic Growth Strategy (2016) will be specifically targeted. These include:

- Advanced manufacturing;
- Engineering;
- Research and development;
- Low carbon economy; and

- Agritech.

10.26 Stone Hill Park Limited intend to appoint a Senior Director to be responsible for devising and implementing a programme to attract companies in these sectors to the site. He/she will work closely with central government, the South East LEP, Kent County Council, Locate in Kent and Thanet District Council in a proactive campaign.

10.27 These marketing efforts will be complemented by investment in capital works, to include infrastructure and buildings. Premises will be provided on both a speculative and bespoke basis and will be of a quality and size range which historically has not been provided in the District.

10.28 Close links will be formed with research & development organisations and education institutions, both to create a network of support for occupiers and also to help local people access the employment opportunities that result.

10.29 The owners of Stone Hill Park will draw on other examples in the UK in which they, or their directors, have had experience. These include: Discovery Park, Sandwich, Kent; Advanced Manufacturing Park, Sheffield/Rotherham; and Wynyard Park, Teesside:

- Discovery Park is the former European research and development HQ for pharmaceutical giant Pfizer. Following a restructuring of its business, Pfizer dramatically scaled-back its operation in Sandwich in 2011 and sold the site in 2012. Employment fell from 2,400 to around 600 and there was some doubt as to the longevity of those remaining jobs. The site was acquired in July 2012 by Discovery Park Ltd, a consortium that included two shareholders of Stone Hill Park Ltd. Since then, over 125 new companies have been attracted to the site, being a combination of local companies looking to expand and inward-investors seeking a UK base. Employment fully recovered to the 2011 Pfizer level and reached 3,000 when the site was sold. Discovery Park has received national recognition as a major success, including being a case study in the government's "Toolkit" for the regeneration and development of life science sites.
- The Advanced Manufacturing Park is a highly successful development located on a former coalfield site in South Yorkshire. Anchored by the University of Sheffield, Boeing and Rolls-Royce (aerospace), the site has become a major centre for companies engaged in advanced manufacturing. This former coke works in Rotherham is creating the first advanced manufacturing innovation district in the UK, pioneering development of durable, lightweight materials for everything from aircraft to nuclear reactors. Its success is driven by the co-location of several similar engineering industries, allowing them to capitalise on a shared supply chain and client base, as well as information and (labour) resources. Success is also linked to the relationship of existing businesses on the park with the University of Sheffield's Advanced Manufacturing Research Centre, which moved onto the park in 2004 and has helped in the creation of new production techniques and in training the next generation of

employees. Shareholders in Stone Hill Park have previously been involved in the AMP, including the creation of a joint venture with the AMP owners to speculatively develop a range of buildings aimed at small/medium-sized enterprises. These were fully let and then sold on the investment market.

- Wynyard Park is a 280ha site in Teeside which formerly comprised microwave and computer monitoring factories operated by Samsung. In 2004 Samsung announced closure of the plant, with the loss of more than 400 jobs. Wynyard Park Ltd was founded by the owners of the Application Site in 2005 as a joint venture with the intention of creating a world class business park complemented by homes and supporting facilities. Since acquisition, the site has attracted more than £250 million of private investment including tenants such as Huntsman, one of the world's leading chemical companies, and logistics firm Clipper with its occupation resulting in 500 jobs. Despite being located in an area of relatively low economic activity, the owners of Wynyard Park have been able to let 90% of the site. It is home to over 65 companies of varying sizes and currently provides in excess of 2,000 jobs. Continued further investment is planned and the site recently acquired resolution to grant outline planning permission in April 2014 for 101,858 sqm of commercial floor space, up to 600 dwellings, a 2-form entry primary school, local centre, changing facilities, playing field and open space.

10.30 Proposed employment uses are therefore entirely supported by national policy and guidance.

Main Town Centre Uses

10.31 The application seeks consent for a mix of retail, office, hotel and sports uses to sustain the day-to-day requirements of the local population and help form part of a new local centre in the heart of the development. In addition, the proposal includes provision for regionally significant sports facilities (comprising a wave garden and 50m swimming pool).

10.32 In total, the following mix and quantum of main town centre uses are proposed:

- Maximum 3,600 sqm (GIA) of retail (Class A1-A5) floor space. Of this, a maximum of 1,100sqm (net) will be capable of use for Class A1 convenience sales floor space and a maximum of 563 sqm (net) for use by Class A1 (comparison) sales floor space.
- Maximum 1,700 sqm office (Class B1a) floor space;
- Maximum of 120 hotel bedrooms; and
- Maximum 7,000 sqm (GIA) sports and leisure facilities (Class D2), including regionally significant leisure facilities including a wave garden and 50m indoor swimming pool (forming a new 'East Kent Sports Village')as well as provision of small scale sport/recreation facilities to meet the local needs of residents/workers.

10.33 The Local Centre will be located at the 'heart' of the community, within walking distance of the greatest proportion of residents. Design controls within the Development Specification will control

Central Character Area (including the High Street), limit the length of the High Street and control its location in relation to the 'key crossroads', as well as set out key considerations required during detailed design of the High Street including the requirement for provision of a new "Village Green" or "Public Square" directly adjacent.

Policy

10.34 The NPPF recognises that town centres are at the heart of communities and local planning authorities should pursue policies to support their viability and vitality, and promote competitive town centres that provide customer choice and a diverse retail offer and which reflect the individuality of town centres (para 23).

10.35 When considering applications for main town centre uses that are not in an existing centre and not in accordance with an up-to-date Local Plan, the NPPF states that Local Planning Authorities should:

- Apply the sequential approach to site selection, requiring applications for main town centre uses to be located in town centres, then in edge-of-centre locations and only if suitable sites are not available should out-of-centre sites be considered. Applicants should also demonstrate flexibility on issues such as format and scale (para 24); and
- Require an impact assessment (for proposals over 2,500 sqm or any locally set threshold) which consider impact on existing, committed and planned public and private investment and town centre vitality and viability (including local consumer choice and trade) in centres in the catchment area of the proposal (para 26).

10.36 Where an application fails to satisfy the sequential test or is likely to have significant adverse impact on one or more of the above factors, it should be refused (para 27).

10.37 The NPPF also states that "for larger scale residential developments in particular, planning policies should promote a mix of uses in order to provide opportunities to undertake day-to-day activities including work on site. Where practical, particularly within large-scale developments, key facilities such as primary schools and local shops should be located within walking distance of most properties" (para 38).

10.38 We summarise policies relevant to specific subcategories of main town centre uses for which permission is sought below.

Retail

10.39 The 2006 Local Plan establishes the retail hierarchy for the District. Westwood Cross sits at the top of the retail hierarchy, followed by three Town Centres (Margate, Ramsgate and Broadstairs), four District Centres (Cliftonville, Westgate, Birchington and Minster) and an unspecified number of

Local Centres which are not defined by the 2006 Local Plan or Proposals Map. Saved Policy TC1 requires applications for new retail development to comply with the sequential approach, with preference for new development to be located within the core areas of Margate, Ramsgate, Broadstairs and Westwood. Outside these proposals, Saved Policy TC1 states that retail proposals should:

- Demonstrate an identified need (assessed according to evidence of existing commitments, residual demand and available expenditure within an appropriate catchment area);
- Be in a sequentially preferable location;
- Be of an appropriate scale;
- Have no unacceptable impact on the vitality and viability of existing centres; and
- Be accessible.

10.40 The NPPF removes the requirement for applications to demonstrate 'quantitative need' (a previous requirement of PPS4). The test relating to appropriate scale of new development remains, however only in so far as it relates to consideration of impact.

10.41 The emerging Local Plan proposes to carry forward the established retail hierarchy. Proposed Policy E05 states that proposals for main town centre uses should be located within the designated town centres of Margate, Ramsgate, Broadstairs and Westwood. Where this is not possible due to size, format and layout town centre uses should be located on the edge of town centres or on employment land designated for flexible uses. Outside these areas applicants should demonstrate that there is no sequentially preferable location within the catchment of the proposed development. It proposes a 280sqm threshold for proposals for main town centre uses in rural areas, above which assessment of impact will be required. We note that proposed allocations for strategic housing sites include scope for provision of "*small scale convenience retail provision required to accessible serve day to day needs of the development*".

10.42 The retail element of the proposal should therefore be determined in accordance with the impact and sequential tests set out in the NPPF.

Office

10.43 There are no Saved Policies in the 2006 Local Plan or emerging Local Plan relevant to assessment of proposed office uses.

Hotel

10.44 There are no Saved Policies in the 2006 Local Plan relevant to hotel uses. Proposed Policy E07 of the emerging Local Plan supports new serviced tourist accommodation where it relates to existing built development, is of appropriate scale, is accessible by range of means of transport, is

respectful of landscape character/nature conservation value and any increase in recreation pressure on designated nature conservation sites is mitigated.

Sport and Recreation

10.45 The NPPF confirms that pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life, including improving the conditions in which people take leisure (para 9). It states that planning policies should plan positively for the provision of sports venues and confirms that opportunities for sport and recreation can make an important contribution to the health and well-being of communities. It promotes development of local services and community facilities in villages, including sports venues (para 28). Nevertheless, as 'sport and recreation uses are defined as 'main town centre use' by the NPPF, the sequential and impact tests have been applied to be robust.

10.46 Saved Policy T1 of the 2006 Local Plan states that planning permission will be granted for development which would extend or upgrade the range of tourist facilities in the district, increase the attraction of tourists to the area or extend the season.

10.47 The Preferred Options Local Plan identifies one long-term primary sports venue for Thanet (Jackey Bakers, south of Westwood Cross), however it is silent on the assessment of applications for additional sports and leisure facilities elsewhere in the District.

Assessment

10.48 A Retail Assessment is submitted in support of this application which assesses the capacity for new retail (convenience and comparison goods) floor space arising from the masterplan population and provides a view of the most appropriate scale, mix and types of supporting main town centre uses that could sustainably and viably be supported in the proposed local centre. It then assesses the proposal in light of relevant (sequential and impact) tests set by the NPPF and concludes that the proposal in accordance with the NPPF. We summarise the main conclusions with respect to each proposed sub-category of main town centre uses below.

Retail

10.49 A fundamental design principle of the proposed development is the "walkable neighbourhood," which will encourage residents and visitors to live sustainably by providing a range of necessary facilities and amenities within easy distance of their homes and places of work. To deliver this vision, a new local centre is proposed within the heart of the community within 15 minutes walk of all proposed residential areas.

10.50 The proposed location of the local centre is designed to promote a significant proportion of walk-in trips by local residents and employees, as well as attracting trips by public transport and other modes of travel. It will improve the health of residents by encouraging walking/cycling and providing easy and safe access to expansive green spaces to enjoy the outdoors. The proposed floorspace will provide local choice and sustainable access to important services for proposed and existing residents in the local area, in accordance with the overall vision of the NPPF. It will therefore function as highly sustainable development in accordance with policy objectives.

10.51 The local centre will comprise a variety of new retail, service and community facilities, including a small/medium-sized foodstore, cafes/restaurants, GP and pharmacy, community hall, hotel and other leisure facilities. The permitted uses in the Local centre will be Class A1-A5, B1(a), C1, C2, C3, D1 and D2 (Parameter Plan 3: Land Use). The masterplan proposes a traditional 'High Street' experience as the focus for the local centre. Here, the predominant ground floor use of this area will comprise Class A1-A5, C1, and D1 uses (Parameter Plan 3: Land Use). The location of the High Street has been designed to ensure that it is accessible to the maximum number of proposed residents, and can serve the neighbouring MOD site should it come forward for redevelopment in the future.

10.52 The Retail Assessment submitted in support of the application justifies the quantum of main town centre uses proposed and assesses the proposal against relevant NPPF impact and sequential tests. The catchment area adopted for the purpose of the retail assessment comprises the boundary of the masterplan area which is considered robust and corresponds to the Applicant's desire to create a sustainable mixed-use community.

10.53 The quantum of Class A1 retail floorspace proposed is derived from a retail capacity assessment which forecasts the additional convenience and comparison expenditure which will be created by the proposed local population and estimates the proportion of local spend which is likely to be 'retained' by the proposal. It also considers likely levels of expenditure inflow from outside the population area based on the potential scale and attractiveness of new facilities, as well as proximity to competing facilities.

10.54 With respect to convenience floorspace, the assessment assumes that 80% of total convenience expenditure will be capable of being retained within the proposed masterplan. Together with estimates for inflow (+10%) and trade from business (+5%), the proposed population is sufficient to sustain a foodstore with a maximum of 1,100 sqm (net) convenience floor space.

10.55 With respect to comparison expenditure, the assessment assumes the proposal will retain a much lower amount of comparison goods expenditure from the proposed residential population (10%), commensurate with the tendency for comparison goods floorspace to be concentrated in higher order centres. Together with estimates for inflow (+10%) and trade from business floorspace

(+10%), the proposed masterplan is estimated to generate sufficient demand for 563 sqm (GIA) of comparison floorspace.

10.56 The assessment concludes that roughly one third of total Class A floorspace should comprise additional service businesses, including Class A2 Uses (banks and financial services) and Class A3/A4/A5 Uses (cafes, restaurants and takeaways), launderettes, hairdressers, estate agents, etc. This is informed by a 'benchmark' average floorspace mix of smaller UK retail centres.

10.57 With respect to impact, the quantum of uses proposed is designed to sustain the requirements of the proposed development, not draw in local expenditure from beyond. Overall, we estimate that less than 10% of the turnover of the proposed convenience floorspace could come from residents outside of the proposal. Of this, a large proportion of this would be from employees of the manufacturing area and drive-by traffic. Impact (in terms of trade diversion) would be diversified across a wide geographical area and is therefore unlikely to result in any significant impact on any local centres. With respect to comparison floorspace, we estimate that the majority of local residential expenditure will be absorbed by higher order centres within the District, resulting in a significant positive benefit to existing town centres in the district.

10.58 Local expenditure not attributed to the local shops within the local centre will be spent in existing shops and services within the local area. Overall, the impact of the proposal on local centres is expected to be positive as the proposed population will generate additional spend/patronage which will not be entirely retained within the proposed local centre. Likewise, the proposal will not prejudice any existing or planned investment within town centres within the area. Indeed, it will create new local demand which will not fully be realised by the proposed local centre, which will be capable of being absorbed by existing local centres, stores and services in the local area.

10.59 With respect to the NPPF sequential test, the purpose of the proposed retail floorspace is to enable the creation of sustainable "walking neighbourhoods" which provide access to necessary facilities and services within close proximity of proposed and existing residents. The location retail floorspace within the local centre is designed to serve location-specific needs, which could not be met by provision on alternative sites elsewhere in the District. The proposal is therefore compliant with sequential approach to site selection.

Office

10.60 A total of 1,700 sqm of office (B1a) floorspace is proposed to diversify proposed employment floorspace. Office floorspace will be directed to the local centre (Parameter Plan 3: Land Use) to help encourage activity throughout the day.

10.61 There is no established method for quantifying the potential impact of proposed office uses on existing town centres. The scale of proposed office floorspace is minimal relative to the total quantum of employment floorspace proposed (5%) and designed to complement the overall

employment offer on site. It is not sufficient to trigger a potential impact on any local centre surrounding the proposal.

10.62 As above, the proposed office floorspace within the local centre is designed to help diversify the mix of uses in the local centre and serve location-specific needs which could not be met by provision on alternative sites elsewhere in the district. The proposal is therefore compliant with sequential approach to site selection.

Hotel

10.63 A total of 120 bedspaces are proposed, which could be delivered across one large hotel or multiple small/medium sized hotels. Proposed hotel uses will be directed to support the proposed regional sports facilities, within easy walking distance of the hotel and surrounding residential uses.

10.64 The proposed hotel has been designed to serve the future requirements of the proposed masterplan population. It will:

- Sustain the viability and attractiveness of East Kent Sports Village and the heritage aviation offer;
- Support the operational requirements of the proposed employment area; and
- Visitor overflow (e.g. those visiting residents of the masterplan)

10.65 The proposed hotel is therefore designed to meet locally specific needs which cannot be met by existing hotels elsewhere in the District. The scale of the proposal is driven by operator requirements and is not of sufficient scale to trigger potential for adverse impacts. Indeed, by encouraging visitors and employees to stay in the local area longer, the proposed hotel will increase the propensity for visitors to visit other local attractions. The proposal will therefore not have any significant adverse impact on any town centres.

10.66 With respect to the sequential test, the location of the proposed hotel uses is designed to serve location-specific needs, which could not be met by provision on alternative sites elsewhere in the District. The proposal is therefore compliant with sequential approach to site selection.

Sports and Leisure

10.67 The proposal includes provision for up to 7,500 sqm (GIA) sports and leisure facilities (Class D2), intended to include regionally significant leisure facilities (forming a new 'East Kent Sports Village'), as well as provision of small scale sport/recreation facilities to meet the local needs of residents/workers. These uses will be located at an area of 'transition' connecting the employment and residential areas, and helping to activate open space and public realm.

10.68 The application includes an outdoor 'recreational surface water body' and associated built facilities to be provided. The Applicant's aspiration is that this will comprise a man-made surf lake

(a 'wave garden') which we anticipate will become a regionally significant visitor attraction. The vision is to locate this alongside the swimming pool and supporting outdoor sports/recreation facilities to establish a base for multi-sport activities such as triathlons.

10.69 There is no established method for quantifying the potential impact of proposed sports and leisure uses on existing town centres. The proposal is for regionally significant sports and leisure facilities, one of which is not currently not provided for in Kent (50m swimming pool) and one which will be entirely new to the England (wave garden). On the basis that the proposal will introduce something entirely new to the District, the proposal is unlikely to trigger any impact on existing centres.

10.70 With respect to the sequential test, the Retail Assessment demonstrates that there are no suitable and viable sites in preferable locations in or at the edge of existing centres within the District which are available to accommodate the proposed uses. The proposals therefore accord with the sequential approach to site selection.

Community Facilities

10.71 The proposed development includes 2,400sqm (GIA) museum space and 2,500 of space for community facilities. It is anticipated that the this will include a community centre and GP surgery, provided within the local centre, which are intended to satisfy the social infrastructure needs generated by the proposed development (as assessed in the Social Infrastructure Assessment provided in the ES).

Policy

10.72 As mentioned previously, the NPPF recognises that for larger scale residential developments in particular, planning policies should promote a mix of uses in order to provide opportunities to undertake day-to-day activities and include key facilities within walking distance of most properties. In villages, it promotes the development of local services and community facilities, including local shops, meeting places, sports venues, cultural buildings, public house and places of worship (para 28).

10.73 Local Plan Saved Policy CF1 supports the provision of new community facilities as long as they are not contrary to other policies within the Local Plan and are an appropriate location for community uses. Saved Policy CF3 supports proposals for new education and training facilities subject to satisfying relevant environmental/transport considerations and as long as they are not contrary to other policies in the Local Plan.

10.74 Proposed Policy SM01 of the Preferred Options Local Plan supports proposals for new community facilities provided they are: of a scale to meet the needs of the local community; in keeping with the character of the area; supported by adequate parking and operational space; and

accessible to the local community by walking or cycling. Proposed Policy SP33 states that the Council will support the development of new primary and secondary schools to meet identified needs.

Assessment

10.75 New, enhanced facilities for the museums will be provided along the heritage runway. Space will be designed in consultation with the museums to ensure there is sufficient space for research, education, events, a café and displays. The relocated will be accessible by a means of transport, including cycling and walking, and will be supported by adequate car parking spaces, the exact number of which to be discussed and agreed with the museum operators.

10.76 Up to 2,500 sqm (GIA) of additional Class D1 floorspace is proposed, which is envisioned for use for a variety of community facilities including Community Hall, GP surgery, and creches/nurseries. These uses will be directed to the local centre in order to serve the needs of local residents.

10.77 The scale and location of proposed community facility floorspace is driven by the need to support local demand driven by the proposed population and ensure that the proposed development is a genuinely sustainable, mixed use development. It is therefore fully supported by all policy levels.

Education

10.78 The plan includes provision for two primary schools with a combined capacity of up to 6-forms of entry, as well as a small Higher/Further Education college campus. The Higher/Further Education campus will be located within the mixed-use or employment land use zones. The primary schools will be located within the local centre and/or residential areas, within easy access of the surrounding residential area.

Policy

10.79 As mentioned previously, the NPPF recognises that for larger scale residential developments in particular, planning policies should promote a mix of uses in order to provide opportunities to undertake day-to-day activities and include key facilities within walking distance of most properties.

Assessment

10.80 The masterplan includes scope for the provision of two primary schools which will provide a total of six forms of entry. The proposed primary schools will satisfy the demand for additional spaces which will be generated by the new residential population arising from the proposal and have the potential to accommodate demand from existing communities within the local area (see Socio-

Economic chapter of the Environmental Statement for further details). The primary schools will be located within the local centre zone and/or residential land use zones, within close proximity to the residential population.

10.81 In addition, the masterplan envisions provision of a small Higher/Further Education college campus, which will located within the mixed-use or employment land use zones. The intention is that this campus will train people in the skills needed to support businesses within the hub, as well as allow local employers to cultivate a bespoke, skilled local workforce to support constantly evolving business requirements.

10.82 A working draft of the IDP was published in November 2016. It identifies a wide range of infrastructure required to support overall development proposed in the emerging Local Plan. This includes:

- Affordable housing
- Public transport measures
- Walking and cycling measures
- New/improved roads
- Employment land provision
- Education and social provision
- Health facilities
- New open space provision
- Utilities

10.83 All infrastructure measures identified in the Draft Infrastructure Delivery Plan are included within the proposals.

Summary

- This section assesses each of the proposed land uses and demonstrates that they are acceptable and in accordance with relevant national and local policy.
- There is an acute, sustained housing need in the District, the Council is unable to demonstrate a 5-year supply of housing land and historic housing completions have persistently failed to meet policy targets. In policy terms this means that the presumption in favour of sustainable development contained within NPPF paragraph 14 applies. The proposed redevelopment of the site including provision for 3,700 homes must be given significant weight in the planning balance.
- The proposal includes 46,000sqm of employment floorspace. It is intended that the majority of employment floor space will be taken up for B1(c) and B2 uses, however a wide, mix of traditional employment floor space is proposed in order to allow the flexibility to allow complementary mix of activities to co-locate in an economic hub and drive new forms of activity. The scale and mix of floor space proposed is driven by the aspiration to deliver a

different offer to the market than can be achieved by existing sites, and generate sufficient critical mass and flexibility to allow this growth potential to be realised.

- The new settlement will include a number of Main Town Centre uses, the scale of which have been designed to support the local population and (in the case of East Kent Sports Village) deliver leisure facilities of a regional scope. A Retail Impact Assessment has been prepared which confirms that the mix and scale of new facilities are acceptable and supported by policy.
- The proposal will deliver new community facilities and two 3FE primary schools to meet the needs of the proposed population.
- When considered cumulatively, the proposed uses will ensure that the proposed development is a genuinely sustainable, distinctive place which meets the needs of its residents and visitors and encourages them to live more sustainability. The proposal therefore fully embodies the principles of sustainable development.

11. Detailed Housing Matters

11.1 This section considers the application in light of the following detailed housing matters:

- Density;
- Mix;
- Affordable Housing;
- Elderly Housing; and
- Residential Amenity/Standards.

Density

11.2 The proposal includes a range of residential densities across the site to respond to local context, differentiate each character, and allow for a wide variety of housing types to help create a mixed and balanced community which caters to every stage of life. The densities proposed across the site range from 25dph (at the eastern edges of the settlement area) to 45 dph (directly adjacent to the proposed local centre and fronting the Village Greens).

11.3 The Character Area Plan links to a number of specific controls set out within the Development Specification. Controls specific to each Character Area are introduced and cover: layout, density, extent of the character area, building height, open space, and treatment of the Special Control Area.

Policy

11.4 Saved LP Policy H1 states that the Council will seek to make efficient use of housing land and developments of less than 30 dwellings per hectare would require special justification. Supporting text states that exact density will need to take into account the character of the locality, the need to secure a mix of housing types to meet local demand and the desire to achieve attractive living environments though quality design and optimum use of land. As this policy is relevant to the supply of housing and the Council is unable to demonstrate a five year supply of housing, this policy should be afforded no weight in decision-making.

11.5 The emerging Local Plan does not seek to prescribe target densities for residential developments, stating that " in all instances, the compatibility with the character of the area and the mix of housing to meet local needs or demand will influence design and layout" (paragraph 13.8). Notwithstanding, we note that all proposed strategy and non-strategic housing allocations include a provision that they will provide a maximum 35 dwellings/ha. Again, the Preferred Options Local Plan is based on out-of-date housing evidence, is undergoing substantial revision and has not yet been tested independently by Inspector. This policy should therefore be given limited if any weight.

11.6 The NPPF does not provide any guidance on density, stating that NPPF states that LPAs should set their own approach to housing density to reflect local circumstances (para 47).

Assessment

11.7 A range of residential densities is proposed across the application site. Parameter Plan 6: Density & Height sets three residential density 'typologies' based on the characteristics of the Site and aspirations to create distinct yet complimentary character areas which 'stitch' into the local setting. The three density typologies proposed comprise:

- A 'high' density area (with maximum average density of 45dph and an area tolerance of between 40-50dph), which is located near the local centres and along the Village Greens. This higher density area will allow the proposed development to deliver sufficient critical mass in the 'heart' of the masterplan to activate the local centre and main arterial routes through the site. It will also ensure that a wide range of dwellings can be delivered on Site, including flatted residential units and starter homes.
- A 'medium' density area (with maximum average density of 35dph and an area tolerance of between 30 and 40dph), which radiates outwards from the local centre, extending to the edge of the built up area to the south and north.
- A 'low' density area (with maximum average density of 25 dph and area tolerance of between 30-30dph), which is proposed along the eastern edge of the built up area to respect the rural setting of Manston Village beyond.

11.8 The Development Specification includes controls on the maximum average density of each character area, the acceptable density tolerance, and where density at the higher/lower end of the tolerance will be more appropriate. The proposal purposefully directs higher density towards the Central Character Area in order to provide critical mass to create a focal hub for the new settlement community. Densities at the lower end of the density tolerance are envisioned away from the Local Centre and Primary Vehicular Routes, as well as at the eastern edges of the settlement area.

11.9 The proposed density balances the need to make the most efficient use of need with the requirement to provide a wide range of housing types and character areas, both of which are necessary to attract employers/employees to the manufacturing park and activate the local centre. The overall Site-wide average density, and disposition of residential density typologies across the Site, is therefore considered appropriate and in accordance with relevant policy and guidance.

Mix

11.10 The 3,700 units proposed will be delivered across a mix of sizes, types and tenures, ranging from one to five bedrooms and including apartments and houses. A housing mix is not defined as part

of the planning application. Instead, a condition is proposed that requires a Housing Scheme to be prepared for approval by the Council. The indicative mix proposed is as follows:

- One bed: 10-20%
- Two bed: 30-40%
- Three bed: 30-40%
- Four+ bed: 15-20%

Policy

11.11 The NPPF requires local planning authorities to deliver a wide choice of high quality homes and to plan for a mix of housing in terms of size, type, tenure and range based on local demand (para 50).

11.12 Saved LP Policy H8 states Council will require a mix of dwelling sizes/types to meet a range of community needs, compatible with character of site's locality.

11.13 Proposed Strategic Priority 4 of the Preferred Options Local Plan is to provide homes suited to the needs and aspirations of a settled and balanced community. Proposed Policy SP18 states that proposals for housing development will be expected to address the SHMA recommendations regarding the market and affordable housing types and sizes needed to meet requirements.

Assessment

11.14 The latest SHMA (2016) found Thanet has a significantly above average proportion of flatted homes and a lower proportion of detached properties relative to Kent and the South East. The SHMA concludes that the strongest demand for market housing will be for two and three bedroom properties. For affordable housing, the SHMA identified a greater proportional need for one- and two-bedroom properties. The SHMA recommends that the Council adopts the following mix for all residential dwellings:

- One bed: 10-15%;
- Two bed: 40%
- Three bed: 30%
- 4+bed: 10-15%

11.15 The SHMA recommends the following mix of types of property for private market housing:

- Detached: 25-30%
- Semi-detached: 25-30%
- Terraced: 20-25%
- Flat: 20-25%

11.16 In applying policies on housing mix to individual development sites, the SHMA recommends that regard should be had to the nature of the development site and character of the area, and to up-to-date evidence of need as well as the existing mix and turnover of properties at the local level.

11.17 The proposed development will deliver a variety of unit sizes, broadly in accordance with the recommended dwelling mix set out in the 2016 SHMA. The masterplan will provide more 3+ bed properties, which are currently lacking in the District and are a central component of the aspiration to meet the requirements of target employment occupiers (in keeping with similar developments across the UK and internationally). It is assumed that the proportion of the District's housing need for smaller/flatted units will come forward in town centre locations which are more appropriate locations for these types of units.

11.18 The proposal is therefore appropriate and in accordance with the latest evidence on housing need in the district.

Affordable Housing

11.19 The proposal will deliver a mixture of housing tenures, including the maximum viable proportion of affordable housing having regard to relevant local policies. For the purposes of this assessment, we have assumed that affordable housing will comprise 15% of total units, with a split of 40% Affordable Rent and 60% Intermediate (shared ownership, discount market sale, and/or 'starter homes').

Policy

11.20 The NPPF outlines the Government's support for the delivery of a wide choice of high quality homes across all tenures and sizes, including the provision of affordable homes (para 50).

11.21 Local Plan Saved Policy H14 states that the scale of affordable housing which is reasonable and appropriate on any particular site will be a matter for negotiation between the developer and the Council; however the starting position for affordable housing offer on site will be 30%. This policy is out-of-date and will therefore hold limited weight.

11.22 Proposed Policy SP19 of the emerging Local Plan states that residential schemes will be expected to include an element of affordable housing equating to 30%. Supporting text indicates that the Council will seek a split of 70% social rented and 30% intermediate, subject to the conclusion of the SHMA.

11.23 The 2016 SHMA identifies a recommended tenure split of 84% social/affordable rented and 16% intermediate units based on the current version of affordable housing. The SHMA offered an alternative target split of 65% social rent, 18% affordable rent and 17% Starter Homes, having

regard to the Government's current proposals to extend the affordable housing to encompass a fuller range of products (including Help to Buy and Starter Homes).

11.24 As stated previously, the 2016 SHMA identifies a greater proportional need for one- and two-bedroom properties in affordable tenure; however there remains a need for a balanced mix of dwellings of different sizes to come forward with delivery of larger properties being important in meeting the needs of households with an acute housing need, and releasing existing properties for other households.

11.25 The NPPF states that Local Authorities should set their own local policies for affordable housing. With respect to plan-making the NPPF states that "to ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements should, when taking account of the norma*l cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverabl*e" (para 173).

Assessment

11.26 The housing component of the development will include a mix of tenures, including the maximum viable proportion of affordable housing having regard to the district's policy target of 30%. The actual affordable proportion will be subject to negotiation with the LPA during the determination stage (on the basis of viability evidence submitted with the application). The tenure mix will be controlled by s.106 planning obligation.

Elderly Housing

11.27 The proposals seek permission for a maximum of 250 of the total 3,700 dwellings proposed to be provided as age-restricted units for the elderly persons (to comprise bedspaces under Use Class C2 or dwellings under Use Class C3). These could comprise a number of products including retirement housing, extra-care/assisted living, residential care, residential nursing).

Policy

11.28 The 2006 Local Plan is silent on the need to plan for housing for elderly residents within the District, however we note that supporting text refers to a shortfall of suitable housing for elderly residents within rural areas.

11.29 Proposed Policy H07 of the Preferred Options Local Plan states that the Council will approve applications that provide good quality accommodation that is needed to support the housing and care requirements of Thanet's community. Where such accommodation falls within Use Class C2, proposals will be expected to demonstrate that they are suitably located to meet the needs of occupiers, including proximity and ease of access to community and services and acceptable with surrounding land uses.

11.30 The NPPF states local planning authorities should plan for a mix of housing based on current and future demographic trends, market trends and the needs of different groups in the community, including older people.

Assessment

11.31 The 2016 SHMA indicates that residents in Thanet that are over 65 account for a significant 23% of the District's total population. As life expectancy continues to improve, the number of residents aged over 65 is projected to increase by 54% over the plan period (up to 2031). Particularly strong growth is expected in those aged over 75. The SHMA indicates that there are currently 1,674 units of specialist housing for older persons across the District, and that an additional 1,459 are required over the plan period (an increase of 87%). There is therefore clear evidence of need for properties which are capable of accommodating the requirements of the growing elderly population.

11.32 The proposals will deliver 17% of the Council's total projected requirements over the plan period. Housing for older people will be fully integrated within the proposed masterplan, in keeping with the overall aspiration to create a 'total place' where residents will be catered for throughout all stages of life. The provision of specialist housing for the elderly is therefore considered fully supported at all levels of policy.

11.33 Parameter Plan 3: Land Use allows for the possible provision of elderly housing in residential areas, the local centre, and mixed-use area. All elderly housing will be within a 15 minute walk of the local centre. The exact location of elderly housing will be subject to separate Reserved Matters, however will be encouraged as close to the local centre as necessary to ensure safe and convenient access in balance with other design considerations (such as noise attenuation and proximity to open space).

Residential Standards

11.34 The Proposed Development will deliver high quality new homes that will aspire to fully accord with applicable planning policy standards.

Policy

11.35 The National Planning Policy Framework says that local planning authorities should identify the size, type, tenure and range of housing that is required in particular locations, reflecting local demand. The DCLG's 'Technical housing standards – national described space standard' (March 2015) sets national internal space standards for new residential development.

11.36 Saved Local Plan Policy H8 states that 15% of new residential development will be expected to be designed as Lifetime Homes and Wheelchair Housing.

11.37 Proposed Policy H08 of the emerging Local Plan states that at least 20% of residential dwellings across all tenures are constructed to Lifetime Homes, with a minimum of 2% of all dwellings to be constructed to Wheelchair Accessible standards.

Assessment

11.38 We propose that a condition is attached to any planning consent which requires the submission and approval of a Design Code, which will provide overarching guidance to future design teams involved in the preparation of Reserved Matters Applications for the development of the outline consent. This document will set the residential design standards which must be adhered to in the detailed design of residential buildings. The Design Code will require new development to fully comply with the requirements of the Lifetime Homes Standards and the Wheelchair Housing Standards. The Proposed Development is therefore in accordance with relevant policy and guidance.

Summary

- The proposal includes a range of residential densities across the site to respond to local context, differentiate each character, and allow for a wide variety of housing types to help create a mixed and balanced community which caters to every stage of life.
- Although the application is in outline form, detailed housing matters have been considered at an early stage and are embedded within the masterplan as set by the proposed Parameter Plans and Development Specification.

12. Other Planning Considerations

12.1 This section considers the application in light of other relevant planning considerations, which comprise:

- Heritage;
- Design/Layout;
- Open space and recreation;
- Landscape and Visual Impact;
- Transport;
- Energy and Sustainability;
- Environmental/Technical; and
- Estate management.

Heritage

12.2 The proposal will re-use and repurpose of the existing runway to create a 1199m long operational runway for heritage aviation use. The remainder of the runway will be retained and repurposed to form a new publically accessible area capable for use for sports, recreation and community events (markets, etc.).

12.3 The proposal also includes the retention and integration a number of existing buildings within the masterplan, including:

- the Fire Station (building ref. B8), the 'old' Control Tower (building ref. B14 & B14a), and the 'modern' Control Tower (building ref. B9) all of which are subject to proposed Change of Use to flexible community/sport/recreation use (Class D1/D2); and
- retention of a number of other elements of fixed infrastructure including sub-station, radar dishes and remnants of former airport use, which will be integrated within the proposed masterplan (building ref. B35, B39, B40).

Policy

12.4 As there are no designated heritage assets on Site, national and local policies relevant to conservation/enhancement are not relevant. However, Paragraph 131 of the NPPF states that new developments should make a positive contribution to local character and the distinctiveness of an area. Likewise, Strategic Priority 4 of the Preferred Options Local Plan seeks to "*safeguard local distinctiveness and promote awareness, responsible enjoyment, protection and enhancement of Thanet's environment*."

Assessment

12.5 Although there are no statutory or locally listed heritage assets within the Site, the results of the extensive pre-application public consultation undertaken to inform the application proposals has made it clear that there is strong local attachment to and respect for the airfield history of the Site.

12.6 The western most part of the runway will be retained and safeguarded for heritage aviation use. The museums will be relocated adjacent to the runway to create a new cultural and historic hub, supported by cafe and the operational aerodrome. As outlined in the Environmental Statement, it is intended that the heritage runway will be used only by heritage aircraft with up to 1,100 annual movements with the highest on any one day being six (i.e. three take-offs and three landings). All flights will be during daytime hours (07:00 to 19:00 hours) and there will be no air shows unless otherwise approved and accompanied by necessary assessment. The use of the airport would be strictly controlled to ensure there is no disturbance to existing or future residents.

12.7 The remainder of the runway will be repurposed for use as recreational area unique to Thanet. We anticipate that the runway area will be subject to a detailed open space management plan, to ensure that this significant recreational feature is managed in a way that capitalises on its recreational and open space value.

12.8 The proposal therefore seeks to retain and reuse a number of existing buildings within the Site that have perceived local historic value. These buildings will be given a new lease of life and integrated within the heart of the proposed development.

12.9 Chapter 10 of the Environmental Statement provides further detail on the Site's archaeology and cultural heritage and confirms that the proposal is acceptable in planning terms.

Design/Layout

12.10 The layout of the masterplan focuses employment at the western end of the Site, with proposed residential uses generally to the centre and east, clustered around the main local centre. East Kents Sports (with provision for a 50m indoor swimming pool and outdoor Wave Garden and network of outdoor facilities) which will act as the interface between the two.

12.11 The settlement will be served by one main Local Centre which will be located in the heart of the development. It will be situated on a Village Green and anchored by a traditional 'High Street', centrally located in order to serve the needs of proposed residential and employment areas.

12.12 The masterplan has been designed to achieve a coherent development framework for a new settlement, which has been designed to work coherently with the neighbouring MOD site should it come forward for development in future. The location and orientation of the High Street has been

designed to ensure that it could also serve the neighbouring MOD site, and additional guidance has been included within the Development Specification to ensure suitable pedestrian and cycle connections are made to 'future proof' the Local Centre.

12.13 The eastern edge of the proposed built up area is set back from the ownership boundary in order to provide space between the development and Manston Village adjacent.

12.14 The southern edge of the site is defined primarily by the existing runway, which also forms the Site ridgeline. Development along this edge should be staggered and will be subject to 'Special Controls' to ensure that the detailed design of buildings along this edge do not cause significant adverse visual impacts from viewpoints to the south.

12.15 The extent of the western employment area responds to the extent of the Manston Business Park strategic allocation and committee resolution to grant floorspace here. The western edge of the built up area here is set back from the western most extent of the Site ownership in order to limit the visual impact of the proposal from Minster roundabout.

Policy

12.16 One of the core planning principles set out in the NPPF is the requirement to always seek to secure a high quality design and a good standard of amenity for all existing and future occupants of land and buildings (para 17).

12.17 Good design is identified as a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people (Para 56). The NPPF (para 58) states that planning policies and decisions should aim to ensure that developments:

- Will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
- Establish a strong sense of place, using streetscapes and buildings to create attractive and comfortable places to live, work and visit;
- Optimise the potential of the site to accommodate development, create and sustain an appropriate mix of uses (including incorporation of green and other public space as part of developments) and support local facilities and transport networks;
- Respond to local character and history, and reflect the identity of local surroundings and materials, while not preventing or discouraging appropriate innovation;
- Create safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion; and
- Are visually attractive as a result of good architecture and appropriate landscaping.

12.18 Saved Local Plan Policy D1 sets out a number of design principles required to provide high quality and inclusive design, sustainability, layout and materials. Proposals will only be permitted if they:

- Enhance character/appearance of surrounding area particularly in scale, massing, rhythm and use of materials appropriate to the locality;
- Are compatible with neighbouring buildings/spaces and do not lead to unacceptable loss of amenity through overlooking/noise/vibration/sense of enclosure;
- Incorporate a where practicable high degree of permeability for pedestrians/cyclists;
- Incorporates disabled access;
- Retains open spaces and gaps in development;
- Incorporates new landscaping as integral part of development;
- Incorporates wildlife habitats where appropriate;
- Incorporates measures to prevent crime;
- Incorporates, where practical and appropriate, high quality public art relevant to the site and locality;
- Provides safe and satisfactory pedestrian access; and
- Incorporates sustainable urban drainage systems (SUDS),

12.19 Policy QD01 of the emerging Local Plan proposes to carry forward criteria set in the 2006 Local Plan.

Assessment

12.20 The proposed masterplan has been influenced by pre-application consultation undertaken with the local community, Design Review Panel, TDC/KCC officers, and technical/environmental experts in statutory bodies.

12.21 The Design and Access Statement explains the design rationale supporting the proposed development and confirms that it is an acceptable design/layout.

12.22 The masterplan has sought make best use the redevelopment opportunity that exists in this accessible, brownfield location, whilst responding to the individual characteristics of the Site and its setting. The masterplan incorporates and builds upon the key design principles promoted by the NPPF and existing and emerging Local Plan. In particular it:

- Places the aspiration to create a sustainable, walkable, genuinely mixed use environment at the heart the design process in order to deliver the Applicant's vision to create a place where people can live, work and play;
- Improves connections through and to the Site, including creation of new pedestrian/cycle paths, roads, and the creation of significant new green network of paths and recreation areas for use by all;
- Capitalises on the Site's unique character and history, making new use out of existing heritage features such as the runway and a number of former airport-related buildings in order to respect the history of the Site and use it to create a unique sense of place;

- Delivers a rational arrangement of buildings and mix of uses which will support the creation of an advanced manufacturing hub at the western end of the Site, linked to and supported by a new, genuinely sustainable and mixed use residential community;
- Supports the creation of distinct character areas throughout the Site;
- Places the delivery of high quality public spaces which are accessible to all at the heart of the design process;
- Proposes a significant amount of new green infrastructure, incorporating a wide variety of new landscape, recreation areas, sports facilities, biodiversity features, and sustainable drainage;
- Respects the local context of the Site, minimising visual impacts from surrounding settlements by introducing significant setbacks from the Site boundary, requiring special controls over the location of buildings along the southern edge, and where appropriate introducing new landscape features to help filter views through to the proposed development;
- Is the result of an extensive design process with the determining authorities and other stakeholders, including the local community;
- Includes provision for SUDS;
- Is informed by a viable phasing strategy which is adaptable and amenable to future change; and
- Will be subject to a Design Code which will be secured by condition and will set the design language for future Reserved Matters Applications.

12.23 A Design Code will be secured by condition which will cover how the principles set out in the DAS are applied to future Reserved Matters applications. The masterplan is therefore considered to be in compliance with the design principles set out in national, regional and local policy guidance.

Open Space and Recreation

12.24 The masterplan includes over 139ha of new open space which will be used for a variety of uses, including landscaping, recreation, and habitat creation. The total undeveloped area of equates to one third of the total Site area. The most significant feature will be the runway, of which no less than 50% will be retained in situ and managed to create a unique new outdoor recreational space. In addition, a network of green spaces will be created within each development zone which will connect to larger green areas proposed.

12.25 Open space will be provided across a variety of typologies, including:

- Parks, Formal Gardens and Recreation Grounds which will provide accessible, high quality opportunities for a range of informal recreation, formal sporting opportunities and community events;
- Natural and Semi-Natural Green Spaces including new publically accessible woodlands or for wildlife conservation, biodiversity and raising environmental education awareness;

- Outdoor Sports Facilities, including playing pitches, bowls and croquet greens, tennis courts;
- Amenity Green Space, which will provide opportunities for informal activities close to residential areas;
- Children's Play, including dedicated, informal, and interpretative/incidental play space; and
- Allotments.

12.26 The Development Specification includes requirements for the creation of open space within each defined Character Area. The Development Specification also specifies the maximum distance any residential dwelling can be from Local Areas for Play (LAP), Local Equipped Areas for Play (LEAP) and Neighbourhood Equipped Areas for Play (NEAP).

12.27 A Site-Wide Management Strategy will be secured by condition which will provide details on the management and use of open space, public realm, child play areas, ecology areas and the overall estate. All future Reserved Matters will need to comply with this over-arching strategy.

Policy

12.28 The NPPF recognises that access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities.

Open Space

12.29 Saved Policy D2 of the Local Plan requires that on development sites of one hectare or more, native tree planting must cover 10% of the site. This policy is considerably out-of-date, overly prescriptive, and unsupported by evidence. It can therefore hold limited (if any) weight.

12.30 Policy SP23 of the emerging Local Plan states that developments should make a positive contribution to Thanet's green infrastructure network by (amongst other things) providing and managing new accessible open space. Policy SP27 states that the Council will require provision of suitably and conveniently located areas of usable amenity space, adequate to accommodate the demands for passive recreation generated by proposed residential development. Sites of 50 dwellings or more will be required to provide sufficient space to meet the following standards:

- 2ha of natural and semi-natural green space per 1,000 population
- 1.06ha of urban and country park per 1,000 population;
- 0.19ha of allotments per 1,000 population;
- 0.5ha of amenity green space per 1,000 population; and
- 0.7ha of equipped play areas per 1,000 population.

12.31 We note that these targets are based on the conclusions of the 2005 Open Space Assessment and can therefore hold limited weight.

12.32 Proposed Policy GI04 states that the type and amount of open space will depend upon the size and location of the development, existing open space near the Site, and the number of people likely to live in the proposed development.

Outdoor Recreation

12.33 Saved Policy SR4 states that the Council will seek a financial contribution for the provision of sports land and facilities together with a commuted payment for continuous maintenance. Supporting text indicates that this policy will not apply to developments which are able to accommodate open sports facilities within the actual site.

12.34 There are no relevant policies in the emerging Local Plan.

Child Play

12.35 Saved Policy SR5 of the 2006 Local Plan states that where a development includes 50 or more residential units, developers will be required to provide 0.7 hectares of play space on site per 1,000 population. This should be made up of 36% equipped play area and 64% casual or informal play space. Local play area provision should be available within a maximum safe walking distance of 200 metres from any dwelling incorporating one or more child bedspace. New family dwellings will also be expected to incorporate garden space in order to provide a safe 'doorstep' play area for young children. This will be immediately adjacent to, closely visible and safely accessible from the dwelling served.

12.36 Proposed Policy QD02 of the emerging Local Plan states that residential development should include provision of private or shared external amenity space/play space. Proposed Policy GI04 states that new family dwellings will be expected to incorporate garden space in order to provide a safe 'doorstep' play area for young children.

<u>Assessment</u>

Open Space

12.37 Although open space standards set out in Policy SP27 of the Preferred Options Plan are based on evidence which is now considerably out of date, it is the only published standard available for assessing the proposal. Based on these standards, the proposed masterplan population (as estimated within the ES) would trigger the requirement for:

- 18.5ha of natural and semi-natural green space
- 9.8ha of urban and country park
- 1.75ha of allotments
- 4.6ha of amenity green space and
- 6.5ha of play areas

12.38 In total, the proposal will deliver 133ha of new open space for public use and enjoyment, far exceeding policy guidance. It is also relevant that the Site has never previously been accessible to the public, and will therefore result in a significant net addition to overall district-wide open space provision.

12.39 The Environment Statement confirms that the level of new provision will be sufficient for the new population generated by the Proposed Development and will help in alleviating existing demand for green space.

12.40 The disposition of development zones across the site have been designed to support a variety of public spaces across the Site. These will be connected by a network of green and amenity spaces which will be provided within development zones.

12.41 A variety of types of open spaces will be provided in accordance with policy guidance. Details of the location, typology, and management of open spaces will be subject to a Design Code which will be secured by condition.

Outdoor Recreation

12.42 The masterplan will support the development of healthy communities and genuinely sustainable neighbourhoods by embedding an element of sports and/or recreation use within the overall green/open space offer. This could take the form of trim trails, outdoor gym equipment, a demarcated running/hiking route, etc.

12.43 A Design Code will be secured by condition which will provide further detail on the management of outdoor recreation spaces.

Child Play

12.44 The Environment Statement confirms that the proposal generate a new population of 974 children under 11 years old and 740 youth between 12 and 18 years old. Applying the formula set out in Saved Policy SR5 of the 2006 Local Plan and replicated in proposed Policy GI04 of the emerging Local Plan, the masterplan would generate demand for demand for:

- 6.5ha ha of equipped play space; and
- Additional youth facilities.

12.45 The amount of open space allocated to support the proposed development is more than sufficient to accommodate policy requirements. The Design and Access Statement sets out principles to guide future provision of child play space. A Design Code will be secured by

condition which will cover how the principles set out in the DAS are applied to future Reserved Matters applications.

Landscape and Visual Impact

12.46 The parameter plans set the extent of the Site on which new built form can be developed and incorporate a number of inherent controls to minimise the visual impact of the proposed development on the surrounding area, including:

- significant green 'wedges' around the proposed built up area, particularly to the east (to provide separation from Manston Village) and north;
- proposed areas of new woodlands along the eastern boundary of the site to help filter views from Manston Village;
- controls to the overall height of proposed buildings;
- creation of a 'Special Control' area along the southern edge of the built up area, within which new buildings must be staggered and will be subject to further detailed testing of visual impact;
- drawing a 'hard edge' at the Site ridgeline, with no development proposed to the south of the runway.

12.47 The Development Specification includes additional controls and guidance on the detailed design of buildings within the Special Control Area to ensure that the design approach is sympathetic to views from the wider surrounds. The scale and density of built form within the SCA will be subject detailed testing as part of Reserved Matters applications and must be informed by a Landscape and Visual Impact Assessment.

Policy

12.48 The Site is located within Central Chalk Plateau Landscape Character Area. Saved Policy CC2 states that particularly care here should be taken to avoid skyline intrusion and the loss or interruption of long views of the coast and the sea. Proposals which conflict with this principle will only be permitted where it can be demonstrated that they are essential for the economic or social well-being of the area.

12.49 Proposed Policy GI06 of the Preferred Options Local Plan proposals should be supported by a landscape survey. This should describe the current landscape features on the application site, and demonstrate how the proposed development will provide landscaping and green infrastructure to enhance the setting of the development to:

- Create an attractive environment for users and occupiers;
- Establish a sense of enclosure with hedges and trees;
- Soften hard building lines and the impact of new buildings;

- Provide screening from noise and sun;
- Create new wildlife corridors and stepping stones; and
- Create new wildlife habitats and improve biodiversity.

12.50 It goes on to state that the Council will need to be satisfied that the developer has made adequate arrangements to ensure continued maintenance of landscaping, and may seek to secure arrangements for this purpose by entering into a planning agreement.

Assessment

12.51 The Environmental Statement confirms that the visual impact of the proposal is acceptable from various long and short distance viewpoints.

12.52 The proposal includes a significant amount of open space which will be publically accessible to all. The disposition of development zones has been designed to retain open gaps in development form, respect the setting of the proposal in relation to nearby settlements, and minimise the visual impact of the proposal from the surrounding area.

12.53 The Parameter Plans specify a special area of control, where buildings will be subject to further detailed testing to minimise visual impact from the south.

12.54 The proposal includes substantial areas of new landscaping, including new woodland planting is proposed to help filter views of the development from Manston Village from the east. We propose a condition is attached to planning consent to cover the maintenance of landscaped areas.

Transport

12.55 The proposal incorporates new means of access to and through the Site for vehicles, public transport and pedestrian/cyclists, the details of which are set out in the Transport Assessment submitted with the application. The Transport Assessment also assesses the impact of the development on the road network and sets out off-site highways improvements required to ensure that the proposal will not have an unacceptable impact on the highway network.

Policy

12.56 The NPPF states that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Para 32 states that plans and decisions should take account of whether:

- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- safe and suitable access to the site can be achieved for all people; and

- improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

12.57 Developments that generate significant movement should located where the need to travel will be minimised and the use of sustainable transport modes can be maximised (para 34). It requires all developments which generate significant amounts of movement to provide a Travel Plan (para 36).

12.58 Saved Policy TR3 states that the District and County Council will ensure that proper provision is made for transport infrastructure that is necessary and relevant to the development to be permitted by means of legal agreement. Proposals for transport infrastructure will be assessed in terms of their impact on capacity and safety of the transport network together with their social and economic impacts.

12.59 Saved Policy TR12 seeks to promote increased use of cycling. The Council will seek the incorporation of facilities for cyclists into the design of new and improved roads/junctions. New residential development should include facilities for the secure parking and storage of cycles. This is repeated in proposed Policy SP36 of the Preferred Options Local Plan.

12.60 Proposed Policy SP36 of the emerging Local Plan states that development proposals will be assessed in terms of the type and level of travel demand likely to be generated. Development will be permitted only at such time as proper provision is made to ensure delivery of relevant transport infrastructure. Where appropriate, development will be expected to contribute to the provision, extension or improvement, of walking and cycling routes and facilities and to highway improvements.

Assessment

12.61 A Transport Assessment is submitted in support of the revised proposal and summarises the results of a full strategic model which has been developed to test the impact of the development on the surrounding transport network.

Vehicles

12.62 Vehicular access to the proposed development will be achieved from seven main points of access as follows:

- The principle point of access in the south will be located on the A299 Hengist Way at the Cliffsend Roundabout. A fourth (northern) arm will be constructed to facilitate access.
- Access to the northern part of the site will be taken from Manston Road. A new north-south access road will be provided across the site facilitating access to the development but also

serve as a phase of the Link to Westwood Cross proposed within the Thanet Transport Strategy that accompanies the draft TDC Local Plan. This link road will commence with a four arm roundabout junction in the south connecting Manston Road and the southern development site. Heading north, access points in the form of priority junctions will be provided to facilitate access to the development zones and the road will terminate at the northern boundary of the site where a further phase of the Link to Westwood Cross will be able to tie in.

- A new roundabout junction will be provided on Spitfire Way as the main point of access on this road and will serve the heritage, leisure and residential areas.
- Two new access points to serve the new employment uses on Spitfire Way. These will take the form of priority junctions. The western most access will feature a ghost island right turn lane.
- An access on Spitfire Way to serve the aviation uses.
- An access onto Manston Road in the north west of the site to provide additional permeability to the northern development zones.
- Access to the retained buildings on Spitfire Way to be provided from existing point of access.

12.63 The development will include the provision of a new north-south link between the A299 Hengist Way in the south and the northern most part of the site, providing the first phase of a the strategic transport link to Westwood Cross set out in the Thanet Transport Strategy.

12.64 There is a shared aspiration for this link road to be delivered over the plan period, as it is required in order to accommodate projected population growth across the District. Since submission of the application, the Applicant has worked with KCC as the highway authority and contributed towards a study to develop a scheme design and estimate the likely costs of delivering this link road. This link road falls across multiple land ownerships and delivery will therefore require coordination and delivery by the relevant authorities. SHP have made a commitment to contribute towards the delivery of this link road at a time specified by KCC. Until that time, and in order to facilitate the development a package of off-site mitigation works capable of being delivered on the public highway have been put forwards that are capable of mitigating the impacts of the proposal.

12.65 The proposals will restrict access between the A299 and Manston Road by not completing any through road links until such a time as this link road Is provided.

Public Transport

12.66 Bus access to the site will be phased and secured through a comprehensive Public Transport Strategy tied to the S106 agreement that has been agreed in principle with the operator Stagecoach East Kent and Kent County Council.

12.67 Initially it is proposed to provide additional bus stops on the roads surrounding the site (Spitfire Way and Canterbury Road West) to facilitate access to existing services. At an appropriate trigger point it is then proposed to extend an existing route that serves Westwood Cross and Ramsgate

railway station to the site. Further triggers to then divert services within the site will then be secured through the S106 agreement. In the longer term implementation of a new service to link the strategic sites on the Haine Road corridor with Westwood Cross, the proposed Parkway Station and Discovery Park has been allowed for in the strategy.

Walking and Cycling

12.68 Pedestrian and cycle access to the site will be enhanced through the introduction of a series of new permissive rights of ways that will cross the development connecting with existing routes off-site. New crossing points will be introduced on the surrounding highway network to facilitate onward connections including:

- Minster Road to the west of the site to link with existing pedestrian/cycle facilities at the Minster Roundabout
- Manston Road to facilitate a crossing to link the public rights of way in the area

12.69 Improvement of bridleway TR10 will provide a high quality pedestrian and cycle link to the east of the site to connect with Ramsgate and the railway station, and improved linkages to/from the proposed Parkway Station will be delivered when the station is opened.

Impact

12.70 The Transport Assessment proposes a number of mitigation measures designed to provide additional capacity in order to support the development, and reduce its overall effect on the surrounding transport network. The final measures to be implemented will be the subject of on-going and post-application discussions with KCC and the results of the strategic transport model that is being prepared. It is anticipated that any agreed mitigation measures will be secured by condition or through the S106 agreement attached to any planning permission.

Energy and Sustainability

12.71 The masterplan has been designed to incorporate passive solar design principles and a SUDs drainage system. A high quality green space network provides future employees and residents attractive open spaces and walking routes.

Policy

12.72 The NPPF sets out the Government's priority in delivering sustainable development. Development proposals are expected to comply with local requirements and should take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption and to increase the use and supply of renewable and low carbon energy.

12.73 There are no policies relevant to energy or sustainable in the Adopted Local Plan. Policy CC04 of the emerging Local Plan states that all new buildings and conversions of existing buildings must be designed to reduce emissions of greenhouse gases and function in a changing climate. All developments will be required to achieve a high standard of energy efficiency in line with most recent government guidance and make the best use of solar energy passive heating and cooling, natural light, natural ventilation and landscaping. All new buildings and conversions of existing buildings must be designed to use resources sustainably. This includes, but is not limited to:

- re-using existing buildings and vacant floors wherever possible;
- designing buildings flexibly from the outset to allow a wide variety of possible uses;
- using sustainable materials wherever possible and making the most sustainable use of other materials; and
- minimising waste and promoting recycling, during both construction and occupation.

Assessment

12.74 Sustainability is at the heart of the masterplan design process. The applicant's vision and overarching aim is to create a sustainable mixed-use environment that enables more people to work, shop and access day-to-day services close to whether they live. Sustainability features are embedded within the masterplan itself, including (but not limited to):

- the "walkable neighbourhood," encourages residents, employees and visitors to live sustainably by providing a range of necessary facilities and amenities within easy distance of their homes and places of work. All proposed residential development is within the 15 minute catchment area.
- the proposal will comprise a wide choice of residential accommodation by size, type and tenure (including elderly provision), enabling people to move through different stages of life without needing to move away.
- The masterplan requires all vehicular routes to incorporate suitable provision for cyclists and pedestrians. Primary and secondary routes will incorporate cycle provision either on or off carriageway.

12.75 The submitted Energy and Sustainability Strategy (ref. 1-8) confirms that the proposed development will meet minimum national building regulations (Part L 2013), and aim to exceed this by ensuring regulated carbon emissions for the buildings are 10% below these requirements. This will be accomplished through a mixture of improving building fabric above notional values as well as through the use of renewable energy most likely in the form of photovoltaic solar panels. This strategy applies to both the domestic and commercial elements of the proposed development.

12.76 The proposal is therefore in accordance with national and local policy.

Environmental/Technical

12.77 The application is accompanied by an Environmental Statement (ES) that presents the findings of the assessments that were undertaken as part of the Environmental Impact Assessment (EIA). The ES includes a detailed assessment of the following matters:

- Socio-economics and population;
- Transportation and access;
- Noise and vibration;
- Local air quality;
- Biodiversity;
- Landscape and visual effects;
- Archaeology and cultural heritage;
- Water resources, flood risk and drainage;
- Ground conditions, hydrogeology and contamination;
- Artificial lighting; and
- Climate change

12.78 In overall terms, the ES concludes that the proposed development is appropriate in terms of local and national policy and is considered to be of a design that addresses and responds appropriately to the Site's prevailing environmental considerations.

12.79 The ES has identified some adverse effects that are predicted to arise as a result of the Proposed Development. In particular,

- The Biodiversity chapter (10) identifies the potential for minor negative effects on some species (Brown Hare, common and wintering birds, and barn owls). Mitigation measures are proposed to minimise these effects and include a dog management strategy, encouraging the use of amenity areas by the public, prevention of access to replacement roosts, and use of sensitive lighting. These will be secured by condition.
- The Transport chapter (7) identifies a moderate negative effect on driver delay is anticipated at two junctions. In junction delay terms these effects are minor and are unlikely to be material on a day to day basis, nonetheless, the Applicant commits to work with KCC to find a solution to the moderate negative effects identified.
- The Landscape and Visual chapter (11) identifies six visual receptors are predicted to have moderate negative effects. These are a 'worse case' scenario due to the limitations of the visual representation on the Maximum Parameters within the view montages. The Development Specification proposes specific controls to influence detailed design of the Special Control Area to minimise any negative effects.

12.80 The ES identifies that the redevelopment of the scheme is also predicted to result in many positive environmental effects across a range of disciplines. The overarching benefit of the scheme to be derived from redeveloping the Site to deliver a mixed use development that creates new homes, jobs and sustainable growth is considered to outweigh those negative environmental effects that have been identified in the ES.

Estate Management

12.81 The intention is to transfer 'Primary' roads to the Highway Authority for adoption. All other common areas (including estate roads and public open space) will be held in private ownership.

12.82 A Site-Wide Management Strategy will be secured by condition to ensure a balanced approach and coherent approach to the management of the estate (including public realm, child play space, open space, publically accessible areas (such as roads), ecological areas, etc.).

Summary

- This section has considered the application across a range of relevant planning matters and demonstrated that the proposal would not result in any significant adverse impacts that could not be mitigated.

13. Economic Benefits

13.1 The proposed development will deliver significant economic benefits which must also weigh in the planning balance.

Employment Opportunities

13.2 The proposal will generate direct permanent and temporary job opportunities, as well as indirect job creation through the construction phase. In total, it is estimated that the proposal will create:

- 1,474 (FTE) direct permanent jobs on site in the various land uses proposes;
- 1,732 (FTE) direct temporary (construction) jobs, of which 666 will be direct construction jobs on site and the remainder would be through increased demand for construction labour in the immediate supply chain; and
- 9,620 (FTE) indirect induced jobs, supported by the increased wages of the local population and construction workers who will be working on site.

13.3 See Appendix 19 for further details on job creation.

13.4 Once in employment, the employment floorspace created with the development will play an important role in up-skilling the local workforce.

Local Economic Output

13.5 Another way of looking at the impact of the masterplan is by economic output. The masterplan development will increase the economic output of the local area, a proportion of which will be distributed back into the economy through local wages and occupier profits. Induced impacts arise from the increase in local expenditure as a result of new residents, employees and businesses in the masterplan buying goods and services from the local area.

13.6 Applying a conservative average of £20,723 per job (average Thanet 'workplace' salary in 2015), the proposed floorspace will generate salaries of **£31.1m** per year by completion (without taking into account inflation or improvements in salary). Even assuming a proportion of these salaries will be spent outside Thanet, this still represents a significant pool of economic output which will create additional uplift to the Thanet Area.

Retail and Leisure Expenditure

13.7 The proposed new homes represent a net gain to the local economy as the new population will increase retail expenditure capacity in the local area (i.e. introduce a need for top-up and main-convenience and comparison goods retail and leisure services).

13.8 Assuming a population of c.8,140 (based on a 3,700 unit scheme and an average household size of 2.2 persons; and annual expenditure of £5,964 (comparison), £2,544 (convenience) and £3,978 (leisure) per person at 2036 (allowing for site build out) it is estimated that the proposed housing in the masterplan will increase local retail and leisure expenditure capacity as follows:

- Convenience retail: £20.7m
- Comparison retail: £18.5m
- Leisure spend: £32.4m

13.9 Much of this expenditure will be retained in the District which will represent a significant boost to the local economy and is anticipated to have a regenerative effect, helping to increase the trading performance of existing shops and services in the locality and providing opportunity for new facilities to be sustained locally (boosting the overall vitality and viability of the District's centres).

Local Authority Fiscal Effects

13.10 The New Home Bonus is a grant paid by central government to local councils to reflect and incentivise housing growth in their areas. Based on the number of homes proposed, the proposed development would generate a New Homes Bonus of 4

13.11 The proposal would also result in increased revenue streams to the Council as a result of Business Rates and Council Tax receipts. For the latter, based on the average Council Tax rate of £1,888 for 2015-2016 rates across all bands (A-H), the housing will generate an additional **£7.0m** of Council Tax receipts for the council annually.

Summary

- The following economic benefits are anticipated to be derived from the proposed masterplan by its completion:
  - 1,474 (FTE) direct permanent jobs generating total salaries of more than £31.1m per annum
  - 1,732 FTE direct temporary (construction) jobs arising on-site
  - 9,620 (FTE) indirect jobs, arising from off-site construction and the supply chain
  - £69.3m of retail and leisure expenditure from the estimated 8,140 new local residents in the masterplan area;
  - New Homes Bonus of £41.9m
  - Annual Council Tax receipts of £7.0m
  - Business receipts

14. Conclusions

14.1 This Planning Statement explains why Proposed Development is being promoted and assesses it against the applicable national, regional and local planning policy and guidance. It summarises the key planning considerations that arise within this context and concludes overall that the Masterplan meets the overall objectives of national, regional and local policy to deliver sustainable development on previously developed land.

14.2 Policies EC4 and EC5 of the Local Plan safeguard the site for aviation use, however there is a wealth of evidence which indicates that there is no viable prospect of the site being used for aviation use. It is for this reason that Council Officers were unable to support including a policy within the emerging Local Plan which safeguarded the site for aviation use. In accordance with NPPF paragraph 22, the application should therefore be treated on its merits. The weight which can be attached to Policy EC4 and EC5 is therefore limited.

14.3 There is an acute, sustained housing need in Thanet, the Council is unable to demonstrate a 5-year supply of housing land and historic housing completions have persistently failed to meet targets. As such, the presumption in favour of sustainable contained in Paragraph 14 of the NPPF applies and the application should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits.

14.4 The technical reports submitted in support of the Application confirm that the proposal would not result in any significant adverse impacts that could not be mitigated. The application has also demonstrated that proposal would result in significant social, economic, financial and environmental benefits, including:

- regeneration a vacant, previously developed site in accordance with the core land-use planning principles set out in the NPPF;
- delivering 3,700 high quality homes in a range of sizes and types, including starter homes, family-sized homes, and specialist homes for seniors. This will make a significant contribution to the supply of new housing, where there is no 5 year housing supply – delivering c. 20% of the District's housing requirements over the plan period without relying upon greenfield land;
- delivering a comprehensive mix of uses, including new homes, community facilities (including two new primary schools, health centre, community hall), sports facilities, education and retail spaces, that enables people to work, shop and access day-to-day services close to where they live;
- bringing aviation use back onto the site by re-using the western portion of the existing runway to allow for operation for heritage aviation use, supported by new hangars and a relocated museums to create a new historic and cultural aviation 'hub;

- delivering 1,474 full time equivalent (FTE) direct jobs, and additional indirect jobs through construction, in an area of acute socio-economic need and deprivation
- providing opportunities for education/training, including new training and apprenticeships for young people and the long-term unemployed;
- opening up a Site which has been closed to public access for many years, and deliver substantial areas of managed high quality open space and green infrastructure, including significant contributions to biodiversity habitat;
- introducing new regionally significant leisure facilities (including a wave garden, 50 metre swimming pool) which are currently not provided in the region, and therefore help increase tourist attraction in the local area;
- creating new connections through the Site, increasing permeability within the local area.
- delivering the first leg of a north-south link road through the Site to Westwood Cross;
- resulting in direct financial benefits to Council in form of New Homes Bonus (£41.9m) and annual tax receipts (£7.0m).

14.5 Therefore, in accordance with the presumption in favour of sustainable development, permission should be granted.

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4th October 2018

Strategic Planning
Thanet District Council
P.O. Box 9
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Dear Sir/Madam,

Representations to Draft Local Plan (August 2018) Pre-Submission Regulations 19 & 22 Consultation

This representation is submitted on behalf of our client Stone Hill Park Limited, the owners of the former Manston Airport Site. It comments specifically on policy changes proposed as part of the Regulation 19 & Regulation 22 Draft Local Plan consultation. It should be read alongside our client's previous representations to the various stages of the emerging Local Plan[1], where we set out our client's justification for the allocation of the Site for redevelopment and explain why the best use of the Site is as a new settlement.

Background

The Preferred Options Local Plan was consulted on between January and March 2015 and proposed setting a requirement for 12,000 additional homes and a minimum of 5,000 additional jobs to be provided in the District up to 2031. Proposed Policy SP05 suggested designating the former Manston Airport Site as an "Opportunity Area", with the detail of future use to be explored as part of an Area Action Plan. Representations were made to the Council on behalf of Stone Hill Park questioning the soundness of this approach, on the basis that housing figures were based on an out-of-date assessment of housing need and the plan failed to put in place a conclusive policy position to guide future development of the Site which is necessary to ensure the proper planning of the District.

Proposed Revisions to the Preferred Options Draft Local Plan were consulted on between 20th January and 17th March 2017. The Proposed Revisions reflected and responded to the updated evidence base undertaken to provide a sound and up to date foundation to support the Local Plan. This also responded to and addressed some of the key issues which arose during the Preferred Options consultation. This included:

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[1] Representations made to: Preferred Options Local Plan (dated March 2015); Proposed Revisions Local Plan (dated 15th March 2017); and Call for Sites (dated 28 February 2018).

- The Strategic Housing Market Assessment (SHMA) (January 2016) and Updated Assessment of Objectively Assessed Housing Need (September 2016), which identify an objectively-assessed need (OAN) for 17,140 additional homes in the District up to 2031 (857 dwellings per annum);

- An independent report on the Commercial Viability of Manston Airport (September 2016) by AviaSolutions (the AviaSolutions Report) which considered whether viable airport operations could be re-instated and sustained on the former Manston Airport Site and concluded that, even applying assumptions favourable to Manston Airport, "*airport operations at Manston are very unlikely to be financially viable in the longer term and almost certainly not possible in the period to 2031*" (paragraph 2.5); and

- The New Settlement Strategy (November 2016), which explored the option of meeting part of the District's housing needs through a new settlement, and included a comparative assessment of potential settlement sites one of which was the former Manston Airport Site.

Based on the up to date and sound evidence base, Officers concluded that there was insufficient evidence to justify a policy that protects the existing airport use and that the best use for the Site was for a new settlement. Policy SP05 was therefore revised, proposing the Site for a mixed use settlement comprising a minimum 2,500 homes and 85,000sqm of employment and leisure floor space amongst other supporting uses.

Following consultation on the Proposed Revisions, the Council received a number of responses regarding the future of the former Manston Airport Site and, in particular, concerning the content of the 2016 AviaSolutions Report. To respond to these concerns, AviaSolutions were instructed by the Council to review and respond to the representations received. This took the form of the following two reports, which also comprise part of the local plan evidence base:

- Review of Azimuth & Northpoint Forecast for Manston Airport (August 2017), which considers the cases put forward for the re-opening of Manston Airport by Azimuth Associates and Northpoint on behalf of RiverOak Strategic Partners. The review concludes that neither report puts forward a sufficiently credible case, nor provides the evidence, for AviaSolutions to change its views on the financial viability of Manston Airport; and

- Local Plan Representations Final Report (August 2017) by AviaSolutions, which likewise advises that Local Plan Representations do not make a credible case, nor provide the evidence for AviaSolutions' to change its views on the financial viability of Manston Airport. Based on updated market information since the publication of the 2016 study, they continue to advise that Manston Airport does not represent a financially viable investment opportunity under normal market conditions.

Officers therefore reaffirmed that there remained insufficient evidence to justify an allocation which safeguarded the Site for aviation use and continued to recommend that Members allocate the former Manston Airport for mixed use development including up to 2,500 homes, subject to minor changes to policy wording.

On the 25th October 2017, Cabinet followed Officer's recommendations and agreed to recommend that the full Council publish the draft Local Plan for consultation. On the 18th January 2018 the draft Plan was presented to the Full Council, with Officers and Cabinet's recommendation to publish the plan for consultation. Members went against recommendations and rejected the plan by a margin of 20 'for' to 35 'against'. The primary area of contention comprised the future use of the former Airport Site and the quantum and distribution of housing need within the District.

In July 2018 the Draft Local Plan was again taken back to Council, where Officers presented two options. Option 1 was to proceed with the draft Local Plan as recommended to Council on 18th January 2018, including the allocation of the former Manston Airport for comprehensive mixed use development including 2,500 homes. Officers confirmed that this remained their recommendation.

Option 2 included removing the proposed allocation on the former Manston Airport Site and replacing it with supporting text regarding the status of the Site and the Council's intention to revisit the policy designation of the Site in 2 years to allow the potential for a DCO to be submitted and that process concluded. Option 2 also included the allocation of other sites to account for the 2,500 home deficit caused by the removal of the allocation on the former Manston Airport Site. Officers considered Option 2 to be less preferable for a number of reasons, including that it would require the redevelopment of agricultural and greenfield land and was not fully aligned with the Council's own evidence base. Although it was not recommended by Officers, it was presented as an option to address Members' concerns regarding the potential for the Local Plan process to prejudice any future DCO application. Members voted to endorse Option 2 by a count of 31 'for' and 21 'against'. Our client's representation responds to these 'Option 2' changes to the draft Local Plan.

Manston Airport (AD06 & AD07)

Local Plan Draft Policy SP05 (which allocated the former Manston Airport Site for mixed use redevelopment including at least 2,500 homes) has now been replaced with supporting text. This supporting text clarifies that the Council does not allocate the Site for any specific purpose to ensure that the NSIP-DCO process is not 'prejudiced' and states that it will review the status of the Site in the next Local Plan review after a 'minimum of two years.'

We object to this approach for the reasons set out below. Without prejudice to this representation and to the supporting evidence referenced herein, should the Inspector find sound evidence to support the latest promoted amendments and should the Inspector accept the changes now proposed, we would request that the supporting text is revised to clarify that the Local Plan review will take place after a 'maximum of two years' as the current policy wording does not provide sufficient certainty regarding the timing of the Local Plan review.

The Local Plan does not seek to protect the existing airport use, nor can it lawfully do so, as the Council's own up-to-date evidence base confirms that "*airport operations at Manston are very unlikely to be financially viable in the longer term and almost certainly not possible in the period to 2031*" (AviaSolutions Report, paragraph 2.5) the airport is very unlikely to be financially viable in the longer term and almost certainly not over the plan period. This evidence base comprises three separate reports from credible aviation experts AviaSolutions, two of which specifically respond to comments/concerns raised by third parties. This is consistent with the conclusions of our client's own expert aviation consultants, York Aviation and Altitude Aviation, both of whom conclude that there is little prospect of the re-opening of Manston Airport being a commercially viable proposition over the plan period (see Enclosures 1 and 2 respectively). The Council therefore correctly concludes that there is no evidence which justifies a policy which would safeguard the Site for aviation use and no such policy is proposed as to do so without evidence would be unsound and fail to meet the minimum requirements for a development plan.

We note that an application for a DCO on the Site has recently been accepted by the Secretary of State and will now be the subject of a separate examination. The application has yet to undergo any scrutiny and the mere acceptance of a DCO does not, and indeed cannot, constitute sufficient evidence to justify a policy protecting the Site for aviation use. Members' desire not to allocate the Site for alternative use so as not to 'prejudice' the potential for a DCO to be granted is unfounded. The DCO will be determined through a separate process and must meet all necessary tests under the Planning Act 2008 (as amended), which does not require presumption in favour of the development plan and does not apply s38(6) of the Planning and Compulsory Purchase Act 2004 in the same way that planning applications are considered, in order to be granted.

Stone Hill Park's position is that the former Manston Airport Site should be allocated for comprehensive mixed use development. This echoes the views expressed by the Council's own officers. There is an acute, sustained housing need in the District, the Council has consistently failed to

meet its annual housing delivery targets, and the District does not have a five year supply of housing (as confirmed by appeal decision ref. OL/TH/11/0910 and as summarised in the Planning Statement Addendum: Housing Need included at Enclosure 2). The Site provides the opportunity to plan for sustainable growth in a way which will deliver a large proportion of the District's housing need in a comprehensively designed new settlement, with sufficient critical mass to deliver necessary infrastructure and services, including the delivery of a key transport link between the A22 and Manston Road forming part of the Council's Transport Strategy. It will embed the principles of sustainable development at its heart, providing the backbone upon which this new community will grow and evolve over time. A full suite of environmental and technical evidence has been provided to the Council in support of the May 2016 hybrid application (ref: 16/0550) as well as the enhanced masterplan for 3,700 homes which was submitted in May 2018 (ref: 18/0660) which confirms that the Site is suitable, deliverable and viable for delivering the mix and quantum of development proposed. We refer the Inspector to these applications for the full details of the planning case and evidence in support of Stone Hill Park's plans.

Strategic Site Policies

The latest Draft Local Plan proposes to 'redistribute' the 2,500 homes previously allocated at the former Manston Airport Site to the following strategic sites:

- An additional 600 dwellings at Birchington, as an extension of the previous draft allocation;
- An additional 1,000 dwellings at Westgate, as an extension of the previous draft allocation;
- An additional 500 dwellings at Westwood, as an extension of the previous draft allocation at Manston Court Road/Haine Road;
- An additional 550 dwellings at a new strategic site north and south of Shottendane Road.

The allocation of these sites for housing would (if developed) result in the loss of greenfield, agricultural land predominantly classified as 'Excellent' in the Agricultural Land Classification. As these sites would involve a more 'piecemeal' approach to housing delivery, it is also unlikely they would be able to create sufficient critical mass to deliver the infrastructure necessary to mitigate their own impact and are therefore likely to place additional pressure on existing local facilities and services.

We also question whether these sites are capable of delivering the quantum of homes proposed over the plan period. We summarise our client's representation on each proposed strategic allocation below. Please refer to the Enclosure 3 for full details.

Birchington-on-Sea (Policy SP14)

The proposed allocation site comprises land classified as 'Excellent' in the Agricultural Land Classification.

The revised allocation proposes an additional 600 homes on this site, however we note that the revised site boundary incorporates Site ST3 which was already allocated in the Preferred Options Local Plan (Policy H02C) and therefore double counts 90 homes.

With respect to the 510 additional homes proposed, it is unclear how these could be accommodated on the proposed allocation site as the proposed site boundary has changed only marginally (by 9.3ha) and the maximum density control proposed by Policy SP14 remains unchanged. The additional areas now included within the proposed site boundary comprise agricultural land/greenfield which is not in the SHLAA and has not been put forward by a developer; and land identified in the SHLAA as having constraints to development. We therefore question whether these sites are available, viable, sustainable or feasible within the plan period.

Westgate-on-Sea (Policy SP15)

The majority of the proposed allocation site is classified as 'Excellent' in the Agricultural Land Classification, with a small portion identified as 'Very Good'.

It is unclear how an additional 1,000 homes can be achieved on this site while maintaining the maximum housing density. Indeed, during the most recent call for sites, the land owner suggested

2,500 homes could be delivered on a significantly larger (172ha) site bound by Park Road and Shottendane Road to the south and stretching considerably further west than the proposed allocation. We therefore question whether this site is available, viable, sustainable or feasible within the plan period.

Manston Court Road (Policy SP18)

An additional 500 homes is proposed on agricultural land to the west of the Manston Court Road/Haine Road allocation. The majority is classified as 'Excellent' in the Agricultural Land Classification, with a small portion identified as 'Very Good'.

This site was promoted by the landowner in the most recent Call for Sites for "Between 751 - 667 dwellings (35 dph /30 dph). Site area: 31.33ha" however no evidence has been provided to confirm it is deliverable or achievable and the site was not assessed in the SHLAA.

Shottendane Road (Policy HO2)

This proposed allocation includes two rectangular sites on either side of Shottendane Road. The northern site is classified as 'Excellent' in the Agricultural Land Classification and the southern site is classified as 'Very Good'.

The southern area has not been put forward for redevelopment by the landowner, and has not been assessed in the SHLAA. There is therefore no evidence that the site is available, deliverable, sustainable or achievable. The 'northern' site was promoted by the landowner in the most recent Call for Sites for "maximum capacity of 364 homes at 35dph. Site area: 10.41 ha." No evidence is provided which demonstrates that the site is deliverable, sustainable or achievable.

Conclusion

Our client's position remains that the former Manston Airport Site should be allocated for redevelopment for alternative use, including housing. In summary:

- The Council's evidence base concerning the former Manston Airport Site is up-to-date and confirms that the airport is very unlikely to be financially viable in the longer term and almost certainly not over the plan period. The evidence base comprises three separate reports from independent experts AviaSolutions, two of which specifically respond to comments/concerns raised by third parties. AviaSolutions conclusions are corroborated by the advice provided by our client's own expert aviation consultants, York Aviation and Altitude Aviation. There is no policy basis on which to justify a planning policy which safeguards the site for aviation use and this is acknowledged by the Council, who do not propose any policy protecting the existing use of the site.

- A DCO has been accepted and must now be properly scrutinised and examined in accordance with a separate legislative process. The emerging Local Plan cannot 'prejudice' whether it is approved or not. Likewise, the Government has confirmed that the Local Plan must proceed and should not be delayed for the DCO process to be concluded.

- Our client's position remains that the former Manston Airport should be allocated for comprehensive mixed use redevelopment including at least 2,500 homes over the plan period. The development potential of this vacant, brownfield site should be optimised in accordance with the principles of sustainable development.

- The alternative Strategic Sites put forward for the Council to would require development of agricultural and greenfield land. It is also unlikely that they will generate sufficient critical mass to deliver necessary infrastructure and are therefore likely to place additional pressure on existing facilities and services. Like Officers, we consider that the redevelopment of the former Manston Airport Site for one comprehensive development is preferable to this 'piecemeal' approach.

- Furthermore, we are not convinced that the quantum of homes proposed in these locations have a reasonable prospect of being delivered over the course of the plan period in any event as there is no evidence that they are all available, deliverable and achievable.

Yours faithfully

[redacted]

GVA
For and on behalf of GVA Grimley Limited

Encl. 1 York Aviation Report
Encl. 2 Altitude Aviation Report
Encl. 3 GVA Analysis of Option 2 Housing Sites
Encl. 4 Planning Statement Addendum: Housing Need

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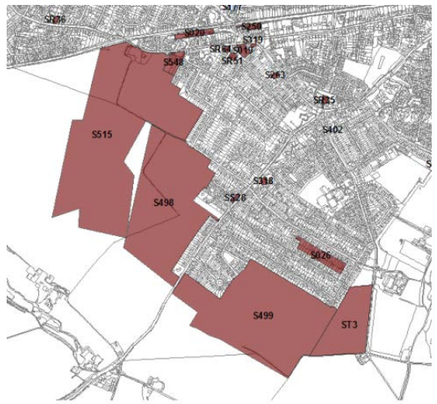
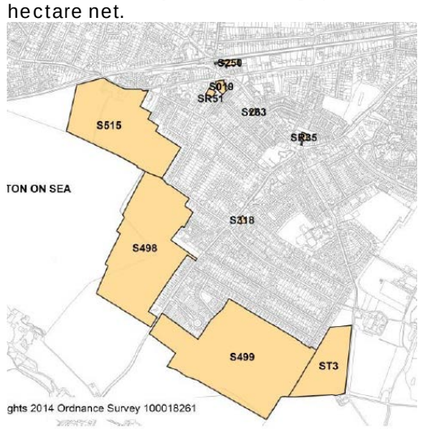
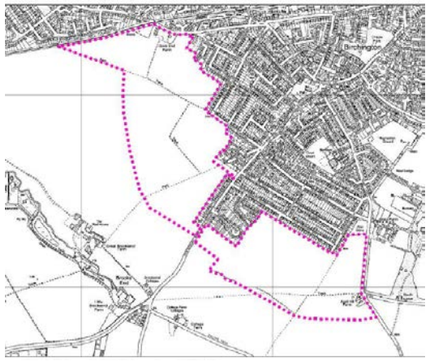
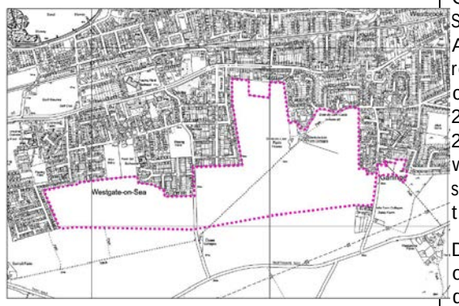
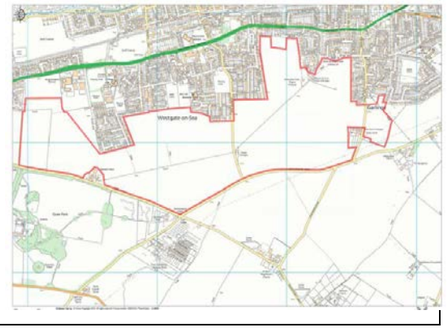
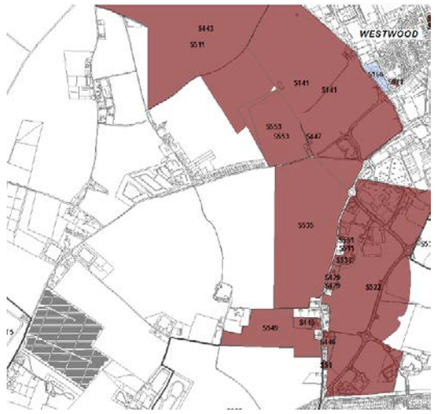
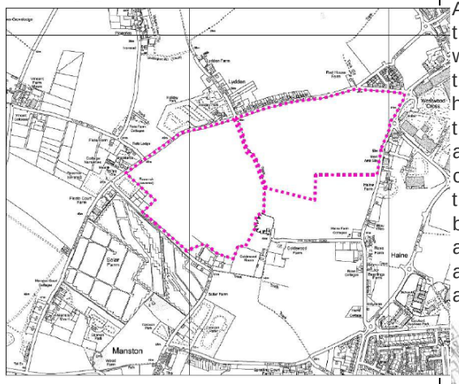
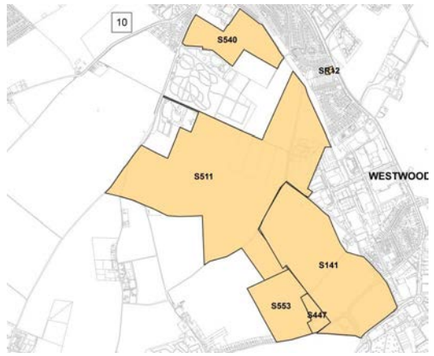
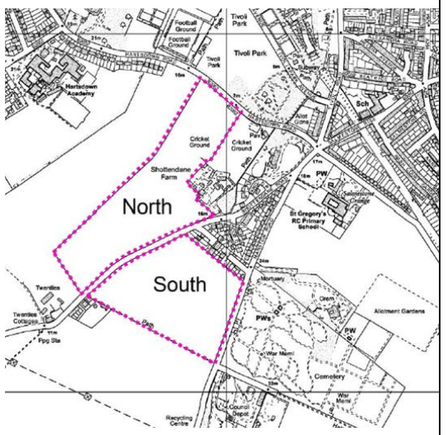
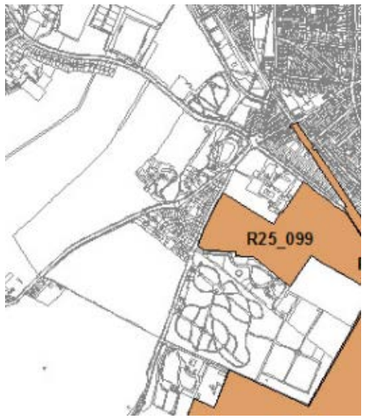
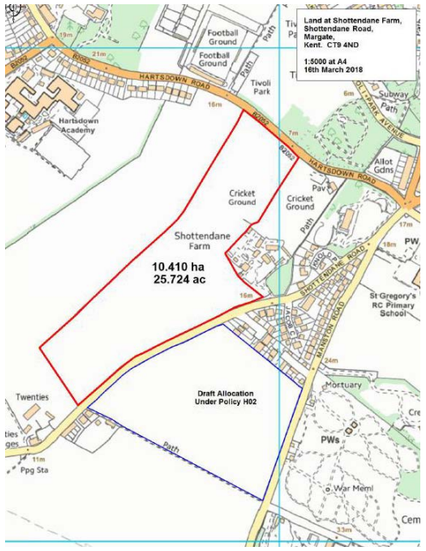
Analysis of 'Option 2' Housing Sites

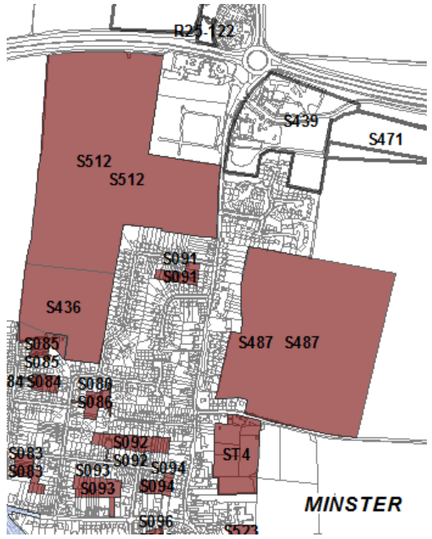
Draft Thanet Local Plan, October 2018

Site	SHLA (2013)	Preferred Options Local Plan (Jan 2015)	Proposed Revisions to Local Plan (Jan 2017)	Draft Local Plan August 2018	Representation
Birchington	S515: 560 home capacity S498: 456 home capacity S499: 800 home capacity 	Policy SP14 - Strategic Housing Site at Birchington (comprising sites referenced S515, S498 & S499). Land is allocated for up to 1,000 new dwellings at a maximum density of 35 dwellings per hectare net at Birchington. Policy H02C– Land fronting Park Lane, Birchington. (site reference ST3). Land fronting Park Lane, Birchington is allocated for up to 90 new dwellings at a notional maximum density of 35 dwellings per hectare net. 	None	Policy SP14 – Land is allocated for up to ~~1,000~~ 1,600 new dwellings at a maximum density of 35 dwellings per hectare net at Birchington.  Policy HO2 - Delete	The proposed allocation site comprises land classified as 'Excellent' in the Agricultural Land Classification. The revised allocation as part of the Draft Local Plan would result in the allocation of an additional 510 homes (not 600) as the proposed allocation incorporates Site ST3 which was already proposed for an allocation for 90 homes in the Preferred Options Local Plan (Policy H02C). It is unclear how the revised allocation would be sufficient to accommodate an additional 510 homes, particularly as the maximum density control proposed by Policy SP14 remains unchanged. The only additional area incorporated within the proposed allocation appears to be a 2.8ha triangle shaped site immediately west of site referenced S515 and 6.5ha of agricultural/greenfield land between S515 and S498. S515 Land at Gore End Farm was identified in SHLAA as having constraints: including contamination, listed buildings and potential landscape impacts. There is no evidence these can be mitigated. The triangular site west of S515 is not in the SHLAA and hasn't been put forward for development by the landowner in the current or any previous call for sites. Deliverability is therefore uncertain. Additional homes are therefore only likely deliverable post 2026

Westgate-on-Sea	ST1: 1,040 home capacity ST2: 386 home capacity 	Policy SP15 - Strategic Housing Site at Westgate-on-Sea (comprising sites referenced ST1 & ST2). Land to the east and west of Minster Road, Westgate is allocated for up to 1,000 new dwellings at a maximum density of 35 dwellings per hectare net. (Preferred Options Local Plan, January 2015) 	None	Policy SP15 - Land to the east and west of Minster Road, Westgate is allocated for up to ~~1,000~~ 2,000 new dwellings at a maximum density of 35 dwellings per hectare net.  	The majority of the proposed allocation site is classified as 'Excellent' in the Agricultural Land Classification, with a small portion identified as 'Very Good' Outline planning permission for 24 units on ST1 was granted at appeal (OL/TH/16/1473). A comprehensive masterplan for the remainder of the allocated site has not come forward. There is only evidence that 24 units can be delivered between 2021-2026 (subject to reserved matters) and would be on the portion of the site already subject to a proposed allocation (and therefore not additional). During the most recent call for sites, the land owner suggested 2,500 homes could be delivered on a much larger (172ha) site than allocated, albeit they state that "the full area of the site would not be proposed for built form". 

Manston Court Road	S535: 840 home capacity Rest not assessed 	Not allocated	New Strategic Policy - Land at Manston Court Road/Haine Road. Land is allocated for a mixed use development, comprising up to 700 new dwellings at a maximum density of 30 dwellings per hectare net, and leisure uses. This allocation adjoins other sites allocated for residential development (strategic sites S141, S511, S553 & S447 and other housing sites S535 & S549). 	Policy SP18 - Land is allocated for a mixed use development, comprising up to ~~700~~ 1200 new dwellings at a maximum density of 30 dwellings per hectare net, and leisure uses. 	The proposed allocation site comprises land classified as 'Excellent' in the Agricultural Land Classification. A planning application for c. 850 homes on the eastern half of this proposed allocation was due to be submitted by Greenacre at the end of 2017, however no application has been submitted. Assuming a submission takes place in 2018, GVA's Housing Report assumes half of the dwellings (350 units) could be developed between 2021-26, with the remaining 350 dwellings developable between 2026-31. Nevertheless, site was already subject to a proposed allocation and cannot accommodate the additional allocations required. The westernmost part of the proposed allocation was promoted by the landowner in most recent Call for Sites for "Between 751 - 667 dwellings (35 dph /30 dph). Site area: 31.33ha" No evidence has been provided to confirm it is deliverable or achievable.

Shotten-dane Road	Not assessed in SHLAA 	Not allocated  	HO2 Additional Site - Land at Manston Road/Shottendane Road, Margate. Land is allocated for up to 250 dwellings at a maximum density of 35 dwellings per hectare net at Manston Road/Shottendane Road. 	Policy HO2 – Land is allocated for up to 300 dwellings at land north of Shottendane Road, and up to 250 dwellings at land south of Shottendane Road, at a maximum density of 35 dwellings per hectare net.  	Southern site not put forward by landowner for development. Not assessed in SHLAA. No evidence site is available, deliverable or achievable. The site comprises land classified as 'Very Good' in the Agricultural Land Classification.  'Northern' site promoted for landowner in most recent Call for Sites for "maximum capacity of 364 homes at 35dph. Site area: 10.41 ha" No evidence site is deliverable or achievable. The site comprises land classified as 'Excellent' in the Agricultural Land Classification. 

Tothill Street, Minster	S512: 347 home capacity S436: 85 home capacity 	Housing Site Allocation (in Appendix B) - Site Ref S512/S436/S85, identified for 150 homes.	Housing Site Allocation (in Appendix B) - Site Ref S512/S436, identified for 150 homes.	Housing Site Allocation (in Appendix B) - Site Ref S512/S436, Increase dwelling capacity to 250 homes.	No objections raised.
				Total **additional** homes proposed for allocation in 'Option 2'	+2,410 (Thanet District Council) or + 100 (GVA estimate based on evidence of availability/deliverability/feasibility)

Ministry of Housing, Communities & Local Government

The Rt Hon James Brokenshire MP
Secretary of State for Housing, Communities and Local Government

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Councillor Robert W. Bayford
Leader, Thanet District Council

28 January 2019

LOCAL PLAN INTERVENTION

Following Thanet District Council's failure over many years to get a Local Plan in place, the former Secretary of State wrote to your Council, on 16 November 2017, to express his concerns. He offered an opportunity to explain any exceptional circumstances justifying the failure of your Council to produce a Local Plan and any measures you had taken or intended to take to accelerate plan publication. Following your letter of January 2018 outlining your exceptional circumstances, the former Secretary of State wrote again on 23 March 2018. He set out that he had considered your representations and the Government's Local Plan intervention policy criteria and had decided to continue with the intervention process by commissioning a team of experts led by Government's Chief Planner to provide advice on next steps.

I have carefully considered that advice on next steps and all the above matters. I have also considered correspondence sent to my Department since January 2018, including correspondence from Thanet District Council, which reported some positive actions and progress, including the publication of a Local Plan under regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012, the publication of a revised Local Plan production timetable[1] and the submission of a Local Plan under regulation 22 of the Town and Country Planning (Local Planning) (England) Regulations 2012.

Section 27(1) of the Planning and Compulsory Purchase Act 2004 ("the 2004 Act") provides:

[1] The Thanet Local Development Scheme (July 2018)

"This section applies if the Secretary of State thinks that a local planning authority are failing or omitting to do anything it is necessary for them to do in connection with the preparation, revision or adoption of a development plan document."

In view of your continuing failure to get a Local Plan in place I am satisfied that the requirements in section 27(1) of the 2004 Act are met; Thanet District Council (in its capacity as local planning authority):

- does not have an up-to-date Local Plan in place - the Council's last Local Plan was adopted in 2006 and covered a period up to 2011.
- has failed to meet the milestones in at least five Local Development Schemes since 2006.
- has failed to plan for and deliver the homes people need in Thanet.

Section 27(2) of the 2004 Act provides:

"The Secretary of State may—
(a) prepare or revise (as the case may be) the document, or
(b) give directions to the authority in relation to the preparation or revision of the document."

Pursuant to the powers in section 27(2)(b) of the 2004 Act I have decided to make a direction in relation to the preparation of the Thanet Local Plan:

Within four weeks of the date of this letter, I direct Thanet District Council to designate a lead Councillor and lead official to be responsible for progressing preparation of the Local Plan and to publish details of those designations.

In making this decision I have considered the following Local Plan intervention policy criteria[2]:

- **The least progress in plan-making has been made:** Out of 338 local planning authorities in England, Thanet are one of only circa 50 authorities who have not yet adopted a 2004 Act Local Plan under Regulation 26 of the Town and Country Planning (Local Planning) (England) Regulations 2012.

- **Policies in plans have not been kept up to date:** Thanet's last Local Plan was adopted in 2006 (not under the provisions of the 2004 Act), and covered a period up to 2011. Thanet have consistently failed to bring forward a Local Plan in accordance with its Local Development Scheme as legally required, having failed to meet Local Plan milestones in at least six Local Development Schemes since 2006.

[2] Local Plan intervention policy criteria were consulted on in 2016 and confirmed in the 2017 housing White Paper and the 16 November 2017 Written Statement in the House of Commons

- **There is higher housing pressure:** Thanet is within the top third of Districts in England for high housing pressure, based on average affordability ratios[3]. Thanet lack of a five-year housing land supply further highlights the authority's failure to plan for and deliver the homes people need.

- **Intervention would have the greatest impact in accelerating Local Plan production:** Based on Thanet's revised Local Development Scheme, it is unlikely that Local Plan production would be accelerated by my Department taking over its production. In my judgement, given the authority's track record of persistent failure in plan-making, the intervention I have decided upon will provide more certainty and is the best way of ensuring that a Local Plan will be produced in accordance with the Local Development Scheme timetable.

- **The wider planning context in each area in terms of the extent to which authorities are working co-operatively to put strategic plans in place:** Several authorities in Kent have indicated interest in joint planning but no formal arrangements are in place.

- **The wider planning context in each area in terms of the potential impact that not having a plan has on neighbourhood planning activity**: at least six communities in Thanet are preparing neighbourhood plans: Birchington, Ramsgate, Margate, Broadstairs & St Peters, Westgate and Cliffsend. Communities can bring forward neighbourhood plans in the absence of an up-to-date Local Plan, but doing so can be more challenging for communities.

Having considered Thanet's performance against the Local Plan intervention criteria, I am satisfied that intervention action is justified.

Section 15(4) of the 2004 Act provides:

"The Secretary of State may direct the local planning authority to make such amendments to the [local development] scheme as he thinks appropriate for the purpose of ensuring full and effective coverage (both geographically and with regard to subject matter) of the authority's area by the development plan documents (taken as a whole) for that area."

Pursuant to my powers in Section 15(4) of the 2004 Act, I am also directing Thanet District Council to, within eight weeks of the date of this letter, amend its Local Development Scheme (dated July 2018) to provide for the completion of a review of their Local Plan within six months of its adoption.

[3] Ranked 98 least affordable of 324 English Districts (Housing Affordability Statistics, Office of National Statistics, 2017)

This course of action would ensure full and effective coverage of housing provision to give clarity to communities and developers about where homes should be built.

Having considered all of the above, in my judgement, there is a compelling case for the Local Plan intervention actions I have decided upon in Thanet, pursuant to powers in sections 15(4) and 27(2)(b) of the 2004 Act. Given your recent actions and progress in meeting the requirements in the Town and Country Planning (Local Planning) (England) Regulations 2012, I have decided not to prepare the Thanet Local Plan. However I will continue to closely monitor your Local Plan progress. Should a significant delay occur against the milestones set out in your July 2018 Local Development Scheme, should you fail to comply with the directions in this letter or should your draft Local Plan fail at examination, I will consider whether to take further action to ensure that a Local Plan is put in place.

I am also, for the avoidance of doubt, now putting on public record my concerns about the low level of housing supply and delivery in Thanet. I expect planning decision-takers to have regard to these concerns as a material consideration when deciding local planning applications.

I appreciate the constructive way Thanet District Council have engaged in this process so far and I trust that you and your officers will continue to engage positively. My officials will be in touch over the next few days to discuss next steps.

RT HON JAMES BROKENSHIRE

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING

OF MANSTON AIRPORT (PINS Reference Number: TR020002)

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS PUT AT THE NEED AND OPERATIONS ISSUE SPECIFIC HEARING HELD ON 21 MARCH 2019

1. BACKGROUND

1.1 The Need and Operations Issue Specific Hearing ("Hearing") was held at 10:00am on 21 March 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2 The Hearing took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") on 11 March 2019 (the "Agenda").

1.3 The format of this summary follows that of the Agenda and only refers to parts of the Agenda where Stone Hill Park Limited ("SHP") made substantive comments.

1.4 Present from SHP were James Strachan QC (Counsel for SHP), John Rhodes (Quod Planning), Richard Griffiths (partner at Pinsent Masons LLP), Louise Congdon (York Aviation), Jonathan Naylor (Altitude Aviation), Iain Mackintosh (for SHP) and Jamie Macnamara (for SHP).

2. MANAGEMENT OF HEARING

2.1 SHP has set out its concerns about the management of the Hearing and, in particular, the curtailment of its granted right to ask oral questions of the Applicant's representatives in its Written Summary of SHP's oral submissions at the Compulsory Acquisition hearing held on 20 March. Those same concerns arise here but need not be repeated.

3. AGENDA ITEM 4 - POLICY

3.1 Despite the length of the Applicants' submissions on planning policy, the relevant position is clear and can be briefly stated.

3.1.1 The Airport's NPS does not have effect for the Manston application, although the NPS is important and relevant to the determination. As paragraph 1.41 of the NPS explains, amongst the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme (at Heathrow) is the most appropriate means of meeting that need.

3.1.2 For both of these reasons (no NPS and the need having been settled), there is no policy presumption that a need exists and the Examining Authority have rightly made the need for the development of Manston a Principal Issue. As

paragraph 1.42 of the NPS makes clear, applications for more intensive use of existing runways will be judged on the application's individual merits and it will be for the applicant to demonstrate that a need exists.

3.1.3 The requirement for any such application to be treated on its merits is clearly stated both at paragraph 1.39 of the Airports NPS and at paragraph 1.29 of Making Better Use.

3.1.4 The other relevant consideration that arises from the NPS is the requirement to demonstrate that the scheme is cost-efficient and sustainable, and seeks to minimise costs to airlines, passengers and freight owners over its lifetime (Airports NPS paragraph 4.36). Whilst the NPS does not directly have effect, it is important and relevant and these principles represent no more than the common sense principles of sustainable planning.

3.1.5 Manston is not referred to or relied upon in any national aviation policy document.

3.1.6 The extent to which Manston was considered by the Airports Commission is fully set out in SHP's Written Representations at paragraph 2.21 of the York Aviation Report in Appendix 4 [REP3-025] and in SHP's Comments on RSP's responses to Written Question ND.1.1 [REP4-067]. SHP's comments on the Applicant's response to written question is noted below

"The response to this question claims that the Airports Commission did not consider the potential role that Manston might play as a freight airport. In its response to the ExA's questions, the Civil Aviation Authority helpfully provides the submission made by the previous operator of the Airport to the Airports Commission. It is clear here that the proposition submitted by Manston was for a major freight airport (point b) of the submission, which we note was written by the Aviation Strategy and Policy Consultancy now part of Northpoint and one of RSP's current advisers.

In the light of this, it is not credible to suggest that the Airports Commission did not consider Manston other than in terms of a role in meeting passenger demand. It is also disingenuous to say that the Airports Commission's Interim Report and shortlisting did not consider freight as benefits to freight users were extensively discussed throughout the Commission's Interim Report (Section 3) and formed part of the consideration of benefits, albeit these could not be specifically quantified (AC Interim Report, para. 3.100). The inclusion of air freight benefits as part of the Commission's Sift criteria is made clear at para. 3.7 of their Guidance Document 02: Long Term Capacity Options: Sift Criteria May 2013. Whilst there may have been further submissions on air freight by TfL on behalf of the Mayor of London (Ramboll/Oxford Economic Report Impacts on the Air Freight Industry, Customers and Associated Businesses 2013) later in the process, it is clear that the Airports Commission gave full consideration to the implications for the air freight sector in its shortlisting process.

The proposal that Manston could act as a major freight airport to relieve congestion at the other airports was not followed through/rejected by the

Airports Commission, which only mentioned Manston as a possible reliever airport for General Aviation (see our 2019 Update Report para. 2.21). RSP have added reference to passenger capacity in square brackets to quotation from Appendix 2 to the Airports Commission's Interim Report. This is not correct and seeks to mislead the reader. The quotation needs to be read in context of proposition submitted by the operator of Manston which put forward a major freight role."

3.2 Neither are the Applicants in a position to claim the support of local planning policy. The Thanet Local Plan is currently at examination and paragraph 1.41 of the Local Plan confirms that the Council is not proposing to allocate the airport site for any specific purpose in the draft Local Plan.

3.3 The current draft Local Plan confirms the existing use of the site for aviation (paragraph 1.43) but sets out clearly that the Council's evidence base has concluded that it is very unlikely to be financially viable in the long term and almost certainly not possible in the period to 2031 (paragraph 1.40).

3.4 The existing Thanet Local Plan 2006 is now so out of date that no significant weight could be attached to its policies. In this context, it is relevant to note:

3.4.1 the 2006 Local Plan only sets policies up to 2011 (paragraph 2.62);

3.4.2 the strategies on which the Local Plan is based derived from the now abolished RPG for the South-East and the Regional Economic Strategy 1999 (paragraph 2.19);

3.4.3 at the time the 2006 Local Plan was being prepared the airport had just been taken over by Infratil, leading the Council to express that there is an undoubted market opportunity and that *"the Council has every confidence the airport will be successful"* (paragraphs 2.47 and 2.61).

3.5 Given the age of the plan and the up to date evidence about viability, no significant weight should attach to the 2006 policies.

3.6 It is relevant to note that Policy EC4 from the 2006 Local Plan did identify the Northern Grass Area for development but specifically for "airside development", which has an operational requirement for direct access to aircraft, and for which such a location is essential. The Applicant's proposals for the Northern Grass are explained in the Planning Statement as a "business park" and were explained at the hearing to relate to uses "beyond the security fence", thereby failing the Local Plan test.

4. AGENDA ITEM 5 – FORECASTS AND FREIGHT TYPE PATTERNS

4.1 Whilst it is acknowledged that a large part of the Hearing was focussed on this topic, SHP wishes to record that there was insufficient time to explore and address many of the sub-topic areas set out in the agenda for the Hearing. Given that the forecast need is the foundation of RSP's case, this is a particularly significant concern.

4.2 It is understood that the Examining Authority will seek to test the Applicant's evidence further through written questions.

4.3 A high level summary of the key points made in SHP's oral submissions is provided below, with a more detailed summary attached as Appendices NOPS.5.1 and NOPS. 5.2 in the form of notes from SHP's aviation consultants, York Aviation and Altitude Aviation.

4.4 It is important to note that the oral submissions made on this topic area preceded the 15 minute period allowed for the cross-examination of Dr Dixon's evidence contained in the Azimuth Report. It emerged during the cross examination that Dr Dixon had not considered costs or viability in preparing the forecast, and as such, the freight forecasts and business plan were not integrated (and appeared to be directly contradictory). This is a critical shortfall, as one cannot be done independently of the other. Air traffic movement and freight tonnage forecasts are completely meaningless unless linked to a pricing strategy, especially for such a price sensitive market as air freight. Accordingly, the forecasts set out in the Azimuth Report should be considered as no more than theoretical guesstimates, rather than something on which any reliance could be placed.

Interpretation of York Aviation's work for TfL and FTA

4.5 York Aviation expressed its frustration and irritation that the Applicant continues to rely erroneously on its work for TfL and the FTA. As explained in York Aviation's report appended to SHP's Comments on the Applicants responses to Written Questions, York Aviation had made Dr Dixon of Azimuth Associates fully aware of the misinterpretation of this work in 2017 (see comments on ND.1.7 and correspondence attached at Appendix B to that submission). In view of the continued misrepresentation of the York Aviation work and selective quoting of that work during the hearing, paragraphs 2-17 of Appendix NOPS.5.1 provides a correct interpretation of York Aviation's work for the FTA and TfL.

Role of Trucking

4.6 During the Hearing, the Applicant cited unevidenced figures for the number of cross-Channel trucks carrying airfreight. The Applicant also noted that a high proportion of these operated on airline flight numbers. It is important to note that such movements are part of the system whereby airlines truck freight to and from their hubs to connect to bellyhold operations to maximise cost efficiency. Please see paragraphs 18-21 of Appendix NOPS.5.1 for a summary explanation on trucking of air freight between the UK and Europe, why these truck movements would not be divertible and the commercial reasons why trucking is common place and an integral part of the general and integrator sectors, rather than something to be remedied with freighter aircraft. Again, this fundamental misunderstanding of the market undermines an important foundation of RSP's case. (Apart from mis-reliance on the York Aviation reports, trucking was Dr Dixon's principal explanation for her 'need' case.)

Validity of Azimuth's "Forecasts"

4.7 In oral evidence, Dr Dixon conceded that the Azimuth Report that she prepared was not really a forecast of what would happen but an assessment of the 'potential' need

for a dedicated freight airport in the South East of England. She confirmed that she had taken no account of the viability of operating the services for the airlines or the viability of the operation of the Airport (despite the Azimuth Report being referenced as setting out the viability of and the Business Plan for the development in the ES, Planning Statement and Statement of Reasons - see para 2.5 of York Aviation 2019 Report).

4.8 At para. 2.2.10 of Vol III of the Azimuth Report, a number of key considerations are set out which would impact on the decisions of airlines as to whether to use Manston:

- *"The cost of physical relocation*
- *Cancellation of long-term contracts*
- *Loss of economies of scale, although if an entire operation is switched, economies of scale would be gained at the new airport*
- *Market effects such as marketing new routes and a potential loss of custom in the early years following the switch*
- *Network effects lost by switching to a smaller airport*
- *Capacity constraints at other airports, particularly in slot allocations*
- *Sunk costs such as an airline's investment in the airport from which they are switching"*

4.9 Although the Azimuth report claims that these factors have been taken into account in the 'forecasts', it is now clear from answers given in oral evidence that this was not the case and that Dr Dixon simply assumed that the costs would be "neutral". We take this to mean that her underpinning assumption was that the costs for an airline of operating from Manston would be the same as from other airports and/or that the costs to shippers for a tonne of air cargo would be the same to/from Manston as from alternatives, including bellyhold options. Without proper consideration of switching costs, the charges to be levied at Manston and the relative price of dedicated freighter operations v. bellyhold for the shipper, the so-called 'forecasts' can have no validity as they do not reflect market realities.

4.10 Furthermore, as pointed out in SHP's comments on the Applicant's answer to Written Question FD.1.15 [REP4-067], whilst it is claimed that RSP's Business Model is based on being able to offer airport users competitive terms, this is clearly not the case. As we know from the Business Model spreadsheet submitted at Deadline 3, the Applicant plans to charge airlines around four times the equivalent cost at East Midlands Airport and without any countervailing incentives (see separate papers prepared by Altitude Aviation Advisory). Hence, it is clear that, leaving aside its other manifest shortcomings, the Azimuth Report has not assessed the actual position proposed by RSP of charging a significant premium over other airports for dedicated freighter operations, which are already significantly more expensive than bellyhold alternatives.

4.11 The consequence of this is that on any reasonable assessment of the costs of using Manston and the costs to the shipper of using dedicated freighter aircraft, when coupled with the costs of switching and other costs identified by Azimuth, the share of the market that Manston might hope to attract will be severely reduced below the 'neutral' assessment made by Azimuth. York Aviation have set out its view of the maximum potential in Section 4 of our 2019 Report [REP3-025]. At the price RSP

propose to charge, demand would be significantly lower and the revenues that they assume within the Business Model would not be not attainable. Either way, proper analysis strongly suggests that there is no prospect of the proposed investment in the development of a dedicated freight airport at Manston being viable even on the basis of the latest estimate of construction costs, which we now understand from the oral evidence of George Yerrall are likely to be underestimated at this point in time.

4.12 Put simply, the oral evidence given by Azimuth Associates confirmed that the Report upon which the entirety of the Need Case for the development relies has no realistic foundation as a basis for predicting the extent to which Manston might actually be used.

Night Flying and the Integrators

4.13 We set out in our commentary on RSP's answers to Written Questions evidence as to the dependence of conventional integrators on night flights. Hence, leaving aside the locational reasons why Manston would not be a suitable base for a conventional integrator, the proposed night scheduling ban effectively removes any prospect of such operations, a point conceded by the Applicant when it says that an integrator base is not proposed for Manston (Written Answer to ND.1.16).

4.14 We are now asked to believe that the Azimuth did not mean conventional integrator operations when including them in the 'forecast' as set out at para. 3.2.3 of Volume III of the Azimuth Report [APP-085], despite DHL/Fedex being specifically identified as the operators of these flights at Appendix 3.3 of the ES [APP-044], which we were told in oral evidence was based on the Azimuth projections. We are now asked to believe that what was meant was a new form of integrator – Amazon or Alibaba-Cainiao - operating these flights. This is despite Amazon being separately identified in Appendix 3.3 of the ES in addition to the conventional integrator operations.

4.15 The Northpoint Report is used by RSP in an attempt to support this change of emphasis to 'New' integrators and the e-commerce model as the basis of justification for 48% of the aircraft movements claimed for Manston at Year 20 (more in the earlier years). This is no more than speculation as the extent to which the e-commerce operators will seek to operate their own aircraft within the European market and the nature of those operations is largely unknown. A short note on the Northpoint report is contained in paragraphs 28-38 of Appendix NOPS.5.1.

4.16 Paragraph 42 – 45 of Appendix NOPS.5.1 and paragraphs 15-21 of Appendix NOPS.5.2 provide a summary of our aviation consultants understanding of the current operations of Amazon, including details of Amazon's embryonic operations at East Midlands, how flight patterns are likely to be similar to conventional integrators (with a need for night flights) and why the location of Amazon's fulfilment centres across the UK demonstrates why Manston is unlikely to be an attractive location for Amazon Air.

4.17 In summary, there is no reason to assume that the choice of airports for the 'new' integrators would be based on different criteria to the existing integrators nor that they would be any less dependent on night operations. Hence, given the proposed night scheduling ban, the establishment of a 'New' integrator base at Manston with 2 aircraft in Year 2 and 4 aircraft in Year 4 is simply not credible. The relevant

paragraphs from Appendix NOPS.5.2 also question whether the growth of e—commerce represents and economically viable opportunity for cargo airports and notes that the Applicant appears to have ignored the requirement for significant incentives that would be sought by Amazon and its high level financial forecasts suggest the charges would actually be materially higher than comparable airports. This is not credible.

Consequences for the Environmental Assessment

4.18 Mr Hilton of Wood stated in oral evidence that environmental assessment relied on Appendix 3.3 of the ES [APP-044] and that it was derived based on the Azimuth 'forecasts'. However, as explained at the hearing and set out in Table 3.1 of York Aviation's 2019 Report [included in REP3-025], there are inconsistencies in the proportions of aircraft in each ICAO category between Appendix 3.3 and other parts of the ES and between the ES and the Azimuth Report. Dr Dixon said she was not responsible for producing Appendix 3.3 and Mr Hilton did not seem to know who was responsible either.

4.19 In the context that the information in Appendix 3.3 is claimed to be the basis upon which all of the environmental assessments have been carried out, it is important to note that Mr Hilton told the hearing that the assessments were based not only on the aircraft types named in Appendix 3.3 but also on the specific aircraft and engine types operated by the named airlines. Hence, to the extent that these airlines would not or could not operate to Manston (see para 3.10 of York Aviation's 2019 Report), particularly once the impact of the night scheduling ban is taken into account, this invalidates the specific environmental assessments made. The particular example referred to in oral evidence is the assumption that the ATR-72 turbo-prop aircraft would account for around 25% of all freighter aircraft movements, specifically operating for DHL or Fedex. The 'New' integrator, Amazon, is currently using Boeing B737 jet aircraft for its European operations so, even if it was right that DHL or Fedex would be substituted by Amazon or similar, it could not be relied on that these airlines would use so many turbo-prop aircraft. This means that the ES can no longer be deemed to have assessed the worst or most likely case effects, even if that was ever the case.

4.20 Paragraphs 49 – 50 of Appendix NOPS.5.1 explains a further consequence of the new noise mitigation plan is to condense all of the aircraft operations into the day-time period. The response given by Mr Hilton that movements that were otherwise assumed to operate in the night (14% of total movements) would simply switch to the 06.00-07.00 hour and so still be within the 8-hour night noise assessment period lacks credibility. Faced with a night scheduling ban, the airlines would need to re-programme their operations in their entirety to fit within a curfew and, to the extent that hypothetically they would still operate to Manston, this would result in proportionately more movements in the 16-hour day period used for daytime noise assessment resulting in an increase in contour area over that assessed and an increase in the areas eligible for compensation. The veracity of this can only be tested further when RSP produces the more detailed analysis of the profile of flights over the day related to the infrastructure requirements as promised at the Compulsory Acquisition Hearing.

4.21 It was noted that the effect of the night scheduling ban will also impact on the data used in the Transport Assessment as set out in Appendix E to the TA. First of all,

Table 1.1 shows freight related truck movements evenly distributed over the day. However, if, as we are now told, more than half of the movements at the Airport are going to be associated with a 'New' e-commerce integrator, it would be reasonable to expect that truck movements would be bunched around the arrival of these aircraft to ensure speed of delivery to the customer. On the basis of the proposed bunching of flights into the 06.00-07.00 hour, this would result in a significant number of trucks on the highway network in the 08.00-09.00 period to ensure deliveries of goods. Equally, for outbound flights before the night curfew, it would be expected that goods would need to be at the Airport 2-3 hours ahead of the last flight (23.00) so this too would require more movements in the day time. It would appear unlikely, therefore, that the TA has assessed the true impact on the highway network including in the morning and evening peak periods.

High Level Summary of Other Issues Raised in Oral Submissions

4.22 The average tonnage assumed in Azimuth's forecast of 17-20 tonnes is much lower than the airport's historic average of 63 tonnes, which was achieved despite a material bias towards imports (i.e. departing flights mostly departed empty). Azimuth's forecasts assume a similar level of exports to imports which makes the comparison to historic performance even more stark.

4.23 In the Examining Authority's questioning of the components of the forecast tonnage, Azimuth was unable to clearly state whether the forecast freight was new markets or displacement from other airports. The Applicant/Azimuth's understanding of the cargo market was shown to be severely lacking.

4.24 RSP asserted that combination carriers (i.e. airlines which operate both passenger flights and dedicated cargo flights) will play an important role at Manston. SHP commented that Air France/KLM – one of the airlines mentioned by RSP – had been shrinking its freighter operations. This is part of a general trend, summarised in the Altitude Aviation January 2018 report (Section 11.4, page 85 – Appendix 5 of SHP's Written Representations [REP3-025]).

4.25 RSP also asserted that newer passenger aircraft types have lower freight capacity than older aircraft. With the exception of the A380 (which is being discontinued by Airbus), this is not correct. See paragraphs 140-141 (page 28) in the Altitude Aviation January 2018 report.

4.26 In response to the Applicant's assertions that the historical performance was due to the lack of capacity and investment at the airport, SHP referred the Examining Authority to the 2018 Altitude Aviation report (paragraph 313) noting Wiggins statement regarding investment that increased the freight capacity to 200,000 tonnes during the period Mr Freudmann held a senior role at the Wiggins Role (Managing Director and Chairman of the airport from 1999-2005).

4.27 Whilst Mr Freudmann stated that it would be "simply ludicrous" to suggest the airport could handle 200,000 tonnes of freight, we would refer the Examining Authority to SHP's Comments on the Applicant's Comments on Written Representations, included in SHP's Deadline 5 submissions. SHP's comments on paragraph 2.9.4 sets out the nature of the information that was routinely being

shared with local authority stakeholders during the period Mr Freudmann was Chairman of the Airport. For example, at a meeting of the Kent International Airport Consultative Committee on 25 September 2003, the Chief Executive of the airport is noted as telling the attending local authorities that "*Wiggins' investment of £6m on new taxiway and aprons had increased cargo-handling capacity from 30,000 to over 250,000 tonnes p.a."*

Summary of Cross Examination by Counsel for SHP

4.28 SHP was afforded 15 minutes to cross-examine the Applicant, which it focused on evidence contained in the Azimuth Report [APP-085]. The Azimuth Report is the foundation stone on which the whole DCO Application is built – as explained in paragraph 4.11 of the Statement of Reasons [APP-012] and elsewhere in the application, the Azimuth Report provides *"[A] detailed explanation of the need for and the benefits of the Proposed Development".* As a result of the questioning, the Examination became aware of the following material facts;

4.28.1 Dr Dixon, the author of the Azimuth Report, disclosed that Azimuth Associates did not consider the issue of viability at all in preparing the forecasts contained in Volume III of its report. When challenged on this, Dr Dixon stated that she was not asked to consider viability by the Applicant, did not know where viability was considered in the Application documents and had not been involved at all in the preparation of any business plan. Dr Dixon did not even appear to understand the significance and consequences of this admission.

4.28.2 Dr Dixon confirmed that the Azimuth report did not consider costs when preparing her forecasts. When asked to explain how the numerous categories of "costs of switching airports have been taken into account" (as stated in paragraph 2.2.10 of Volume III), Dr Dixon suggested she had made an assessment that it was a neutral factor, but could give no explanation of what costs were considered and how it was determined to be cost neutral.

4.28.3 Dr Dixon also accepted under cross-examination that she/Azimuth has no relevant experience of air cargo forecasting.

4.28.4 The facts that emerged at the Hearing that freight forecasts and business plan were not integrated, is a critical shortfall, as one cannot be done without the other. Air traffic movement and freight tonnage forecasts are completely meaningless unless linked to a pricing strategy, especially for such a price sensitive market as air freight.

4.28.5 It is impossible to understate the significance of this point. As it is not an issue that is capable of being fixed after the event, there can be no basis on which the Applicant could meet the tests required for securing powers of Compulsory Acquisition over SHP's land with no credible business case or forecast – and no prospect of one being assembled post-hoc. The cross examination revealed a fundamental truth.

5. **AGENDA ITEM 6 – EXISTING AND FUTURE CAPACITY CONSTRAINTS IN THE SOUTH EAST AND WIDER AIRPORTS**

5.1 The detailed reports prepared by York Aviation and Altitude Aviation included as appendices 4 and 5 of SHP's Written Representations [REP3-025] provide detailed analyses on the demand and supply outlook for South East and wider UK airports, with clear explanation of how planned increases in capacity at existing airports will satisfy future demand. This is the type of detailed analysis that is conspicuous by its absence from the Azimuth Report.

5.2 Mr Rhodes from Quod explained that he acts for Heathrow as planning adviser on the third runway DCO proposals, which he said we scheduled for statutory consultation in June this year. He confirmed that Heathrow Airport Limited (Heathrow) is committed to the new runway opening in 2026 and that Heathrow is committed to expanding its cargo as well as its passenger operation. The forecast set out in the NPS that Heathrow's expansion will achieve capacity for 3m tonnes of freight was informed by Heathrow's own plan – its Blueprint for Freight published before the NPS. As Heathrow has already explained through its first round of DCO consultation, freight proposals are being worked up as part of its DCO masterplan to achieve capacity for the 3m tonne plan.

5.3 Mr Rhodes explained that Heathrow's DCO will propose a long term masterplan for the phased growth of the airport. In the early years post 2026 runway opening, there will be significant spare capacity for freight as well as passenger growth.

5.4 We set out the position in relation to the consented capacity at Stansted in SHP's comments on the Applicant's response to Written Question ND.1.18 [REP4-067]. In oral evidence, there appeared to be some confusion from the Applicant regarding the attitude of MAG (the Airport's owners) to cargo growth there.

5.5 The Aviation Forecasts underpinning the recent Stansted Planning Application to lift the cap on passengers are set out in Volume 4 of the ES (https://publicaccess.uttlesford.gov.uk/online-applications/files/2C9A5D09B9434B571771AF326D87A423/pdf/UTT_18_0460_FUL-ES_VOLUME_1_-_CHAPTER_4_AVIATION_FORECAST-2634298.pdf). The cargo forecasts to 2028 are set out at para. 4.59. These show the anticipated tonnage to grow to 376,000 tonnes a year by 2028, not far short of York Aviation's assumed capacity of 400,000 tonnes by 2040, suggesting that it may have understated the true capacity available at Stansted over the longer term. Indeed, the forecasts show slightly more cargo in the with development case than without development (Stansted Planning Statement, para. 6.28).

5.6 The Stansted Airport cargo forecasts assume 16,000 cargo ATMs a year and an increasing proportion of bellyhold capacity as long haul airlines, such as Emirates expand operations at the airport. We would expect the cargo capacity of Stansted to continue to increase beyond 2028 up to the envisaged capacity of 400,000 tonnes a year as more long haul services commence at the Airport, displacing more marginal short haul routes. The claims by RSP's experts that cargo capacity at Stansted is constrained is without foundation.

5.7 When requested by the Examining Authority to explain why Manston would secure business at the expense of other airports, Mr Cain for the Applicant stated it was

because Manston would be a dedicated freight facility serving the South East. Mr Cain then sought to compare Manston to Doncaster airport which served dedicated freight and was expanding. York Aviation pointed out that the CAA statistics shows cargo ATMs fell to 147 in 2018 from 340 in 2017. This is despite the airport heavily marketing itself as a specialist freight airport (see paragraph 12 of Appendix NOPS.5.2), illustrating the limited market size of specialist cargo market outside the main cargo hubs.

6. AGENDA ITEM 7 – LOCATIONAL FACTORS

6.1 SHP did not make any oral submissions on this Agenda Item, however we would refer the Examining Authority to the extensive analysis provided within the York Aviation and Altitude Aviation reports included as appendices 4 and 5 of SHP's Written Representations [REP3-025]. These reports explain the disadvantages of Manston's peripheral location being at the end of a peninsula, surrounded by sea on three sides and far away from the main distribution corridors (e.g. see paragraphs 150, 170 and 171 of the 2018 Altitude Report (Annex to Appendix 5 of the Written Representations).

6.2 Paragraph 67 of the same 2018 Altitude Report also notes the Airports Commission negatively assessed the freight potential of Gatwick due to its location. The Airports Commission stated, *"Gatwick's position to the south of London limits its effectiveness as a national freight hub."* This is consistent with our aviation consultants' views that locations which can be accessed from a wide national catchment (whether in the South East or not) are more advantageous than locations in less accessible parts of the South East. Gatwick is also considered to be a far more accessible location than Manston. Paragraphs 18-19 of Appendix NOPS.5.2 also demonstrates why Manston is an unlikely location for Amazon to base any operations given its lack of proximity to Amazon's UK fulfilment centres.

7. AGENDA ITEM 9 – SCALE AND CAPACITY

7.1 As a result of time constraints there was no opportunity for SHP to provide the full oral submissions it had prepared for the Hearing. The topic area was part covered under agenda item 5(e), and SHP's relevant submissions on this topic area are set out in paragraphs 57-74 of Appendix NOPS.5.1.

8. AGENDA ITEM 10 – AERODROME CERTIFICATE

8.1 The Examining Authority requested an update on the status of the certification process and long it would expect to take. Osprey (for the Applicant) confirmed that its experience of smaller scale projects that are further down the development process would take around 2 years, and that the Applicant had not entered formal discussions with the CAA yet. The Applicant advised that it had come to an agreement with the CAA to progress after a decision on the DCO is made as the CAA will not engage until there is "certainty".

8.2 The Examining Authority noted that a relevant consideration for compulsory acquisitions is any impediments and asked to what extent the CAA certification

process was an impediment. Osprey acknowledged there is a risk and Counsel for the Applicant confirmed that they "can't guarantee what the CAA will decide", but considered the risk would be minimised.

8.3 SHP then interjected to advise that the CAA guidance is clear that a certification process cannot begin until the Applicant is either the owner of the land at the airport site or has an agreement with the owner of the land to operate the airport. SHP further noted that it was not aware of any discretion the CAA had granted to the Applicant to progress the certification process, which did not reflect this guidance. The granting of the DCO in itself would not suffice.

8.4 In addition to the certification process being an impediment, SHP noted that the CAA guidance must be a relevant consideration for the period the Applicant is seeking under Article 21 of the draft Development Consent Order. In its summary of oral submissions to the Compulsory Acquisition Hearing, SHP has explained why the time period available to utilise compulsory acquisition powers must be much shorter (i.e. 1 year).

9. AGENDA ITEM 11 – AIRSPACE CHANGE PROCESS

9.1 The Applicant provided an update on the Airspace Change Process noting that it believed the process could be approved within a 2 year period, but that there was no certainty regarding this.

9.2 York Aviation for SHP made a number of comments that were consistent with the evidence it provided to support SHP's comments on the Applicant's responses to Examining Authorities Written Questions CA.1.15 and Ns.1.24 [REP4-067]. In summary, York advised that should all the airports consult simultaneously in 2022 (as the agreed process is understood to be), the airspace change process would only be expected to be implemented in 2024-2026. This is a significant impediment that requires to be fully considered.

9.3 The Examining Authority reference the "window of opportunity" referred to in the Northpoint report, and sought clarification of when the Applicant expected the airport to be operational. The Applicant confirmed that it anticipates this would be in Q1 2022.

9.4 SHP noted that this revised target date (compared to Q4 2020 in the ES) is highly unrealistic for the following reasons, and will have material consequences for the relevance of the assessments in the ES;

9.4.1 The Applicant acknowledged at the CA Hearing that it could not start any construction activity until 2021;

9.4.2 The scale of construction works itself is highly unlikely to be achievable in 12 months;

9.5 Note: SHP has appended (as Appendix NOPS.11.1) an indicative programme which shows that it is highly unlikely that an airport could be operational until 2024 at the earliest. It is SHP's view that the Applicant should be asked to provide a detailed programme that properly considers all the elements set out in this Appendix NOPS.11.1.

10. AGENDA ITEM 12 - PUBLIC SAFETY ZONES

10.1 The Examining Authority sought to understand when the threshold of 1,500 ATMs per month would be breached. It noted that the forecasts showed this being hit in years 8 or 9, but queried whether the forecast included General Aviation ("GA") ATMs. Osprey for the Applicant agreed that GA ATMs should be included, but suggested the inclusion would not have a material effect and further advised that assessment of the requirement for PSZs would form part of the CAA certification process.

10.2 SHP made a number of submissions as summarised below;

10.2.1 SHP referred to its comments on the Applicant's responses to Examining Authorities Written Questions OP.1.7 and OP.1.8 [REP4-067] which set out when PSZs would need to be implemented based on the Applicant's forecasts (inclusive of forecast GA ATMs of 16 per day) which show that an average of 1,500 ATMs per month would be exceeded in year 3 of operations;

10.2.2 the impact of freighter and GA movements (which have higher incidences of accidents) on the PSZ requirements;

10.2.3 the need for the requirement for PSZs to have been assessed in the ES, including from the perspective of any subsequent planning restrictions that would be placed on adjacent landowners;

10.2.4 The need for direct and indirect effects to have been properly assessed.

11. AGENDA ITEM 13 - SAFEGUARDING

11.1 The Examining Authority advised that it would cover some of the items listed in the agenda (e.g. bird strike) in written questions. SHP would refer the Examining Authority to its comments on the Applicant's response to written question OP.1.16 [REP4-067] in respect of the failure to assess bird strike.

APPENDICES

2.1	Summary note on procedural issues
NOPS.5.1	York Aviation Note on Hearings on Compulsory Acquisition and Need and Operations
NOPS.5.2	Altitude Aviation Advisory note on Need and Operations Hearing
NOPS.11.1	SHP note on realistic construction programme

APPENDIX 2.1

SHP would like to place on record again its fundamental concerns regarding the inadequacy of the hearing concerning compulsory acquisition of its property and the lack of sufficient time afforded to it to question the Applicant's case generally, and more specifically to carry out direct questioning of the Applicant and its witnesses in order to allow the Applicant's assertions regarding any compelling case in the public interest for compulsory acquisition (and indeed the need for a DCO generally) to be properly and fairly tested, whilst giving SHP a fair chance to put its case in response to the proposed compulsory acquisition and the DCO generally.

There can be no dispute that the proposed compulsory acquisition of SHP's land directly engages Article 1 of the First Protocol of the European Convention on Human Rights and Fundamental Freedoms ('the ECHR'), as now enshrined in the Schedule to the Human Rights Act 1998. It does so at the most extreme level, as the proposed compulsory acquisition would be of the entirety of SHP's landholding of Manston Airport in the most extraordinary circumstances. Any authorisation of such a radical expropriation of private property therefore requires the most careful scrutiny in principle. Those rights must then be seen in conjunction with the right to a fair hearing under Article 6 of the ECHR in the determination of SHP's property rights. In addition, the common law safeguards the basic property rights that SHP currently enjoys and requires an Applicant to demonstrate a compelling case in the public interest for such acquisition. Both of these principles are unaffected by the Planning Act 2008 and the procedures that the Examining Authority must also follow. It is relevant to note that here and in any other context, proposed compulsory acquisition of land gives rise to a right for an affected person to enjoy a hearing to test the case at which cross-examination and legal representation would occur.

SHP has a statutory right to a hearing in the case of a DCO proposing compulsory acquisition (as here). This is not a right at the discretion of the Applicant, the Examining Authority or the Secretary of State. As a matter of basic interpretation of that statutory right on the face of the statute alone, but in any event in light of the interpretative obligations that apply under section 3 of the Human Rights Act 1998, it cannot be seriously disputed that a right to a hearing must mean a right to a fair hearing. This right would be stripped of substance if, for example, the affected party did not know properly the case that was being advanced for compulsory acquisition in advance, or by the same token, had not been provided with the necessary evidence said to support the Applicant's case. The statutory right to a hearing is not fulfilled by providing a hearing at which the affected party does not have access to basic material said to underpin the Applicant's case, and consequently to exercise rights at the oral hearing to make representations about that case and, as necessary, to question the Applicant about that case whether directly, or even indirectly through submissions and questions to the Examining Authority.

In this case, the Examining Authority held a hearing to deal with compulsory acquisition at which SHP was able to attend. But as the Examining Authority knows from SHP's representations (and has long been known), the Applicant has failed to set out some of the most basic material and evidence in support of its case and this was exposed in more detail at the hearing. SHP does not set out an exhaustive list of the failures on the part of the Applicant in this respect, but by way of one basic example only - the Funding Statement.

The need for a Funding Statement as well as a Statement of Reasons to support a request for compulsory acquisition is a statutory requirement. It would, in any event, be a basic requirement of setting out a claimed case for compulsory acquisition. At the time of the hearing that the Examining Authority held for compulsory acquisition purposes, the Applicant had already declared in writing that the Funding Statement it had provided was to be superseded. Yet even by the time of the hearing itself, no replacement Funding Statement had been provided. As to the Funding Statement that was previously submitted, whilst this purports to be such a Statement, it cannot sensibly be described as

such both in terms of its content and because of the Applicant's own statements as to its contents. Furthermore, the Examining Authority itself has already identified basic deficiencies in the document and the need for more information (for example the claimed Joint Venture Agreement that is said to underpin it and basic information about funds themselves). This information was not available at the Hearing. The Applicant has said it is going to provide such information subsequently. But this example exposes a basic procedural problem that goes to the root of fairness and the right to a hearing. SHP has simply not had a fair hearing in relation to compulsory acquisition of its property in the absence of such basic information about the Applicant's case and the ability to test that information and the extent to which there is claimed to be any evidence to support it. Put simply, the hearing that occurred was incapable of constituting a fair hearing of the type that SHP is entitled to under the legislation. SHP made this point at the hearing itself, but wishes to place the point on record again. If the Applicant subsequently produces additional or different material relevant to its case on compulsory acquisition, then SHP will remain entitled to a hearing to test that case and evidence. It is now highly questionable whether there will in fact be sufficient time for such a hearing to take place within the examination period. SHP is entitled to a proper opportunity to test the case being made by the Applicant. That involves sufficient time to consider material that may subsequently be produced.

Quite apart from this basic principle about the hearing that has occurred not being capable of fulfilling the statutory entitlement, SHP turns to the question of the fairness of the hearing itself.

The Planning Act 2008 legislation does not provide for any express right of cross–examination. Section 94(7) starts with the presumption that any oral questioning at a hearing should be undertaken by the examining authority. However, that statutory provision relates to hearings generally through the examination. In the context of a compulsory acquisition hearing, it is necessary to approach it in light of the interpretative obligations under the Human Rights Act 1998 and the principles of the common law summarised above. Section 94(7) allows the Examining Authority to permit direct questioning where it thinks it is necessary in order to ensure adequate testing of any representations or that a person has a fair chance to put the person's case. Both limbs are highly relevant here where the Applicant's entire case depends upon a claimed assertion of need on which SHP has produced detailed technical expert evidence in response, and where compulsory acquisition is proposed of all SHP's landholding and where fairness requires it proper opportunity to question the Applicant and its witnesses.

In this case, the Examining Authority had already recognised this in advance of the hearing on compulsory acquisition and need (the two overlapping in any event).

This discretion was exercised in principle recognising the uniqueness of this DCO application.

In this respect, SHP was advised that it would be provided with the right to cross examine at the Compulsory Acquisition and Need and Operations hearings in emails dated 8th and 13th February respectively.

In light of this, SHP had invested significant sums in preparing for and attending the hearings with its full team, recognising it as an opportunity to properly test the Applicant's evidence and in doing so demonstrate a number of fatal flaws to what it considers to be an ill thought out, speculative DCO that relies on a wholly flawed need case.

In the result, however, SHP was restricted to only 15 minutes cross-examination at each hearing, and when combined with delays caused by the repeated reluctance of the Applicant's advisers to answer questions posed to them, SHP's Leading Counsel was only able to put a very limited number of questions to the Applicant's advisers before being stopped by the Examining Authority by the expiry

of the time limit (regardless of where the questions had got and the evasiveness of the answers received).

In these circumstances, SHP recorded at the time and places it on record again that this procedure did not give SHP a fair chance to put its case or test the Applicant's representations SHP has not had a fair chance to put its case. Whilst SHP was grateful in principle for the Examining Authority's exercise of discretion under section 94(7) of the Planning Act 2008 (although not surprised that the Examining Authority would recognise the need for the exercise of such discretion), the practical implementation of that decision by allowing only 15 mins of direct questioning, regardless of the practicalities of putting questions in that time period, made the exercise of discretion more theoretical than real. It was simply not possible to cover the necessary ground, particularly given the extent of the evidence and the complexity of the material and the inadequacies in the Applicant's written material, in anything like the time permitted.

In this respect, SHP notes that in a normal compulsory acquisition scenario, the landowner's would ordinarily enjoy the ability to cross-examine on key evidence and would not be constrained to 15 minutes. As there is no NPS that covers this application, the requirement to assess need is much more pronounced than in other DCOs where powers of compulsory acquisition are sought. This also then combines with the basic problems SHP has had in understanding the Applicant's case, the huge number of shifts and changes that have occurred through the written questioning process and the basic problems in understanding what is the Applicant's stated case. Indeed, at the compulsory acquisition hearing, the bulk of the 15 minutes expired in clarifying that what had been stated in respect of the Funding Statement was simply not correct (e.g. the claim that there was now no longer a Joint Venture Agreement); and at the need hearing, the same thing occurred in establishing that the Azimuth Report does not contain any purported business case / plan or assessment of viability, despite what is expressly stated in the Planning Statement and the Statement of Reasons. It is simply not fair that SHP has had to expose such basic deficiencies and contradictions in the Applicant's written statements on the record and, in doing so, then loses the opportunity to put further questions to the Applicant. SHP readily accepts that the Examining Authority (like any authority or tribunal) would wish to ensure that direct questioning remains relevant and progresses matters relevant to the basic issues and it is proportionate. It accepts that there may well be reasonable time limits imposed for questioning. However, in both cases the records of the hearing demonstrate that SHP used the limited time available to ask directly relevant questions, extracted directly relevant answers which had not been previously elicited and went to the heart of the written materials that had been provided, and therefore there was not any obvious basis for preventing SHP from continuing to ask direct questions on this basis.

As the first airport DCO, with a unique set of circumstances and only a very limited time for the Examining Authority to build an understanding of the complexities of the air freight market, SHP had suggested that a technical assessor be appointed to assist the examination. SHP consider that such an appointment would also have mitigated some of the significant costs SHP (supported by its vastly experienced aviation consultants, York Altitude and Altitude Aviation and legal and planning advisers) has been forced to incur to rebut the flawed evidence and submissions related to the Applicant's need case and forecasts.

In the two periods of 15 minutes permitted for cross examination, SHP was able to cover only a very small area of the necessary ground that it had diligently prepared for with its advisory team. Nevertheless, even in this short time, it was able to demonstrate a clear lack of veracity and competence of significant parts of the Applicant's evidence, as noted below;

1. The Examining Authority had been misled by the Applicant regarding the applicability of a Joint Venture agreement that purported to show how the funding set out in paragraph 19 of the Funding Statement was secured. The Examining Authority had requested a copy of this agreement in its first written question F.1.3. As SHP stated, if *"there is no longer a Joint Venture agreement"* that would allow the Applicant to draw down funding, as the Applicant claimed in its response to F.1.3, the Funding Statement could not be relied upon. The Applicant then changed its position and advised that the JV agreement was still in place. This was a material piece of information that the examination was not aware of and would not have been elicited without the opportunity for cross-examination.
2. In using the excuse of the *"restructuring"* for its refusal to provide the information requested in the Examining Authority's written question F.1.10 (iv) (which requested full details of the investors cited in paragraph 20 of the Funding Statement), the Applicant stated *"the identity of the investors mentioned in the Funding Statement is no longer relevant"*. By establishing through cross-examination that the JV agreement was in still in place and that the *"investors"* were still providing funding, it was clear that the Applicant had misled the examination for a second time, for reasons that cannot easily be explained away.
3. In rendering the excuse for the Applicant's failure to provide the Examining Authority with the information it had requested in written question F.1.10, the Applicant was then asked to identify its funders. Nick Rothwell (RSP director), claimed the PwC letter (which SHP considers does not even meet the standard of a letter of comfort) identified the funders, which it did not. A review of the letter provides no indication of who the funders are other than they are represented by Helix Fiduciary.
4. In further questioning, SHP was also able to establish that there is no document that contains any commitment to fund the amount set out in the Funding statement. This was confirmed by Nick Rothwell.
5. Azimuth Associate's report provides the air traffic movements forecast for the project and *"[A] detailed explanation of the need for and the benefits of the Proposed Development"* (paragraph 4.11 of the Statement of Reasons) and is the foundation stone of the whole DCO Application, yet Azimuth admitted under cross-examination that it <u>has no relevant experience of air cargo forecasting.</u>
6. In addition to the many repeated references of reliance on the Azimuth Associate's Report in the Statement of Reasons, paragraph 9.35 of the Applicant's Planning Statement claims in terms that the Azimuth Associates Report "considers whether reopening Manston Airport in the way intended by River Oak would be viable" and states this is "an important consideration." The Applicant has therefore put the viability of its proposal at the heart of its case and directed the public to the Azimuth Associates for where that viability is allegedly demonstrated. However, Dr Dixon also admitted, after a number of attempts to avoid doing so, that Azimuth Associates did not consider the issue of viability at all in preparing the forecasts contained in Volume III of its report. When challenged on this, Dr Dixon stated that she was not asked to consider viability by RSP, did not know where viability was considered in the Application documents and had not been involved at all in the preparation of any business plan. The Applicant is unaware of any document showing viability and therefore not only is the Planning Statement misleading, but there is no material to support what the Applicant itself identifies as an "important consideration" in respect of its whole case.
7. Dr Dixon did not consider costs in preparing her forecasts. When asked to explain how the numerous categories of "*costs of switching airports have been taken into account"* (as stated in paragraph 2.2.10 of Volume III), Dr Dixon asserted that it was cost neutral, but could give no explanation of what the costs were and how she determined it was cost neutral. In the Azimuth Report, there are a number of references regarding viability (e.g. paragraph 6.0.2 of Volume II, *"Manston is the only viable option in the South East"*). However, as a result of the cross-examination we now know that Dr Dixon's forecasts had no regard for viability and were not even

based on the most basic assessment of costs / charges for the airlines, freight forwarders and airport operators or benchmarked against other airports or modes of transport to even attempt to understand whether Manston could attract any business. In responding to one of Dr Dixon's questions asking it to rank issues that are important to its business, one interviewee responded, "Cost is always the most important" (paragraph 4.1.9 of Volume II), yet Dr Dixon's forecasts were prepared without consideration to the costs. In absence of the requisite detailed economic modelling, the Azimuth Report's forecasts are no more than theoretical guesswork and should carry no weight in this examination.

SHP's questioning only began to touch the surface of the areas it thought necessary, and had prepared, to cover. In view of the progress achieved during cross-examination, SHP consider that further time would have materially assisted the examination in further demonstrating the weakness, misrepresentations and contradictions in the Applicant's submissions. It would also have helped ensure adequate testing of RSP's evidence in a manner that written questions are not able to – this has been evidenced by the incomplete and muddled answers the Applicant provided to the Examining Authorities written questions on Need (as highlighted in SHP's detailed comments on these responses [REP4-067]). It would also have given SHP a fairer chance to present its case, and thereby mitigate the risk of challenge based upon Article 6 of the ECHR and Article 1 of the First Protocol of the ECHR.

To assist the examination, some examples of the areas of RSP's evidence that SHP had prepared to, and would have, probed further in cross-examination are given below;

Compulsory Acquisition Hearing:

- SHP would have explored whether the funding provided to date has all been provided by MIO Investments Limited or was from another source? In the course of the hearing the Applicant has mentioned different figures for the amount invested to date, with Mr Rothwell referring to £4.75m at one point and at other times Mr Freudmann referring to a number in excess of £14m. The Applicant would have been asked to clarify the amounts invested to date and whether any amounts are inclusive of any capital fees, interest or redemption premia on amounts invested.
- Freudmann Tipple undertakes banking services for the RSP group companies. This would appear irregular, therefore, the Applicant would have been asked to confirm which companies within the RSP group of companies have a UK bank account, thus demonstrating these companies have satisfied the Know Your Customer money laundering checks required to open a UK bank account.
- Mr Freudmann would have been asked to explain the offer RSP made for £20m to acquire SHP's land, when the offer was made, when it provided signed heads of terms to SHP, the target date for completion and confirm whether that offer still stands. The Examining Authority was unable to probe this in the hearing, as a result of the Applicant's claim that it could not do so due to a Confidentiality agreement. As explained in Appendix CA.5.1 to the Summary of Oral Submissions to the CA Hearing, this was not accurate, and SHP considers that the Applicant should be required to explain why it adopted this approach at the hearing.
- Mr Freudmann would have been asked to explain the nature of his role in relation to Manston Airport whilst at Wiggins and advise whether he, or any of his colleagues made any statements (in the period 2001 -2004) regarding the level of capacity being increased to c.200,000 + tonnes per year. (Note – SHP has submitted evidence as part of its other submissions that contradict the claims made by Mr Freudmann that he was only a "foot soldier" and that it would be *"simply ludicrous"* to suggest Manston had capacity of 200,000 tonnes).
- Mr Freudmann would have been asked to explain the level of annual losses experienced by Manston airport during the years of operation by Wiggins.
- The Applicant would have been asked to explain why it had missed Deadlines set by the Examining Authority to provide an explanation and justification of the works it claims is NSIP development and the works it claims to be associated development. The Applicant would then be asked to

explain and justify its claim that the airport related business space at East Midlands is c.8x the size of the comparable business space the Applicant is seeking on the Northern Grass (works 15-17).

- The Applicant's ES (paragraph 5.2.1) effectively assumes that construction work can commence immediately upon any decision by the Secretary of State to grant of a DCO. As this is completely unrealistic for a number of reasons, with 2024/2025 being a more appropriate, yet still optimistic, estimate, the Applicant would have been asked to provide a realistic timetable of the construction programme taking into account the following;
    - Time allowance for judicial review (and any subsequent appeal) of any decision by the SoS to grant the DCO;
    - period required to secure ownership of the land following end of any legal challenges to a decision to grant the DCO;
    - time required to undertake the ground surveys (e.g. archaeological surveys etc) and detailed design, consultation and planning and other requirements (e.g. mitigation) that would be set out in the DCO requirements;
    - Time required to finalise funding, noting George Yerrall's evidence that construction costs are uncertain and that the Applicant is not even able to advise the Examining Authority by how much these costs could vary until it has completed its ground surveys;
    - Completion of contractor appointments (post tendering process), and other licensing, permits etc.
    - Construction timetable of works recognising that the initial estimate of phase 1 costs is £186m (and is highly uncertain) and has increased by £86m for no apparent reason – how credible is it that the Applicant could raise funding when it is unable to quantify costs and how credible is it that there would be any effective plan to spend so much capital in such a short period of time;
    - Post practical completion testing, finalising CAA certification processes to ensure the airport would be safe for operations;
    - This would represent a base case timetable as it ignores any delays that would result from;
        - the Operation Stack arrangements being extended beyond the end of 2020;
        - the requirement to retain the existing HRDF beacon for 2 years after any new beacon is installed for technical/safety reasons;
        - delays in the estimated Airspace Change such that Manston's airspace change is aligned with the other changes in FASI south;
        - delays in CAA certification and / or delays to programme as a result of required changes to design to secure EASA certificate.
    - The Applicant would be asked how it intended to secure funding for its projects given the numerous impediments, including the risks associated with the Airspace Change Process and CAA certification that could result in the airport not being capable of operating until just prior to Heathrow Runway 3.

Need & Operations

- Dr Dixon would have been asked to list the clients worked for in air cargo forecasting in the last 15 years, the nature of the project and role in the project?
- Dr Dixon would have been probed on the forecasts submitted to the Change of Use Inquiry held in March 2017 – these included exactly the same air traffic projections as in the current report. In the course of Dr Dixon's questioning by counsel for RSP at this inquiry in March 2017, Dr Dixon was asked to explain the growth rates applied. In justifying the 4% per annum growth rate applied for years 11-20 of your forecast, Dr Dixon explained that the forecast <u>did not include any intra Europe flights</u> (where forecast growth rates were lower). This is consistent with the analysis contained in paragraphs 3.2.1 and 3.2.3 of Volume II of the Azimuth report, which suggests there are no flights to/or from EU countries. Dr Dixon would have been asked to confirm for the benefit

of the Examining Authority, whether the statement made at the planning inquiry is accurate and that the cargo ATMs forecast does not include any flights to / from European countries (other than Russia)?

- In view of the fundamentally inaccurate response provided by the Applicant to written question ND.1.41, Dr Dixon would have been asked to explain to the examination how many cargo ATMs there were to and from Non-EU international airports in 2018 based of the published CAA statistics. Dr Dixon would have been walked through SHP's response to the Applicant's comments on written question ND.1.41. The SHP response, as the Examining Authority will be aware, included a note (with supporting appendix ND.1.41) that included a detailed analysis of the cargo ATMs in the UK based on the published CAA statistics. Dr Dixon would have been asked whether she agreed with the analysis showing there were only c.34,000 non-domestic cargo ATMs in 2018 (and not *"almost all"* of the 53,628 cargo ATMs the Applicant referenced in its answer). Dr Dixon would be asked to confirm whether she agreed that the CAA statistics show the total number of cargo ATMs between UK and non-EU international airports in 2018 were less than 8,000 (including night flights)? As this is effectively RSP's target market, does this not demonstrate that its forecast of 9,700 cargo ATMs in the 3rd year of operation is literally incredible?
- Dr Dixon would have been probed on the extent to which traditional integrator and the new e-commerce integrator ATMs are included in the forecasts. In the hearing we heard that the forecast did not include traditional integrator ATMs, but did include a significant number of cargo ATMs (c.45%-50% of total based on Appendix 3.3. to the Environment Statement) from an, as yet, non-existent e-commerce market.
- Dr Dixon would have been asked to explain whether these new e-commerce integrators have been in the forecast from the start (rather than conventional integrators) or are they are a recent change. Dr Dixon would have been referred to the reference in para. 3.2.3 of Vol III of the Azimuth Report, and Appendix 3.3 of the ES which specifically identifies DHL/Fedex as the operators, alongside a smaller Amazon operation.
- Dr Dixon would have been asked to explain the model for these new e-commerce air freight business, the routes these aircraft would fly, and the type of aircraft that would fly the routes. The Applicant had previously stated that the forecasts assume either Amazon or a Chinese company would base aircraft at Manston to serve delivery of consumer goods to the south east of England market. Dr Dixon would have been asked if it was correct to assume that the freight carried on these flights would be predominantly imports? If this is the case, then why does paragraph 3.2.3 of Volume III of the report show that the dedicated integrator movements being 100% outbound with small backloads of c20%. This is wholly contradictory position and would suggest serious a material error in the split of import and exports assessed. Dr Dixon and the Applicant would have been asked to comment on this and explain the discrepancies and the impact on the validity of the assessments in the ES. Similarly, based on comments made by Chris Cain regarding the type of aircraft that would be flown by a new e-commerce integrator is the fleet mix to the now expected to be different from that which is assessed in the ES (see appendix 3.3), and what are the implications for the validity of the "worst case" environmental assessments, including noise, air quality etc.
- Dr Dixon would have asked if any of the indicative airlines listed in Appendix 3.3 of the ES are expected to come to a reopened Manston. If so, which ones? Whilst the airlines named in appendix 3.3 were presented as being indicative only, there is a close resemblance to the markets listed in Volume III of the forecast. Dr Dixon would be asked to explain how the interviews informed the assumptions made in the forecasts and would be presented with a number of apparent discrepancies between the comments from interviewees and the narrative relating to the "forecasts".
- Dr Dixon would have been asked to explain how, without any proper consideration of switching costs, the charges to be levied at Manston and the relative price of dedicated freighter operations

versus bellyhold and other market realities, can Azimuth's so-called 'forecasts' be considered anything other than a "guesstimate".

As can be demonstrated from the hearings held on 20 and 21 March 2019, the Applicant's case falls apart under direct questioning, contradictions become apparent and confidence is lost in the veracity of the Applicant's submissions. Almost every answer the Applicant gave to a probing question had the effect of highlighting a new, and material, discrepancy elsewhere in its application, such that the Applicant's only way to protect itself from proper scrutiny of its application was to resort to the safety of its *"commercial confidentiality"* defence.

Whilst written questions are invaluable, as were the well prepared direct questions from the Examining Authority, robust testing of this particular Applicant's submissions through direct questioning on the part of SHP (whom is able to call on the extensive specialist technical expertise from its highly experienced aviation consultants) is required to cut through the assertion and to establish if there is any actual evidence that supports the Applicant's proposals.

SHP was not in any way surprised at what emerged through the hearing processes, where the answers to each question generated greater uncertainty rather than less. Nor were SHP surprised by the Applicant's reluctance to let Azimuth explain their aviation case.

However, SHP were repeatedly surprised that the Applicant did not appear to understand the multiple inherent flaws and contradictions within their proposals.

York Aviation

Manston Airport

Supplementary Submission following Hearings into Compulsory Acquisition and Need held on 20th and 21st March 2019

1. This note expands on points made on behalf of SHP during the Hearings held on 20th and 21st March 2019 in the light of the very limited time afforded to SHP to present its case and test the case made on behalf of the Applicant. This note provides further evidence to assist the Examining Authority in considering the Need case presented by RSP and whether there is a compelling case in the public interest. This submission should be read alongside the Summary of Oral Evidence submitted by SHP.

Correct Interpretation of YAL's work for TfL and the FTA

2. In their comments on Written Representations (Deadline 4) and at the Need Hearing, RSP persisted in relying heavily on quotations from our work in 2013 and 2015 for TfL and for TfL and the FTA respectively. This is despite being told repeatedly that, when read in their entirety, neither of these two notes/reports supported the interpretation being made of them by RSP and its advisers in relation to the asserted need for a freight focussed airport in the South East of England.

3. At the outset, we would reiterate that we do not resile from either of these pieces of work and, as stated to RSP in 2016, the report for TfL and the FTA is in the public domain and, therefore, could be cited by them. The same is not true of the note for TfL, which was an initial informal briefing note intended for the client's internal use only. We have made clear to RSP since 2017 (see correspondence submitted as Appendix B to our comments on RSP's Responses to the ExA's first set of questions) that their interpretation of these two notes/reports was in error. We understand that TfL and the FTA similarly confirmed that the 2015 Report was in the public domain and that they had relied on the contents of the report in submissions to the Airports Commission and Government. However, it is our understanding that neither body has expressed any direct view on the use made by RSP of the note and report, contrary to the inference made by RSP at 4.18.3 of its commentary on Written Representations. RSP did not check directly with us whether its interpretation of our work was correct nor has it addressed the criticisms made of its interpretation in both our 2017 and 2019 reports.

4. To summarise the meaning of these documents:

TfL Note

5. This was an informal briefing note prepared by York Aviation for TfL relatively early in the process of the Airports Commission's work. It considered three scenarios, Max Use (i.e. no additional runway capacity at any of the London airports), 2x2x2 (i.e. additional runways at Gatwick and Stansted) or a New 4 Runway Hub (with the closure of Heathrow). It did not consider the Government's adopted strategy of the development of a new runway at Heathrow.

6. It is important to note that the market was considered in the first instance in terms of tonnage capacity expected to provided in the bellyhold of passenger aircraft as the primary requirement, with the need for additional capacity for air freight being expressed as a residual. The reference in the note to 14,000 freighter movements that might still use an airport, such as Manston, in the vicinity of London in the 'Max Use' case was a reference to the then existing 14,000 freighter movements operated at the London airports, which might need to be displaced by 2050 if no additional capacity was provided at any of the main London airports. To reiterate comments made in our 2017 and 2019 Reports, Manston was only referenced on the basis that it was, at the time, an airport handling a number of freighter movements and the context of the 'Max Use' scenario only, i.e. a heavily constrained case.

7. Table 4 presents the potential excess cargo tonnage, after considering bellyhold capacity, as 'freighter tonnage required' and converts this to an indicative number of freighters so as to consider whether, prima facie, there would be runway capacity available to accommodate additional freighter movements under each of the scenarios, to the extent there was any shortage of bellyhold capacity by 2050. Para. 24 makes clear that the only in the case of no new capacity being provided (Max Use) would there be an effective shortfall in capacity:

   "We estimate that the number of freighters required to accommodate projected air freight demand would rise from 14,000 in 2012 to around 41,000 in the New Hub case, 47,000 in the 2+2+2 case and 68,000 in the Max Use case. In both the New Hub case and 2+2+2 case, we estimate there will be sufficient runway capacity available to accommodate these movements at 2050, at the New Hub and/or Stansted respectively."

8. It is important to note that the number of international passenger ATMs expected to be provided with a 3rd runway at Heathrow lies between the 2x2x2 and New 4 Runway Hub cases. Given increasing tonnage capacities on new generation passenger aircraft coupled with an emphasis on maximising global connectivity from the new capacity at Heathrow, as set out in the Airports NPS paras 3.18 and 3.19, this means that the bellyhold capability from the new runway at Heathrow is likely to exceed that which we assumed in the case of the two expansion scenarios considered in our 2013 note. The effect of this will be to reduce further any residual element of air freight capacity required over and above bellyhold capacity to be provided. Furthermore, in the circumstances of a 3rd runway at Heathrow and in the light of the available capacity at Stansted (see below), we expect any required freighter movements to continue to operate from the existing airports.

9. Importantly, the note then goes no to explain how any shortfall in capacity would be met, noting in the first instance the clear opportunity for more freight to be handled at the main regional airports such as Manchester and Birmingham alongside East Midlands, citing in particular the benefits of reducing the amount of freight trucked from the regions for carriage from Heathrow (para. 26 of the note). Only in the case of no additional capacity being provided (Max Use) was it considered likely that more freight would need to be trucked to Europe. It is evident, nonetheless, that our note considered that the consequence of any constraint on capacity at the main London airports would be more trucking of freight to find cost efficient bellyhold capacity elsewhere rather than identifying a need for a dedicated freighter airport.

10. The note concludes, at para 29, that *"In the latter two cases, our assessment is that, across both bellyhold capacity and pure freighter activity, there would be sufficient capacity to meet expected demand for air freight to and from the UK"*, going on to conclude that "*The key difference between these two scenarios* (2x2x2 and New 4 Runway Hub) *would be in terms of the efficiencies and economies of scale gained by the industry arising from the concentration of freight activity at a single hub. In both cases, the overall volume of air freight to and from the UK is expected to be broadly the same, although the actual freight carried including transit freight would be higher in the hub case. However, under the new hub scenario, savings from greater efficiency may be passed onto users, so reducing shipping costs and facilitating trade leading to higher freight volumes"* (para. 30). These efficiency benefits will be delivered by facilitating further growth in cargo capacity at Heathrow with a 3rd runway exploiting the existing synergies of consolidation already present around Heathrow.

Report for TfL and the FTA

11. Our work for TfL and the FTA in 2015 adopted the same approach but was based on updated information from the Airports Commission as well as an updated assessment of the underlying growth of the air cargo market as a whole. Again, the excess tonnage expected at 2050 under each of the capacity scenarios under consideration by the Airports Commission was set out. This was again presented in terms of freighter movement equivalents on Page 19.

12. It is significant that the estimated cargo capability at Heathrow assumed in 2050 was 2.6 million tonnes a year with a third runway whereas, given increased bellyhold capacities on newer generation aircraft, the estimated tonnage capacity at Heathrow is now expected to exceed 3 million tonnes a year. This alone wipes out any excess demand that would need to be accommodated in dedicated freighter aircraft.

13. In any event, it is made clear that the actual requirement for dedicated freighter aircraft is limited and, over and above existing operations, a residual to the extent that bellyhold capacity is insufficient:

    "For the purposes of this analysis, we have assumed that freighter aircraft primarily act as a means to supplement bellyhold capacity where insufficient bellyhold capacity is available. This is simplification as there are items that cannot be transported on passenger aircraft or for which freighter transport is preferable and destinations that are not served by passenger aircraft. Consequently, we have further assumed that a residual number of freighter movements will still be accommodated in London in capacity constrained scenarios at 2050, i.e. all scenarios other than the 4 Runway Hub" (Page 20).

14. We then go on, on Pages 22ff titled *"How will the Freight Industry React"*, to explain how the excess tonnage would be accommodated in practice, i.e. not through additional movements by dedicated freight aircraft:

    "The options in relation to the excess demand that cannot be satisfied within the London system are subtly different. Again, some companies may simply choose to step back from the London market, either withdrawing or choosing not to seek to expand with demand. This may be particularly true for major global companies with the ability to shift the emphasis of their activity. However, this will ultimately leave unsatisfied demand in and around London and potentially market space for others to step in and seek to serve the market via a different business model. This is most likely to involve trucking freight from London to other airports either in the UK or on the continent that have the necessary capacity and/or long haul passenger networks to support the required levels of demand. This will, however, come at a cost in terms of both additional trucking costs and a loss of utility to users as these avenues will need more time to ship freight, which in an industry where speed is an essential feature is clearly potentially damaging. Again, there is also the potential for increased service failures and delays via this route."

15. We go on to set out a Gravity Model to examine how any excess demand would be expected to be handled (Appendix C to our comments on RSP's Written Answers) and the cost and time implications of the need for additional trucking. However, to the extent that air freight from the regions simply reverts to using available capacity in the regions, these costs will have been overstated and cost/time to shippers in this case could actually be reduced. Ultimately, any loss of utility/consumer benefit arising from increased costs/time for shippers has to be set against the increased costs implied by the use of more expensive dedicated freighter aircraft and the costs of establishing and operating an airport capable of handling such aircraft. Given our understanding of the cost of trucking compared to the costs involved in the operation of dedicated freighter aircraft, we would expect trucking to remain the most economically beneficial solution. Furthermore, when the increased bellyhold tonnage now expected to be available at Heathrow is taken into account, the issue simply disappears.

16. As made clear during the Hearing on Need, the demand and capacity assessments set out in Section 3 of our 2017 Report and Section 4 of our 2019 Report are an updating of the analysis carried out in 2015 for TfL and the FTA using the most up to date data. Hence, this analysis reflects the correct interpretation of our earlier work in the context of the current market situation and known airport plans for capacity expansion.

17. Correctly interpreted, our previous work explains how, to the extent that any shortfall in capacity exists, the need is likely to be met, i.e. through use of bellyhold capacity at regional airports and, to some degree, an increase in trucking to European hubs to avail of cost effective consolidation of freight loads to a wide range of global destinations. Operation of dedicated freighters on a limited range of routes would simply not provide a viable option for any freight displaced from Heathrow.

Role of Trucking

18. During the Hearing, the Applicant cited unevidenced figures for the number of cross-Channel trucks carrying airfreight. The Applicant also noted that a high proportion of these operated on airline flight numbers. It is important to note that such movements are part of the system of whereby airlines truck freight to and from their hubs to connect to bellyhold operations. By way of example, on 27th March 2019, the Official Airline Guide database (OAG) records a total of 635 truck movements on airline flight numbers to and from airports in the UK (evidence can be provided if required). Of these, 215 truck movements were scheduled from Heathrow, of which 65% were to UK domestic airports suggesting strongly that the primary purpose was the distribution of bellyhold imports. 197 truck movements were scheduled into Heathrow, of which 51% were from UK domestic points for consolidation of goods for onward transport. It is notable that trucking from Europe into Heathrow figures more strongly than trucking from Heathrow, suggesting that the primary purpose is to feed goods into the Heathrow hub for onward transport in the bellyhold of passenger aircraft. Similarly, to/from the UK regions, there were 10 trucks scheduled outbound to Europe but 51 trucks scheduled inbound indicating again a focus on imports. Excluding international trucking to the Republic of Ireland, there are of the order of 180 trucks a day operated across the Channel on airline flight numbers. This equates to of the order of 63,000 trucks a year (assuming not all trucks operate on 365 days a year). These truck movements would not be divertable to Manston as they are strictly related to the cargo hub at Heathrow and equivalent hubs in Europe. We would expect a similar number of truck movements connected with integrator operations also related to their patterns of hub and spoke operations but data is not systematically available.

19. Ultimately, the reason that trucking is common place within the general and integrator sectors relates to the price of aviation fuel, which changed the economic paradigm in terms of the optimum balance between use of dedicated freighters and trucking for part of the journey combined with the use of more economic bellyhold capacity. Since 2000, the price of aviation fuel has risen by 123% (https://www.spglobal.com/platts/en/oil/refined-products/jetfuel). This has impacted on the decision as to the balance between time and cost for shippers. This increase in the cost of air freight, and dedicated freighter operations in particular, is the primary reason why consideration of air freight trends prior to 2000 (which Northpoint seek to do (para. 8) in their report submitted at Deadline 4) is no longer relevant and slowdown in growth in air freight tonnage reflects a shift in the balance towards trucking and even towards shipping for some goods that might previously have used aviation. This is relevant to consideration of the appropriate rates of market growth to assume, as we discuss later in this note.

20. Understanding the economic drivers for shippers and the relationship to consolidation of loads at hub airports for bellyhold and general air cargo, and the hub network structures of the integrators, is vital to assessing the extent to which Manston could plausibly intercept or 'clawback' any part of the air freight currently being trucked across the Channel. In our assessment, the economics of dedicated freighter operations compared to the relative cost of trucking makes the interception of anything other than a small number of special loads highly unlikely. As Mr Cain said in oral evidence, shippers will trade off time and cost but as costs have risen, the balance has shifted and this, in large part, explains why bellyhold capacity is now clearly favoured for the majority of commodities. This would include fresh fish as cited by Dr Dixon in oral evidence (see Case Study on Page 16 of the Steer Report for Airlines UK referred to in our comments on the Applicant's responses to question ND.1.17 (http://airlinesuk.org/wp-content/uploads/2018/10/Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Report-v22-Oct-2018-b-SENT.pdf). The global change in the price of aviation fuel is a key reason why bellyhold capacity is preferred and why use of dedicated freighters is declining in relative terms, particularly where there is good availability of bellyhold capacity, as is the case in the UK.

21. Furthermore, in the highly unlikely event that some airlines engaged in trucking of freight between hubs considered the use of Manston for dedicated freighter movements as a viable alternative option, this would imply a totally different fleet mix to that assessed in the ES (Appendix 3.3). We discuss issues related to the fleet mix further below.

The Validity of Azimuth's 'Forecasts'

22. In oral evidence, Dr Dixon conceded that the Azimuth Report, which she prepared, was not really a forecast of what would happen but an assessment of the 'potential' need for a dedicated freight airport in the South East of England. She confirmed that she had taken no account of the viability of operating the services for the airlines or the viability of the operation of the Airport (despite the Azimuth Report being referenced as setting out the viability of and the Business Plan for the development in the ES, Planning Statement and Statement of Reasons - see para 2.5 of York Aviation 2019 Report).

23. At para. 2.2.10 of Vol III of the Azimuth Report, a number of key considerations are set out which would impact on the decisions of airlines as to whether to use Manston:

- *"The cost of physical relocation*
- *Cancellation of long-term contracts*
- *Loss of economies of scale, although if an entire operation is switched, economies of scale would be gained at the new airport*
- *Market effects such as marketing new routes and a potential loss of custom in the early years following the switch*
- *Network effects lost by switching to a smaller airport*
- *Capacity constraints at other airports, particularly in slot allocations*
- *Sunk costs such as an airline's investment in the airport from which they are switching"*

24. Although the report claims that these factors have been taken into account in the 'forecasts', it is now clear from answers given in oral evidence that this was not the case and that Dr Dixon simply assumed that the costs would be "*neutral*". We take this to mean that her underpinning assumption was that the costs for an airline of operating from Manston would be the same as from other airports and/or that the costs to shippers for a tonne of air cargo would be the same to/from Manston as from alternatives, including bellyhold options. Without proper consideration of switching costs, the charges to be levied at Manston and the relative price of dedicated freighter operations v. bellyhold for the shipper, the so-called 'forecasts' can have no validity as they do not reflect market realities.

25. Furthermore, as pointed out in our comments on the Written Answer to question FD.1.15, whilst it is claimed that RSP's Business Model is based on being able to offer airport users competitive terms, this is clearly not the case. As we know from the Business Model spreadsheet submitted at Deadline 3, the Applicant plans to charge airlines around four times the equivalent cost at East Midlands Airport and without any countervailing incentives (see separate papers prepared by Altitude Aviation Advisory). Hence, it is clear that, leaving aside its other manifest shortcomings, the Azimuth Report has not assessed the actual position proposed by RSP of charging a significant premium over other airports for dedicated freighter operations, which are already significantly more expensive than bellyhold alternatives.

26. The consequence of this is that on any reasonable assessment of the costs of using Manston and the costs to the shipper of using dedicated freighter aircraft, when coupled with the costs of switching and other costs identified by Azimuth, the share of the market that Manston might hope to attract will be severely reduced below the 'neutral' assessment made by Azimuth. We have set out our view of the maximum potential in Section 4 of our 2019 Report. At the price RSP propose to charge, demand would be significantly lower and the revenues that they assume within the Business Model not attainable. We have already set out in Section 7 of our 2019 Report, the more likely financial position at competitive airport charges and, even then, this was based on the full Azimuth 'forecast' being attained, which is unlikely for the other reasons cited above. Either way, proper analysis strongly suggests that there is no prospect of the proposed investment in the development of a dedicated freight airport at Manston being viable even on the basis of the latest estimate of upfront construction costs, which we now understand from the oral evidence of George Yerrall are likely to be underestimated at this point in time.

27. Put simply, the oral evidence given by Azimuth Associates confirmed that the Report upon which the entirety of the Need Case for the development relies has no realistic foundation as a basis for predicting the extent to which Manston might actually be used.

Northpoint Report

28. The Northpoint Report submitted by the Applicant at Deadline 4 is a clear attempt by the Applicant to produce a post event corroboration of the Azimuth forecasts that are used to underpin the entirely of their case for the development. This attempt at a putting a 'sticking plaster' over the flaws in the Azimuth must also be dismissed as it self-confessedly has not yet taken into account the key variables which should inform a robust prediction of the actual potential usage of Manston as set out at para. 67 of the Report, namely the model (it):

- *"it does not use differential rates for bellyhold, express and ordinary freight – although the analysis is a level of aggregation where this is not a fundamental determining issue;*
- *it does not examine aircraft movements – we regard this primarily a function of tonnage volumes and airport location and runway length*
- *it does not look at the scope for migrating between type of carrier (e.g. bellyhold to freighter) and therefore between airports pairs; and*
- *it does not examine the impact of price because it is primarily interested in the issue of capacity."*

29. These factors are precisely the reasons why Manston would struggle to penetrate the market to any material extent. It is stated at para. 68. that these factors are taken into account in a more detailed model that is being developed/used to inform the funding process. However, this more detailed model has not been provided to the Examination and would need to be carefully scrutinised once produced.

30. As already pointed out, the thesis underpinning the Northpoint Report that somehow considering the performance of the airfreight market over the last decade is not relevant and that trends from the 1990s need to be included is exposed as flawed when the effect of fuel price rises since 2000 is taken into account.

31. Nor are the benchmark comparisons in terms of cargo tonnage growth set out at para 10, particularly persuasive. The only airport where there appears to be a major jump in tonnage compared to the UK as a whole is Paris and (as set out on page 21 of the Steer 2018 Report for AirlinesUK) data for Paris before 2014 was measured differently so the jump in tonnage shown is not a real jump but the result of changes in data collection. This would have to be corrected for if any comparisons are to be made. The outperformance at Frankfurt is more down to the consolidation in the sector and the use of Germany and the Low Countries as distribution hubs for Europe. However, since 2000, the performance of Frankfurt is not significantly different from the performance at the total UK level and, in any event, a shift from Heathrow to the regions is no bad thing in the context of the proportion of freight with regional origins that has historically been trucked to London. All in all, this pattern is simply reflective of the market working to reduce unnecessary road journeys within the UK.

32. We have already referred in our comments on the Applicant's Written Answers (ND.1.18, ND.1.13, ND.1.18, ND.1.20) on the capacities available at the other airports and will comment further below on specific points made by the Applicant in oral evidence regarding Stansted. Suffice it to say that Northpoint continue to understate the tonnage capabilities of these other airports in paras. 16 to 32.

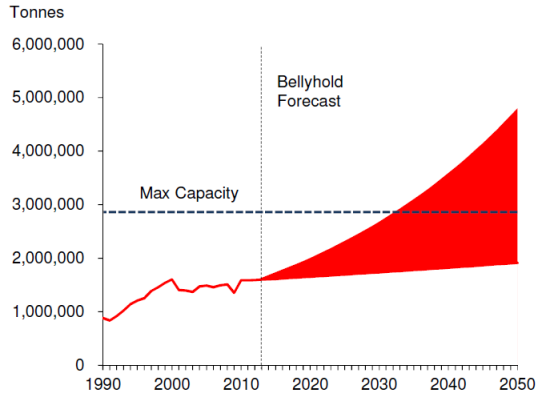
33. In terms of overall freight tonnage to and from the UK, notwithstanding our comments about the inherent invalidity of considering trends back to 1990, the actual freight tonnages projected for the UK and for the South East by Northpoint are not substantially different at 2040 from our own GDP based estimates (see Figures 4.7 and 4.8 of our 2019 Report) as far as the base case of 2.35% per annum growth is concerned (Table above para. 63). However, there is no foundation for the use of any higher underlying rate of growth in cargo tonnage.

34. The work used by Northpoint to corroborate its analysis is work carried out by Ramboll and Oxford Economics in 2014 (http://content.tfl.gov.uk/impacts-of-a-new-hub-airport-on-air-freight-industry.pdf). We note that the quotations from this work by Northpoint are selective and use graphs relating to the UK and London inconsistently. When read properly, this report explains precisely why fewer dedicated freighters are needed at London due to bellyhold capacity. This report also explains why the growth rate in cargo tonnage flown has slowed from the long term trend. Northpoint use Figures 3.7 and 3.8 from this report relating to the expected growth across the UK as a whole when the relevant ones for the South East are Figures 3.5 and 3.6, reproduced overleaf. The charts used by Northpoint illustrate the greater need for dedicated freighters in the rest of the UK on the basis of limited bellyhold growth other than at the London hub. The correct charts for the London airports show very limited need for dedicated freighter operations given bellyhold capacity expected to be available.

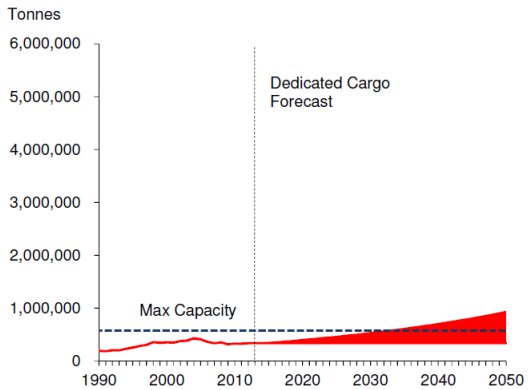
35. This report goes onto predict the extent of any shortage of freighter ATMS at the lower and upper bounds of the forecasts against DfT's capacity constrained forecasts. It shows that the maximum shortage of dedicated freighter capacity at 2040 is 4,000 movements (Table 4.3 reproduced overleaf) on the upper bound forecast. The big shortfall is in bellyhold ATMs. At the lower bound cargo forecast, there is no shortfall and spare capacity for 2,000 dedicated freighter movements (Table 4.2). This analysis confirms our assessment of the position, i.e. that there is limited, if any, need for additional capacity for dedicated freighter ATMs, even viewed from the position as at 2014.

There is a marked difference in the range of growth of dedicated cargo for London Area Airports, as compared to the UK-wide growth rate. This is likely due to the high number of passenger flights originating in London compared to the rest of the UK, which allows for more bellyhold cargo growth as opposed to dedicated cargo growth. As mentioned in Section 2.2, one of the reasons for the much slower growth rate of cargo after 2000 is likely the steep rise in the price of aviation fuel. The fan charts below (charts 3.5 to 3.8) show the range of Oxford Economics trend forecasts for the UK and London area airports[25]. The upper range of the forecast implies that after 2033, the higher range of cargo growth forecasts cannot even be met with a new hub airport. Therefore, the Oxford Economics upper bound forecast has been capped at the line shown in the charts at the capacity that can be built.

Charts 3.5 and 3.6: Actual and Forecast London Trend Bellyhold and Dedicated Freight Growth from 1990-2050

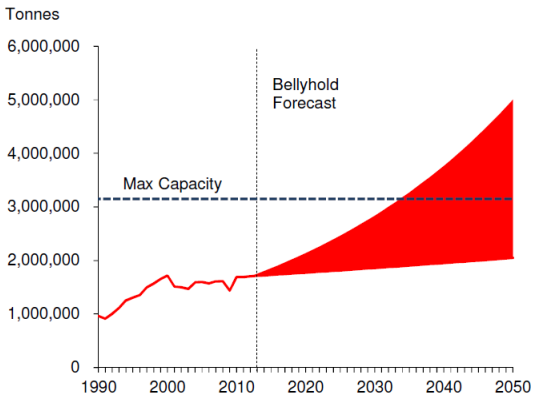


Source : CAA, Oxford Economics

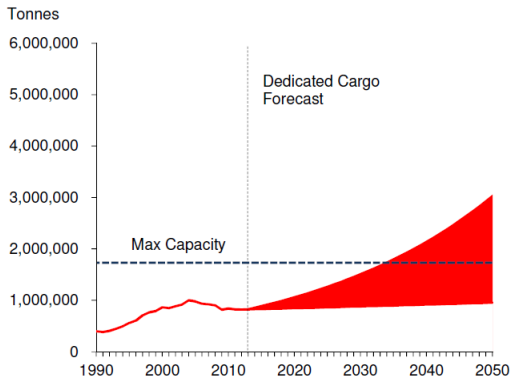


Source : CAA, Oxford Economics

Charts 3.7 and 3.8: Actual and Forecast UK Trend Bellyhold and Dedicated Freight Growth from 1990-2050



Source : CAA, Oxford Economics



Source : CAA, Oxford Economics

~ Note that the Upper Bound ATM forecast has been capped from 2030 in order to match the ATM supply that could be delivered, using Atkins data.

Table 4.2: Predicted Annual Volumes of Constrained Air Cargo Using OE Lower Bound Trend Forecasts

Year	LAA Constrained Cargo (Thousand ATMs)	Belly Hold Cargo (000 ATMs)	Dedicated Cargo (000 ATMs)	Belly Hold Cargo (Kgs)	Dedicated Cargo (Kgs)
2020	-123	-122	-2	-199,007,217	-41,551,049
2030	-220	-217	-3	-354,390,025	-72,674,570
2040	-174	-172	-2	-281,370,352	-56,671,816
2050	-111	-110	-1	-179,940,132	-35,596,283

Source: DfT, Oxford Economics.

Table 4.3: Predicted Annual Volumes and Value of Constrained Air Cargo Using OE Upper Bound Trend Forecasts

Year	LAA Constrained Cargo (000 ATMs)	Belly Hold Cargo (000 ATMs)	Dedicated Cargo (000 ATMs)	Belly Hold Cargo (Kgs)	Dedicated Cargo (Kgs)	Projected Cargo Value (£/kg)	Belly Hold Cargo Value (£ m)	Dedicated Cargo Value (£m)	Total Cargo Value (£m)
2020	96	95	1	154,672,622	32,294,355	£110	£16,970	£3,543	£20,513
2030	70	69	1	112,960,704	23,164,790	£148	£16,679	£3,420	£20,099
2040	295	291	4	476,166,397	95,906,389	£199	£94,620	£19,058	£113,678
2050	522	515	7	842,454,190	166,656,750	£267	£225,297	£44,569	£269,866

Source: DfT, Oxford Economics.

36. The Northpoint Report then presents a simple spreadsheet model showing the tonnages that Manston might attain under a number of different scenarios. These scenarios are driven by:

- Different growth rate assumptions
- Different assumed capacities at the other airports
- Different assumptions about Manston's ability to clawback an element of the tonnage being trucked across the Channel

No probability is assigned to the achievability of any of these underpinning assumptions and results are simply presented in terms of whether the outcomes are higher or lower than Azimuth's forecasts. We would note that this is a tonnage spill model and does not, as pointed out above, consider how this tonnage would then travel. It is just assumed that in all cases it would choose a dedicated freighter service from Manston regardless of cost.

37. First of all, accepting at face value Northpoint's assertion that import/export tonnage leaked to European airports would amount to 1 million tonnes a year by 2050, the assumed claw back of this leakage is 25% in the base case (almost 20% in the first year of opening 2022 based on current leakage of 500,000 tonnes), 40% in the high case and 60% in the stepped up clawback case. For the reasons set out in paras. 18 to 20 above, this is patently absurd given the reasons for the trucking activity in the first place.

38. If you strip out the assumed clawback, 17 of the 24 Northpoint scenarios show negative demand for Manston at 2040 (with demand significantly less than Azimuth project in earlier years). The only remaining scenarios in which there would be any demand for Manston are those relying on unrealistically high market growth rates in cargo tonnage deriving from the analysis back to 1990 of 2.7% CAGR[1] and 3.0% CAGR and then only in the circumstances where the capacities attainable at the other airports have been understated in aggregate. Overall, the model provides no corroboration of there being material demand for Manston as a dedicated air freight airport. Rather the analysis contained in the report tends to confirm the reasons why the Airport could not succeed.

Night Flying and the Integrators

39. We set out in our commentary on RSP's Written Answers to Questions evidence as to the dependence of conventional integrators on night flights. Hence, leaving aside the locational reasons why Manston would not be a suitable base for an integrator, the proposed night scheduling ban effectively removes any prospect of such operations, a point effectively conceded by the Applicant when it says that an integrator base is not proposed for Manston (Written Answer to ND.1.16).

40. We are now asked to believe that the Azimuth did not mean conventional integrator operations when including them in the 'forecast' as set out at para. 3.2.3 of Vol III of the Azimuth Report, despite DHL/Fedex being specifically identified as the operators of these flights at Appendix 3.3. of the ES, which we were told in oral evidence was based on the Azimuth projections. We are now asked to believe that what was meant was a new form of integrator – Amazon or Alibaba- Cainiao - operating these flights. This is despite Amazon being separately identified in Appendix 3.3. of the ES in addition to the conventional integrator operations.

[1] Compound annual growth rate.

41. The Northpoint Report is used by RSP in an attempt to support this change of emphasis to 'New' integrators and the e-commerce model as the basis of justification for 48% of the aircraft movements claimed for Manston at Year 20 (more in the earlier years). This is no more than speculation as the extent to which the e-commerce operators will seek to operate their own aircraft within the European market and the nature of those operations is largely unknown. We set out below our understanding of the current operations.

Amazon

42. Amazon has set up its own airline operating within the USA so as to control its own supply chain rather than relying on the existing integrators. In essence, it is developing its own sorting facilities and replicating the type of hub and spoke systems used by the existing integrators. It is operating its own aircraft largely for the purpose of distributing goods between its main distribution centres, with onward transport to the customer locally by road (https://aircargoworld.com/allposts/amazon-to-move-prime-air-cargo-hub-to-cincinnati/). It is our understanding that the pattern of flying in terms of day/night operations follows closely that of a conventional integrator, positioning product between distribution centres overnight so as to be ready for delivery next day.

43. Amazon has an embryonic operation in the UK with a leased Boeing 737 freighter operating to East Midlands Airport (https://www.ch-aviation.com/portal/news/63035-amazon-air-boosts-fleet-to-32-b767s-eyes-more). Amazon is opening a 500,000 sq.ft. warehouse and sorting centre immediately adjacent to East Midlands Airport in April 2019 (https://www.leicestermercury.co.uk/news/business/east-midlands-gateway-amazon-nestle-1444182). This would strongly suggest that Amazon is likely to follow the lead of DHL and UPS and establish East Midlands as its UK air hub. Indeed, the two flights currently operated to Milan and Madrid appear to be joint operations with DHL. Like many DHL operations, these rely in part on night flights (based on Flight Radar data), with the departure to Milan at 06.00 and the arrival from Madrid at 02.40. This reinforces our view that, as operations to the UK expand, they would be expected to follow a similar pattern over the day as the conventional integrator operations at East Midlands.

Alibaba-Cainiao

44. Alibaba has committed to establishing its main European hub at Liege Airport (https://www.retaildetail.eu/en/news/general/li%C3%A8ge-officially-becomes-alibabas-first-european-hub). It is not yet clear whether it intends to commence direct operations or to contract with existing airlines at the Airport such as ASL Airlines, which operates for TNT/Fedex with its major hub at Liege and also provides the current Amazon service from East Midlands. Again, it seems most likely that any Alibaba operation in Europe will also mirror pre-existing patterns of integrator operation, using its main base as Liege, for the same reason as Amazon.

45. Overall, we see no reason to assume that the choice of airports for the 'new' integrators would be based on different criteria to the existing integrators nor that they would be any less dependent on night operations. Hence, given the proposed night scheduling ban, the establishment of a 'New' integrator base at Manston with 2 aircraft in Year 2 and 4 aircraft in Year 4 is simply not credible.

Consequences for the Environmental Assessment

46. Mr Hilton of Wood stated in oral evidence that environmental assessment relied on Appendix 3.3 of the ES and that it was derived based on the Azimuth 'forecasts'. However, as we have pointed out in Table 3.1 of our 2019 Report, there are inconsistencies in the proportions of aircraft in each ICAO category between Appendix 3.3 and other parts of the ES, and between the ES and the Azimuth Report. Dr Dixon said she was not responsible for producing Appendix 3.3 and Mr Hilton did not seem to know who was responsible either.

47. In the context that the information in Appendix 3.3 is claimed to be the basis upon which all of the environmental assessments have been carried out, it is important to note that Mr Hilton told the hearing that the assessments were based not only on the aircraft types named in Appendix 3.3 but also on the specific aircraft and engine types operated by the named airlines. Hence, to the extent that these airlines would not or could not operate to Manston (see para 3.10 of our 2019 Report), particularly once the impact of the night scheduling ban is taken into account, this invalidates the specific environmental assessments made. The particular example referred to in oral evidence is the assumption that the ATR-72 turbo-prop aircraft would account for around 25% of all freighter aircraft movements, specifically operating for DHL or Fedex. The 'New' integrator, Amazon, is currently using Boeing B737 jet aircraft for its European operations so, even if it was right that DHL or Fedex would be substituted by Amazon or similar, it could not be relied on that these airlines would use so many turbo-prop aircraft. This means that the ES can no longer be deemed to have assessed the worst or most likely case effects, even if that was ever the case.

48. Appendix 3.3 does not include any General Aviation movements, yet the Noise Mitigation Plan suggests that there could be up to 38,000 such movements a year or 104 a day on average. Elsewhere (para. 12.7.39), the ES states that 16 such movements a day have been included in the assessment. This is clearly inconsistent with the worst case for noise that would be permitted under the Noise Mitigation Plan.

49. As pointed out at the Noise Hearing, a further consequence of the night scheduling ban is to condense all of the aircraft operations into the day-time period. The response given by Mr Hilton that movements that were otherwise assumed to operate in the night (14% of total movements) would simply switch to the 06.00-07.00 hour, and so still be within the 8-hour night noise assessment period, lacks credibility. Faced with a night scheduling ban, the airlines would need to reprogramme their operations in their entirety to fit within a curfew and, to the extent that hypothetically they would still operate to Manston, this would result in proportionately more movements in the 16-hour day period used for daytime noise assessment, resulting in an increase in contour area over that assessed and an increase in the areas eligible for compensation. The veracity of this can only be tested further when RSP produces the more detailed analysis of the profile of flights over the day related to the infrastructure requirements as promised at the Compulsory Acquisition Hearing.

50. We note also that the effect of the night scheduling ban will also impact on the data used in the Transport Assessment as set out in Appendix E to the TA. First of all, Table 1.1 shows freight related truck movements evenly distributed over the day. However, if, as we are now told, more than half of the movements at the Airport are going to be associated with a 'New' e-commerce integrator, it would be reasonable to expect that truck movements would be bunched around the arrival of these aircraft to ensure speed of delivery to the customer. On the basis of the suggested bunching of flights into the 06.00-07.00 hour, this would result in a significant number of trucks on the highway network in the 08.00-09.00 period to ensure deliveries of goods. Equally, for outbound flights before the night curfew, it would be expected that goods would need to be at the Airport 2-3 hours ahead of the last flight (23.00) so this too would require more movements in the day time. It would appear unlikely, therefore, that the TA has assessed the true impact on the highway network including in the morning and evening peak periods.

Policy Tests

51. It was suggested by RSP that there is an overriding policy presumption in favour of more capacity for air freight stemming from the priority placed in this within the Airports NPS and more recent Aviation 2050 Green Paper and that there was an automatic presumption in favour of all airports making best use of existing runways.

52. As stated in our comments on the Applicant's Written Answers (ND.1.2 and ND.1.4), the Government makes clear that the principal means envisaged to ensure that the UK has sufficient air freight capacity is through the provision of a 3rd runway at Heathrow delivering, mainly, more bellyhold capacity. Growth at Stansted and East Midlands in also anticipated. The Government does not go onto identify any further anticipated shortfall in capacity for air freight that needs to be addressed before 2050.

53. In terms of the 'Best Use' policy, it is clear, as we set out at paras. 2.16 and 2.17 of our 2019 Report, that there is no automatic presumption that best use should be made of all runways as policy is clear that each case has to be tested on its merits, including whether there is a demonstrable need and benefits from the proposed use sufficient to outweigh any environmental or other negative impacts. The lack of a coherent Need Case for Manston strongly suggests that there is no presumption in favour of making best or other use of the runway in this instance.

Capacity Available at Stansted

54. We set out the position in relation to the consented capacity at Stansted in our comments on the Applicant's Written Answer to ND.1.18. In oral evidence, there appeared to be some confusion regarding the attitude of MAG (the Airport's owners) to cargo growth there.

55. The Aviation Forecasts underpinning the recent Stansted Planning Application to lift the cap on passengers are set out in Volume 4 of the ES (https://publicaccess.uttlesford.gov.uk/online-applications/files/2C9A5D09B9434B571771AF326D87A423/pdf/UTT_18_0460_FUL-ES_VOLUME_1_-_CHAPTER_4_AVIATION_FORECAST-2634298.pdf). The cargo forecasts to 2028 are set out at para. 4.59. These show the anticipated tonnage to grow to 376,000 tonnes a year by 2028, not far short of our assumed capacity of 400,000 tonnes by 2040, suggesting that we may have understated the true capacity available at Stansted over the longer term. Indeed, the forecasts show slightly more cargo in the with development case than without development (Stansted Planning Statement, para. 6.28).

56. The Stansted Airport cargo forecasts assume 16,000 cargo ATMs a year and an increasing proportion of bellyhold capacity as long haul airlines, such as Emirates expand operations at the airport. We would expect the cargo capacity of Stansted to continue to increase beyond 2028 up to the envisaged capacity of 400,000 tonnes a year as more long haul services commence at the Airport, displacing more marginal short haul routes. The claims by RSP's experts that cargo capacity at Stansted is constrained is without foundation.

Capability of the Proposed Infrastructure

57. We now set out some observations on the capability of the existing and proposed infrastructure that we were prevented, by time constraints, from making at the Compulsory Acquisition hearing.

58. As Mr Rhodes of Quod for SHP made clear, the site has an established lawful use as an airport. Having examined the site in detail and spoken with those who previously managed operations on the ground, it is clear that the facilities, if reinstated, would have a capability of handling of the order of 21,000 freighter aircraft movements a year as set out in Section 4 of our 2017 Report. This assessment is consistent with the basis upon which RSP has calculated a theoretical capability of over 83,000 freighter aircraft movements a year from its proposed infrastructure.

59. Whilst the basis of this theoretical 'capability' assessment is set out by RSP in various documents, it has provided no explanation of how it has assessed that 19 freighter aircraft stands, all of the maximum Code E size, are required to handle the projected 17,170 annual freighter aircraft movements, which is equivalent to 23.5 freighter aircraft (half the number of aircraft movements) being handled each day on average, i.e. most stands would only be used once each day, suggesting an even heavier bunching of movements with consequential implications for vehicular traffic bunching on the highway network. Indeed, the concept that vehicle activity associated with air freight will be spread over the day, as set out in Appendix E to the TA, is inconsistent with the implied need for virtually all freighter aircraft to occupy stands simultaneously. Furthermore, many of the movements in the fleet mix assessed in the ES are shown to be using much smaller aircraft (such as the ATR72 turboprop) for which each Code E stand could easily accommodate two aircraft at a time, reducing the number of Code E stands required in total.

60. Overall, the proposed scale of infrastructure provision is completely inconsistent with claimed cost efficiency of the development (as required by the Airports NPS) nor likely to facilitate RSP being able to offer operators competitive terms as claimed by them, given the scale and cost of the infrastructure it proposes to provide and the consequent implications for the level of charges that it would have to levy to cover the costs of investment as set out in Section 7 of our 2019 Report. In effect, the Business Model spreadsheet corroborates the intention to charge at this level.

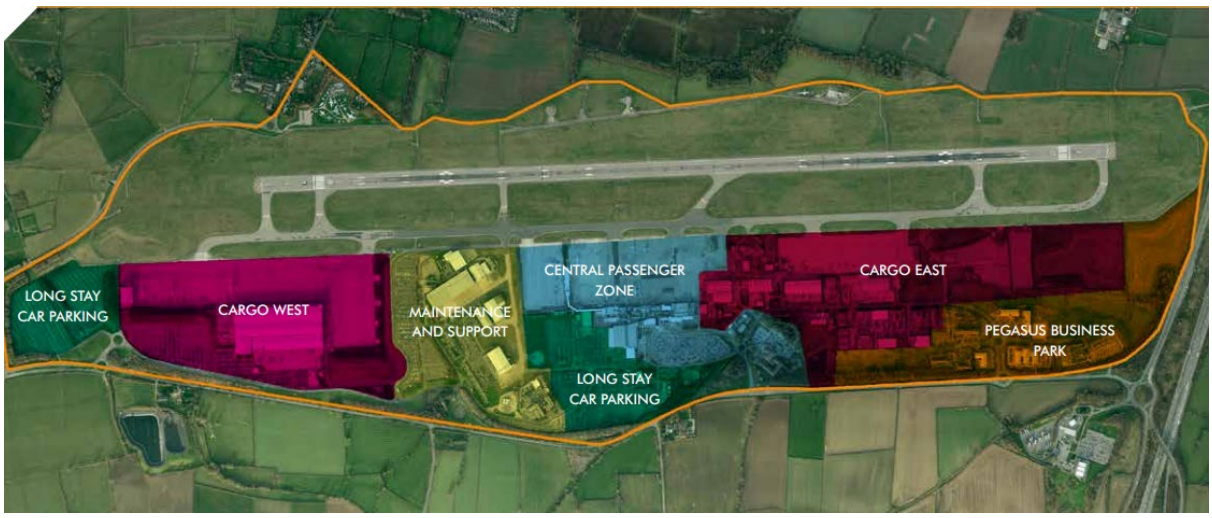
61. At the very least, the ExA needs to investigate further the requirement for the scale of infrastructure proposed to ensure that it is not excessive, particularly in relation to the compulsory acquisition of land. To assist, we have set out a detailed assessment, missing from the Applicant's documents, of the infrastructure required to support RSP's projected freighter airline operations at the times they would want to fly (which must necessarily include an allowance for night operations without which the airlines will be unlikely to operate or base aircraft so reducing the required infrastructure still further). Indeed, the concept that vehicle activity associated with air freight will be spread over the day, as set out in Appendix E to the TA, is inconsistent with the implied need for virtually all freighter aircraft to occupy stands simultaneously. We have explained the basis of our assumptions at paras 3.43 and 3.44 of our 2019 Update Report, with a fuller explanation of the infrastructure required at Section 6. This shows that, even allowing for resilience and flight delays using normal industry standards, the required infrastructure would be less than half of that proposed by RSP – 10 stands and 1/3 of the cargo sheds assuming efficient automated operations as stated by RSP - even if its projections of usage were attainable.

62. The scale of infrastructure proposed on the airfield is simply unjustified.

Airport Related Business Parks

63. There is then the matter of the Northern Grass. RSP's recent comments on the Written Representations suggest that is it confused itself as to its own proposals. The developable area of the Northern Grass, after allowing for the area around the radar and the museum zone is of the order of 83.5 acres, broadly equivalent to the area of the Pegasus Business Park at East Midlands Airport at 70 acres. The 26 acres referred to by RSP in its recent submission (para. 2.9.17) in response to SHP's Written Representation appears to be the footprint of the buildings proposed, which is not, of course, the same thing as the area available for development.

64. We recognise that MAGProperty cite 218 acres of business property space as being available at EMA (https://www.eastmidlandsairport.com/about-us/business/) as referred to in RSP's comments on Written Representations (para. 2.9.16). It is not entirely clear to us which areas are included within this 218 acres, which may include airside as well as landside development zones. Further information on the development zones at EMA was included in our comments on RSP's Written Answer ND.1.15, with its development plan included and reproduced below.



65. Key metrics for the overall plan are:

- *The entire airport covers an area of approximately 900 acres;*
- *Total area of development (coloured areas) approximately 460 acres;*
- *Much of the development area comprises passenger facilities, airside cargo facilities and passenger car parking*
- *Area designated as the landside 'Pegasus Business Park' (commercial development) totals 70 acres, of which 28 acres has been developed[2];*
- *60% of Orange hatched area has yet to be developed for any uses despite the tonnage throughput attained by EMA.*

66. This plan makes it evident that the total business development area cited for the EMA site is in no way equivalent to the Northern Grass with the more relevant direct comparison being with the 70 acres of landside 'Pegasus' business park at East Midlands and the proposed Manston Northern Grass development zone of 83.5 acres, at least on the basis of RSP's original proposals for B1/B8 development for businesses seeking an airport location as both of these zones are entirely landside areas with no direct airfield access.

67. However, the revised NSIP Justification Statement states that it is now intended that the uses on the Northern Grass be limited strictly to those which are 'airport related', presumably to be consistent with the 2006 Local Plan policy which requires the whole of the site, including the Northern Grass, to be used for airside uses. 'Airport related' is normally taken to be those uses required to directly support the operation of an airport, and this would exclude more general business park uses which would simply prefer a location on or adjacent to an airport that formed the basis for the Application. Such a general business park appears to be no longer what is proposed for Manston, particularly given the limitation to airport related uses now contained in the draft DCO, and, indeed, would not constitute Associated Development to the NSIP even if it was.

68. The list of 'airport related' facilities provided as part of the revised NSIP Justification comprises mainly operational facilities, such as crew report offices, offices for Border Force, airside transport offices which would need to be located with direct airside access, i.e. not on the Northern Grass as crossing Manston Road would be unacceptable (See Section 6 of our 2019 Report). Other uses proposed include facilities related to the ground transportation of passengers, which would not be compliant with the local plan policy. In any event, these facilities would be very small in scale using only a fraction of the site and not directly related to the NSIP facilities themselves so as to constitute Associated Development.

[2] This is developed area not building footprint.

69. The proposed restriction of uses to those strictly airport related is significant as the evidence from East Midlands (see our comments RSP's Written Answer to question CA.1.4) is that there is little or no requirement for landside airport related accommodation adjacent to the UK's main air freight hub and EMA is actively seeking to relax the usage constraint on such buildings to non-aviation related uses. Pegasus Business Park is, in practice, a general business park attracting businesses seeking a central location within the East Midlands, close to the M1. Even so, the full 70 acre site area has not yet been developed out, with currently only around 28 acres containing any buildings, car parks or road infrastructure at all.

70. In the absence of the promised (Deadline 3) benchmarking of land areas required for Associated Development, during the Compulsory Acquisition Hearing, the Applicant referenced other airport business parks with airport associated development. Two of those examples were Newquay Aerohub and Prestwick Aerospace Enterprise Zone. As is described below, neither of these examples supports the Applicant's case for the area of development land proposed for the Northern Grass area on the basis of airport related uses.

71. Newquay Airport Aerohub is an Enterprise Zone of that includes both airside development land (231 acres), a landside business park covering 87 acres of land and a further 45 acres of land defined as economic zones related, inter alia, to passenger terminal operations (https://www.aerohub.co.uk/our-offer/development-opportunity). In relation to the landside business park, which is the relevant comparison to the Northern Grass, *"53.5 acres are now serviced and build-ready"* amounting to 115,000 square metres of floor space, and is described by the EZ as being *"Open to businesses from all sectors"* with the caveat that they give priority to aerospace and aerospace supply chain companies (https://www.aerohub.co.uk/business-park/the-development). However, it understood that only 2 businesses currently occupy space within the landside development and that neither of them are 'airport related' businesses or even aero sector related, with one being a manufacturer or prefabricated houses. As the Aerohub was established in 2012, with business park plots serviced and available for development in 2015, it is clear there is very little demand currently for this type of development. There is also limited take up of the airside development area but this is not relevant to the Northern Grass comparison.

72. Prestwick Aerospace is another Enterprise Zone established in 2011 covering 34 acres which includes existing airside and landside developments (hangars, warehouses and offices) plus a number of as yet undeveloped plots. Most of the current occupants are aerospace sector companies, such as BAE Systems and Spirit Aerosystems, but these companies are not airport related nor making extensive use of the airport as parts and supplies are trucked in rather than needed access to the runway[3].

73. It would appear that the benchmark examples being relied on by RSP are general business parks that happen to be located on land holdings adjacent to operational airports. Even on this basis, the take up of these sites does not suggest that a general landside business park site of the scale of the Northern Grass could be justified.

74. Given the requirement for the development to be strictly related to the NSIP Project and with the restriction to strictly airport related uses, as defined in the Amended NSIP Justification Statement, the requirement for land for landside development is even more limited. Such uses as might locate on the Northern Grass are likely to be confined to passenger related car parking and surface transport related activities, which would occupy only a small part of the area at the throughput proposed.

27th March 2019

[3] York Aviation has done a number of studies in relation to Prestwick Airport for Scottish Enterprise and are familiar with the site but the reports remain commercially confidential.

APPENDIX NOPS.5.2: Altitude Aviation Advisory Key Points on Azimuth Freight Projections

Agenda Item 5: Forecasts and freight types / patterns.

Manston Cargo Flight Forecasts

1. PINS questioned RSP in relation to the number of cargo flights forecast for Manston. SHP highlighted how, even if the Manston tonnage forecasts are achieved, the average cargo load per flight assumed was very low, suggesting that the number of flights being forecast was excessive.

2. Expanding on the oral points made:

3. Section 8.7 of the Altitude Aviation January 2018 report (included with Appendix 5 of SHP's Written Representations [REP3-025]) highlights how the assumed average tonnes per flight of 17-20 tonnes was much lower than the airport's historic average of ca. 63 tonnes (see paragraph 364).

    - The 63 tonnes per flight was achieved despite the historic bias towards imports (we understand departing flights from Manston were often largely empty).
    - However, this average disguises a material asymmetry between imports and exports Specifically, in 2013, the last full year of operations at Manston the CAA recorded 511 cargo ATMs carrying 29,297 tonnes of freight on cargo aircraft.
    - Of this, ca. 90% of the tonnage was imports [Manston Airport traffic statistics].
    - Thus, the average load per inbound ATM was over 100 tonnes whereas the average load per outbound ATM was ca. 10 tonnes.
    - Azimuth's forecasts anticipate a similar level of exports to imports at Manston in the future [Azimuth Volume III July 2018, Executive Summary, Table 1].
    - In this light, the difference in average loads between the historic levels and the forecasts are even more stark.

4. The same section of the Altitude report (see paragraph 367-368 and Figure 27) highlighted how the average tonnage per flight was much lower than benchmarks. This analysis has subsequently been updated for 2017 data and expanded to the top 20 EU airports.

    - East Midlands is the only airport in the EU top 20 (by tonnage) with a lower ratio of freight tonnes per freighter flight than the average projections for Manston. The low figure is driven by the extensive integrator operations at East Midlands Airport.
    - Airports without integrator operations (or with a more balanced mix of bellyhold, general freighters and integrator operations) tend to achieve significantly higher freight tonnes per freighter flight.

5. The subsequent discussion on e-commerce airlines (replacing previous assumptions relating to integrators) at Manston further undermines the credibility of the cargo flight forecasts. Amazon Air – the most developed e-commerce airline – uses a mix of B767 and B737 aircraft – which are much larger than the ATR72 aircraft assumed in the Azimuth modelling. This should be a material consideration, when considering whether the environmental effects have been properly assessed by the Applicant.

Components of Azimuth Forecasts

6. PINS questioned RSP in relation to the components of the forecast tonnage. RSP referred to fish/shellfish, luxury cars and racehorses. RSP was unable to state clearly whether the forecast freight was new markets or displacement from other airports (and if so, which airports).

7. RSP's understanding of how the cargo market operates was very limited. Reference was made to a weekly service (for 26 weeks) of a B777 carrying fish exports. Fish is consolidated from a range of different points in the UK (especially Scotland) and then sent to a range of different international destinations. A weekly service from Manston to a single destination seems an unlikely way to serve this market.

8. The Scottish salmon industry was the subject of a case study in a Steer report. The case study stated that "the vast majority (91%) of UK salmon is shipped internationally from Heathrow".

   - Page 16, http://airlinesuk.org/wp-content/uploads/2018/10/Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Report-v22-Oct-2018-b-SENT.pdf

9. A more detailed review of the shipping of salmon was provided in a published interview with DB Schenker (a global logistics provider):

   - "A considerable percentage of shipments are flown to and from the United States, but also an increasing number of consignments for European and Asian destinations are going via Heathrow."
   - "Heathrow is the largest airport in Europe and has enormous capacity. Due to this high capacity we have to – in order to compete – offer lower freight rates, than for example Oslo, Stockholm, Copenhagen and Amsterdam."
   - "Salmon, in itself has high value, but the industry's slim profit margins rule out paying high airfare rates," explained Kuo. "They pay only 30-40 percent of what other industries pay per kilo of freight. This means the airlines don't make much money on shipping fish, despite the necessary urgency to dispatch the fish to the markets."
   - https://salmonbusiness.com/heathrow-leads-in-salmon-air-freight/

10. It is not disputed that Manston could play a role in the specialist/niche cargo market e.g. racehorses, luxury cars. However, the cargo volumes associated with this activity are minor. Other airports which already serve this market record a low number of cargo flights and tonnage.

11. For example, Bournemouth Airport markets itself as follows:

    - "Bournemouth Airport has a growing number of destinations served by ad hoc carriers, dedicated freighters and passenger airlines. With ample room to grow, our thriving cargo facility is expanding to meet the demands of importers and exporters from across the UK. Accommodating a huge variety of freight and passenger aircraft, Bournemouth supports cargo logistics round the clock, with the following benefits:
      - 2271m / 7451ft runway
      - Excellent good weather record
      - Congestion free, with no slot restrictions
      - Experienced in handling many cargo aircraft including the AN-124 Ruslan
      - 'Freighter friendly' airport management."

- https://www.bournemouthairport.com/doing-business-together/

12. Similarly, Doncaster Sheffield Airport also highlights:

- "First-class cargo facilities for scheduled services and ad-hoc movement of goods."
- "The airport's 2,893m runway is longer and wider than most other airports in the north of England. With CAT III ILS, 24/7 ops and a 55,000 sq. ft. on site transit shed, Doncaster Sheffield Airport can comfortably handle all aircraft up to and including fully loaded B747's, AN-124's and the AN-225."
- "We're a safe pair of hands for specialist handling. As well as being able to handle all types of general airfreight, we have specialist capabilities in areas including:
  - Dangerous goods - We have one of the UK's largest NEQ capabilities for Class 1 Dangerous Goods and Section 5 approved.
  - Heavy lift - We have access to a range of specialist equipment and cranes to handle the largest aircraft and loads.
  - Just in time or automotive - We offer a fully flexible handling service for time critical loads, including on site trucking and direct ramp access for on and offload."
- "If you're looking for somewhere to build your cargo business, we have a wide range of office space, hangars and warehousing. Flexible, central and accessible, there are lots of reasons why basing your operations here makes robust business sense."
- http://dsa.aero/cargo, http://dsa.aero/cargo/why-dsa, http://dsa.aero/cargo/specialist-handling

13. However, in 2018, despite the Applicant making reference to it increasing cargo activity during the hearing, Doncaster Sheffield only managed to achieve 147 cargo flights, while there were no cargo flights at Bournemouth at all.

- https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2018_annual/Table_06_Air_Transport_Movements_Comparison.pdf

14. This illustrates the limited market size of specialist cargo market outside the main cargo hubs.

E-Commerce Airline

15. RSP acknowledged that it was no longer forecasting integrator flights at Manston. Instead, an e-commerce airline (such as Amazon or Alibaba) was assumed from Year 2, with 4 base aircraft. It was stated that these flights would not need to take place during night hours.

16. During the hearing, SHP made the following points:

- There is considerable doubt in the freight industry whether the growth of e-commerce represents an economically viable opportunity for cargo airports. Reference was made to a published cargo industry news article where the following observations were made:
  - "*If you had to do a cost analysis to build a cargo airport to accommodate Amazon, you wouldn't do it…. the growth of e-commerce may open opportunities for some airports with existing infrastructure, but would not usher in a renaissance for cargo airports, because the industry was unlikely to see a proliferation of e-tailers with dedicated airfreight operations… Whether an operation would translate into profits for airports which landed a chunk of this business is another question. Few cargo*

airports have managed to produce black figures…… cargo is an unlikely avenue to profitability."

  - See paragraphs 138-140 (page 27) of Altitude Aviation February 2019 report [included with Appendix 5 of SHP's Written Representations [REP3-025]).

- An e-commerce airline considering a base at Manston would be likely to seek significant incentives. It has been reported that Amazon has been granted $40m of tax breaks to develop its air operations hub at Cincinnati.
  - As highlighted in the Hearing on the previous day (in relation to funding), the RSP plans do not appear to include any allowances for incentives to airline operators. In contrast. the implied airport charge is much higher than comparable airports.
  - https://aircargoworld.com/allposts/amazon-adds-210-acres-to-future-cincinnati-airport-hub/

17. We wish to add the following observations:

- Growth in e-commerce has displaced high street sales. Similarly, growth in e-commerce airlines is already starting to impact existing air cargo operators. Air freight carried on new e-commerce airlines will be primarily displacing air freight carried on more traditional air cargo operators.
- Even if e-commerce airlines will develop their own air services in Europe, the competitive disadvantages of Manston would make it unlikely to be a preferred option for a base.
  - See Amazon case study below.

Amazon Case Study

18. We consider it unlikely that Manston would be an attractive location for Amazon Air (as a proxy for a new e-commerce airline). Amazon's fulfilment centres in the UK are outlined below. It can be seen that airports such as East Midlands or Manchester would be much better located to act as a UK base for Amazon.

Existing and Projected New Amazon Fulfilment Centres in the United Kingdom.

Source: http://www.mwpvl.com/html/amazon_com.html

19. It is also noted that Amazon Air already has activity at Manchester Airport and we understand already operates flights from East Midlands to Milan and Madrid (https://www.ch-aviation.com/portal/news/63035-amazon-air-boosts-fleet-to-32-b767s-eyes-more).

20. Furthermore, RSP asserted that night flights were not a consideration for e-commerce airlines, due to their different business model. It can be seen from the snapshot of Amazon Air flight activity in the USA that night flights are a key part of the business model.

21. The table below lists all flights for the first 3 Amazon Air aircraft registrations (as listed alphabetically) for the week 15-21 March 2019. The highlighted rows are flights where the arrival and/or departure is between 2300 and 0600, the period of the proposed Manston night flight ban.

Amazon Air Activity 15-21 March 2018, three selected aircraft

DATE	FROM	TO	FLIGHT	Scheduled Time of Departure	Scheduled Time of Arrival
N1013A					
21/03/2019	Ontario (ONT)	San Antonio (SKF)	5Y3507	11:02	15:33
20/03/2019	Honolulu (HNL)	Ontario (ONT)	5Y3599	22:20	06:24
20/03/2019	Riverside (RIV)	Honolulu (HNL)	5Y3598	11:07	12:43
20/03/2019	Chicago (RFD)	Riverside (RIV)	5Y3580	04:55	06:54
19/03/2019	Cincinnati (CVG)	Chicago (RFD)	5Y3063	15:05	15:01
19/03/2019	San Antonio (SKF)	Cincinnati (CVG)	5Y3066	03:15	05:58
18/03/2019	Ontario (ONT)	San Antonio (SKF)	5Y3507	14:20	18:04
17/03/2019	Honolulu (HNL)	Ontario (ONT)	5Y3599	15:15	22:52
17/03/2019	Riverside (RIV)	Honolulu (HNL)	5Y3598	10:04	13:54
17/03/2019	Chicago (RFD)	Riverside (RIV)	5Y3580	05:15	06:52
16/03/2019	Cincinnati (CVG)	Chicago (RFD)	5Y3063	15:05	15:24
16/03/2019	Houston (IAH)	Cincinnati (CVG)	5Y3048	03:45	06:21
15/03/2019	Riverside (RIV)	Houston (IAH)	5Y3602	19:15	23:58
N1049A					
18/03/2019	Cincinnati (CVG)	Miami (MIA)	5Y3163	14:45	17:11
18/03/2019	Portland (PDX)	Cincinnati (CVG)	5Y3013	00:45	07:36
17/03/2019	Cincinnati (CVG)	Portland (PDX)	5Y3159	15:20	16:50
17/03/2019	Minneapolis (MSP)	Cincinnati (CVG)	5Y3000	05:50	08:01
17/03/2019	Baltimore (BWI)	Minneapolis (MSP)	5Y3500	01:34	03:01
16/03/2019	Tampa (TPA)	Baltimore (BWI)	5Y3533	21:15	23:38
16/03/2019	Cincinnati (CVG)	Tampa (TPA)	5Y3067	12:45	14:57
16/03/2019	Stockton (SCK)	Cincinnati (CVG)	5Y3050	01:30	08:16
15/03/2019	Cincinnati (CVG)	Stockton (SCK)	5Y3049	14:55	16:15
15/03/2019	Stockton (SCK)	Cincinnati (CVG)	5Y3050	01:30	08:29
N1093A					
21/03/2019	Cincinnati (CVG)	Portland (PDX)	5Y3159	15:20	16:32
21/03/2019	Minneapolis (MSP)	Cincinnati (CVG)	5Y3000	05:50	07:44
21/03/2019	Baltimore (BWI)	Minneapolis (MSP)	5Y3500	01:20	03:11
20/03/2019	Tampa (TPA)	Baltimore (BWI)	5Y3533	20:45	23:53
20/03/2019	Cincinnati (CVG)	Ontario (ONT)	5Y3066	—	—
20/03/2019	San Antonio (SKF)	Cincinnati (CVG)	5Y3066	03:15	06:25
19/03/2019	Ontario (ONT)	San Antonio (SKF)	5Y3507	15:00	19:28
19/03/2019	Honolulu (HNL)	Ontario (ONT)	5Y3599	05:00	13:05
18/03/2019	Riverside (RIV)	Honolulu (HNL)	5Y3598	09:49	13:08
17/03/2019	Houston (IAH)	Riverside (RIV)	5Y3659	—	—
17/03/2019	Houston (IAH)	Riverside (RIV)	5Y3659	15:16	16:30
17/03/2019	Miami (MIA)	Houston (IAH)	5Y3518	11:14	13:15
17/03/2019	Ontario (ONT)	Miami (MIA)	5Y3504	01:25	08:30
16/03/2019	Honolulu (HNL)	Ontario (ONT)	5Y3599	14:50	22:46
16/03/2019	Riverside (RIV)	Honolulu (HNL)	5Y3598	09:49	12:57
15/03/2019	Baltimore (BWI)	Riverside (RIV)	5Y3563	04:39	07:56

Source: FlightRadar24, Altitude Aviation Advisory analysis

Trucking / Alternative Airports

22. RSP asserted that the level of trucking activity in the UK was as a result of lack of airport capacity for freighters. PINS challenged RSP on a few occasions as to why alternative airports such as East Midlands were not being utilised, given the trucking distances from the South East to East Midlands are much shorter than cross-channel trucking. No explanation was provided by RSP.

23. The reduction in freighter activity has been a clear trend across the UK, with the exception of the centrally located Midlands region.

    - See Figure 10 (page 25) of the Altitude Aviation January 2018 report (see reference in para 3).

Air Cargo Segments

24. RSP asserted that combination carriers (i.e. airlines which operate both passenger flights and dedicated cargo flights) will play an important role at Manston. SHP commented that Air France/KLM – one of the airlines mentioned by RSP – had been shrinking its freighter operations.

    - This is part of a general trend, summarised in the Altitude Aviation January 2018 report (Section 11.4, page 85, see reference in para 3).

25. RSP also asserted that newer passenger aircraft types have lower freight capacity than older aircraft. With the exception of the A380 (which is being discontinued by Airbus), this is not correct.

    - See paragraphs 140-141 (page 28) in the Altitude Aviation January 2018 report (see reference in para 3).

26. Finally, one of the key factors in the growth in bellyhold is simply that passenger demand is growing more quickly than cargo demand. Therefore, cargo demand is not keeping up with growth in capacity in the bellyhold of passenger aircraft (which is linked to passenger demand rates of growth).

    - See Section 11.3 (page 84) in the Altitude Aviation January 2018 report (reference in para 3).

Previous Manston Track Record

27. RSP asserted that the previous failures at Manston were related to lack of capacity, facilities and investment. SHP highlighted that Wiggins had invested £7m on new aprons and taxiways, increasing the freight capacity to 200,000 tonnes per annum.

    - See paragraphs 313 (page 59) in the Altitude Aviation January 2018 report (ref in para 3).

Agenda Item 6: Existing and future capacity and constraints in the South East and wider UK Airports

Heathrow

28. SHP highlighted that cargo ATMs have been growing at Heathrow in recent years and promised to include the appropriate reference in the written submission. This is provided below.

    - Cargo flights at Heathrow in 2018 were the highest value since 2004.
    - 625 cargo flights added in the last 5 years (2013-18), representing 27% growth (with growth in 4 of those 5 years).

- https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-airport-data/

29. Note. It is not disputed that freighter flights are currently constrained at Heathrow and more freighter operators would, if allowed their preference, operate out Heathrow to benefit from its inherent aviation hub capacity, its existing freight forwarding infrastructure and the large volumes of low cost belly hold connectivity for transhipment. However, there may still be some scope for limited growth before the opening of the third runway, in addition to the trends for increasing average cargo loads per flight.

    - See Figure 13 (page 29) in the Altitude Aviation January 2018 report (ref in para 3).

Summary: Overview of RSP Forecasts

30. Following the Hearing, we put forward the following overarching points in relation to the RSP forecasts.

    Forecast Credentials

    - Azimuth, by their own admission, has almost negligible relevant air freight forecast experience. Given the criticality of these forecasts to the RSP case, it is extremely surprising a more experienced forecaster was not retained.
    - Northpoint Aviation Services has provided peer reviewing to the forecasts. Its aviation experience seems to be focussed on peripheral regions and public sector airports rather than the core freight issue being considered. It is not clear whether the company has direct experience of airport traffic/freight forecasts for commercial clients.
    - In contrast, the Altitude Aviation team has undertaken traffic forecasts covering well over 100 different airports worldwide.

Link to Business Plan

31. It emerged during the Hearing that RSP's business plan and traffic forecasts were not integrated. This is a critical shortfall. The volume forecasts are meaningless unless linked to a pricing strategy - especially for such a price sensitive market as air cargo.

32. As summarised elsewhere (in the oral submissions from Seamus Kealey (Altitude Aviation) at the Compulsory Acquisition hearing), the average aeronautical revenue per work load unit is very high compared to peer airports. Altitude Aviation consider RSP's volume forecasts to be unrealistic even if zero airport charges were applied (i.e. operators were not charged to use the airport). However, their forecasts are even less credible in the light of what are apparent high airport charges with no identified allowances for start-up incentives being paid to attract and retain operators.

33. There is also an underlying logical flaw in RSP's reasoning. RSP/Azimuth assert on many occasions that cargo is less valuable to airports than passenger services, and therefore airports prioritise passenger flights (even low-cost carrier flights) in preference.

    - For example, "…cargo flight timings are likely to be impacted severely since the airport [Stansted] will prioritise servicing Ryanair."

- See paragraph 5.1.7 (page 25) of Azimuth Volume I, July 2018 (reference in para 3).

34. However, the limited "business plan" forecasts for Manston show aeronautical revenue and EBITDA levels much higher (on a unit basis) than airports with more focus on passenger operations (i.e. RSP are showing Manston as being more profitable that passenger focussed airports). This further undermines the credibility of the RSP projections.

    - See Appendix CA.10.1 to Written summary of SHP's oral submissions put at the CA hearing.

<u>Consistency of Forecasts</u>

35. The introduction of a hypothetical new e-commerce airline into the forecasts (and the removal of a traditional integrator operating night flights) is a fundamental change. It is very surprising that this has not led to any changes in tonnage, movements, fleet mix, environmental statement etc. compared to the original forecasts in Azimuth's work from 2017 when e-commerce airlines were not included.

36. For example, the integrator movements assumed in the Azimuth report are in no way compatible with an import-based e-commerce airline model. Azimuth assumes:

    - "Integrator movements – 100% outbound with a backload (import) calculation of 20% included in Years 2 and 3, rising by an additional 5% every two years."
    - "Integrator feeders – 100% inbound (import) traffic with 10% backload possibility added to Year 5, 15% to Year 9, and 20% thereafter."
    - See paragraph 3.2.3 (page 14) of Azimuth Volume III, July 2018 (ref in para 3).

37. This implies that local feeder services will transport freight to Manston for consolidation onto an outbound flight. In contrast, an e-commerce airline would be likely to fly imports into the UK airport before distributing them on local feeder flights. As previously discussed, a more central UK location is much more credible as a potential base for such flights.

38. The indicative aircraft fleet developed by Azimuth (and any environmental assessment of its impact) is meaningless unless it is properly based on realistic airline assumptions, and the aircraft which are operated by (or likely to be operated by) airlines assumed.

<u>Review of Manston Forecasts in Context of Achieved Traffic at Other Airports</u>

39. As context to the freight forecasts at Manston, overall tonnage at UK airports has grown by less than CAGR 1% since 2000. While there was relatively strong growth in 2017, tonnage declined slightly in 2018.

40. Freighter flights at UK airports have fallen by ca. 56,000 movements since 2000 (approximately halving). The overall trend has stabilised in the last 5 years (reduction of ca. 2,600), but nevertheless only 3 airports have added 500+ flights in this time (Birmingham, East Midlands and Heathrow). Most have continued to shrink despite available and used airport capacity.

41. Some of the key aspects of the RSP forecasts are summarised below:

    - 1st year of reopening: ca. 96,500 tonnes.
        - More than twice Manston previous peak volume in period 1990 to its closure in 2014.

- Year 20: ca. 341,000 tonnes.
  - Higher than 2018 throughput at UK's largest dedicated freighter hub (East Midlands, 334.5k tonnes).
  - Only 13 EU airports with higher tonnages in 2017, all but one of which are either major passenger or integrator hubs (Luxembourg being the exception, which is the operating base of Cargolux and enjoys central location in Europe).
  - Forecast tonnage at Manston in Year 20 is more than entire growth of UK freight from 2000 to 2018 (ca. 305,000 tonnes).
- Year 20: ca. 17,000 cargo flights.
  - Only 6 EU airports with higher cargo ATMs in 2017, all of which are either a major passenger hub (Paris CDG, Frankfurt) or integrator hub with 24-hour operations (Leipzig, Cologne, East Midlands, Liege).

42. The RSP forecasts would require remarkable levels of growth from a standing start in what has been a largely flat market, and would be in complete contrast to historic track record. The airport RSP envisage Manston would become would be totally unique in Europe in achieving these levels of cargo flights without being either a major passenger hub or an integrator hub with 24 hour operations.

43. Note. Sources for analysis above are the Azimuth forecasts, UK CAA statistics and Eurostat statistics.

<u>Review of Manston Prospects</u>

44. For the following reasons, there is no realistic prospect of significant cargo activity at a reopened Manston Airport:

- Supply Side (capacity at UK airports)
  - There is no shortage of airport capacity for freight in the UK currently, or envisaged to be over the next 20-30 years with planned expansions.
  - It is very important not to conflate lack of freighter capacity at a single established national hub airport (Heathrow) with the general UK situation.
  - Similarly, it is very important to distinguish between freighter capacity provided by cargo airlines (depends on routes and frequencies that are economically viable to operate) and airport capacity for freighter flights.
  - The vast majority of airports in the UK have the capability to handle more freighter flights than currently - if the demand was there. The suggestion that lack of airport capacity is reason for decline in freighter activity ignores evidence that freighter activity has fallen across a wide range of unconstrained UK airports.
- Demand side – location
  - To maximise the size of the potential market, major freight airports are positioned in the centre of a wide catchment, with truck feeder services arriving from all directions (spokes to the hub).
  - Freight is less time sensitive than passengers, and truck feeder routes of up to 10 hours are not uncommon.
  - Due to its island status, the UK is not a suitable location for a pan-European freighter hub.

- Manston in particular has a poor location within the UK. It is on a peninsula, with no catchment to the East or North and isolated from much of the South East due to the need to circumnavigate London.
- In contrast, airports such as East Midlands are more centrally located to serve the whole of the England and Wales. East Midlands is integrated into the national motorway network, and in close proximity to much of the UK's distribution centre warehousing.

- Demand side – night flight ban
  - Lack of night flight capability is a major competitive disadvantage for general cargo (as well as for integrator operations).
  - It constrains flexibility of airlines (e.g. slot times at other end of route, efficient aircraft utilisation i.e. planes would have to sit idle overnight before they could come back into service). For example, 60% of scheduled cargo flights (i.e. not integrator) at Leipzig are between the hours of 2300 and 0600, whereas the figure for Liege is 40%.
  - There are very few examples of significant cargo focussed airports in Europe without 24-hour operations.

45. SHP's aviation advisers conclude there is no role for Manston as an overflow or reliever airport, while the airport has some fatal structural disadvantages that will limit its role to that of a niche cargo operator. In other words, it will not be able to play a larger role than it did when previously open, and as before will not be financially viable as a result.

APPENDIX NOPS.11.1

REALISTIC CONSTRUCTION PROGRAMME

The Construction programme set out in paragraph 5.2.1 of Volume 1 of the ES, assumed construction starts in Q3 2019 with the airport being operational in Q4 2020.

At the ISH on Need and Operations the Applicant confirmed the programme had slipped but that it still expected to commence construction in Q1 2021 and open in Q1 2022. A more realistic indicative programme is set out below, however as this ignores delays caused in relation to finalising funding and other material risks and impediments, it is unclear how any realistic programme could envisage at an opening date ahead of 2024/25.

There could be an opportunity to progress some of the detailed design and other works that are not reliant on surveys being undertaken, however the scope for accelerating the opening would appear limited. Indeed, the greater risk would appear to be on the downside. For example, how could the Applicant have any certainty over the viability and deliverability of its projects when it is unable to even put a range on what the phase 1 construction costs would be. Whilst a figure of £186m has been put forward by the Applicant in its Deadline 3 submission. This is a dramatic increase on the £100m referred to in the Funding Statement, and must have an impact on the construction timetable. RSP director George Yerrall confirmed at the ISH on CA that the £186m was not even a firm estimate and that the costs could change materially once ground surveys are undertaken. When asked by the EXA to give an indication of how much the costs could deviate, George Yerrall replied that he could not. It is unclear how the Applicant could secure funding commitments until the costs are known.

Based on the programme in the ES, the Applicant appears to believe that the grant of a DCO would allow them to immediately commence construction works. No allowance has been provided in the programme for any of the pre-construction matters outlined in the indicative programme below, none of which can be avoided.

This is consistent with the Applicant's approach to the DCO, where it appears to have done as little as it thinks it can get away with, whilst continually glossing over any issues or impediments to its project. For the sake of fairness to the Examining Authority and the interested parties, including SHP, we consider it essential that the Applicant is requested to provide a realistic programme from grant of DCO through to delivery of an operational airport.

Start	End	Phase	Comments
09/01/2019	09/01/2020	DCO Decision	In line with recent precedent, any decision by the SoS to grant the DCO would be unlikely to occur before January 2020.
09/01/2020	31/12/2020	JR Period	Where judicial review of a decision has been sought, recent cases have taken c.9 months (without appeals). However, given complexity and number of matters on which SHP would reasonably be able to seek a JR, this is unlikely to be settled within 12 months. (There would be scope for appeal beyond that, which could add significant time period of another 12 months, however this has been ignored). This would also coincide with the end of the current Special Development Order at the end of 2020.

			However, given the Brexit situation and general need for the site even before the Brexit referendum (for transport resilience purposes), there could be no certainty that the Operation Stack arrangements would not be extended beyond the end of 2020, as it has been on 3 separate occasions since 2015. The Manston site is considered by Government to be the only current option of its sort.
01/01/2021	30/06/2021	Land acquisition	RSP would need to follow the process for land acquisition, which would take at least 6 months.
01/07/2021	30/06/2022	Pre-construction phase 1	Prior to commencement of the development, RSP would need to undertake the surveys (e.g. archaeological surveys etc) and detailed design and planning and other requirements that would be set out in the DCO requirements. In view of the need for surveys, detailed planning, consultation with numerous statutory bodies, mitigation and complex traffic works, this overall phase realistically would take a minimum of c.12 months, even for an experienced, well-resourced firm (something that cannot be said for RSP). As Gorge Yerrall noted in his evidence, costs could not be determined until this stage.
01/07/2022	30/09/2022	Contracting	Completion of contractor appointments (post tendering process), and other licensing, permits etc.
31/09/2022	30/06/2024	Construction Phase	The 15 month forecast by the Applicant would appear optimistic for an infrastructure project of this scale. A further 6 months has been allowed, which is still considered optimistic.
01/07/2024	30/09/2024		Post practical completion testing, finalising CAA certification processes to ensure the airport would be safe for operations.
Q4 2024			Best case opening day. This programme assumes there are no delays caused by funding, additional groundworks and /or replanning as a result of survey work, planning, construction issues or other impediments such as CAA Airspace Change or Certification processes and /or other material issues such as DIO HRDF Beacon relocation.

we have provided a detailed explanatory note to assist the ExA (this is included as appendix ND.1.41).

1.2.2 SHP's comments on the Applicant's answer to question ND.1.46 (with supporting evidence in appendices ND.1.46 (a) and ND.1.46 (b)), demonstrates the degree to which the evidence submitted by the Applicant is misleading, incomplete and highly selective.

1.3 It is apparent from both the Applicant's answers and other submissions made to the examination that the Application is still not "examination ready". The Applicant continues to avoid providing or disclosing information requested by the ExA that is critical to the examination. Examples include; the failure to disclose information on funding structure (or the identity of its investors despite previous commitments to do so) and the continued failure to meet the specific commitment given to the ExA at the dDCO hearing on 10 January 2019 to provide an explanation and justification of the works that comprise NSIP development and associated development. These are only two of many examples.

1.4 It is also apparent that there are material omissions in the Applicant's DCO application and impediments which do not appear capable of being rectified within the time available in the examination. These include, but are not limited to; concerns raised by the Defence Infrastructure Organisation in its Deadline 2 submission; the issues regarding Highways and Transportation as highlighted in KCC's local impact report; the material gaps in the ecology / biodiversity surveys (please also note that the Applicant's rights to undertake surveys under the s53 authorisation has now ceased due to its failure to comply with the Conditions of the authorisation – furthermore the Applicant has not responded to SHP's offer to discuss a voluntary licence arrangement); the failure to consider and assess the effects of Public Safety Zones that will be required (if the Applicant's forecasts are to be believed); the material issues regarding the CAA Certification and Air Space Change processes and the fundamental flaws in the Applicant's forecasts and Need case.

1.5 SHP recognise that the purpose of the Planning Act 2008 is to facilitate the development of infrastructure that is critical to the UK's national interest. However, there is an expectation that applications will be serious, based on a clearly established need and thoroughly evidenced. Without those protections, the legislation does not protect the interests of landowners in SHP's position, who can have their own plans blighted for many years without any testing of the merits of an Applicant's proposed scheme.

1.6 We have consistently raised the fundamental flaws in the Applicant's case over the last two years, yet the Applicant has not, at any time prior to the examination phase, been required to demonstrate that its forecasts or need case have any merit. This has been hugely prejudicial to SHP, which has been forced to expend well in excess of £1m in defending itself against attempts to compulsorily acquire its land.

1.7 Since September 2017, SHP had made a number of representations to the Planning Inspectorate and the ExA regarding the appointment of a technical assessor that could provide specialist assistance and assist in considering the merits of RSP's proposals. SHP recognises that the ExA has determined that it is not necessary and takes some comfort in the scope of the initial round of questions posed to the Applicant and Azimuth

Associates. In view of the incomplete and flawed answers given by the Applicant, SHP fully expects that the ExA will continue in this vein and will both;

1.7.1 undertake a full, robust assessment of all the assertions made by the Applicant and Azimuth Associates, and to the extent that these are contrary to or unsupported by relevant evidence, give appropriate weight to the submissions; and

1.7.2 fully review and give appropriate weight to the evidence submitted by Stone Hill Park and its highly respected aviation advisers, York Aviation and Altitude Aviation (reports included as Appendices 4 and 5 to SHP's written representations).

1.8 We apologise for displaying our frustrations with the process, however we consider this DCO application to be a gross abuse of process that has required SHP (not to mention the many public sector bodies funded by UK tax payers) to unnecessarily commit enormous resources over the last 2 to 3 years.

2. Comments on Local Impact Reports

Thanet District Council (TDC)

2.1 We note that TDC has highlighted a number of material issues, omissions and concerns within the body of the LIR that are not fully brought out in the brief conclusion sections. We trust that the ExA will consider the full content of the report. However, we would specifically like to comment on, and provide some additional context on, the section on "Draft Thanet Local Plan to 2031 Policies" (paragraphs 4.1.6, 4.1.1, 4.1.2 and 4.1.3 - we note there is a minor discrepancy with the numbering).

2.2 As can be seen from the extract of the TDC LIR below, despite the TDC evidence base showing *"airport operations at Manston are very unlikely to be financially viable in the longer term",* TDC members did not allocate the site for mixed use development (acting against the recommendation of TDC's professional officers) in order that it did *"not prejudice the dDCO process."* At no stage has the blighting impact of RSP's proposals on the land been considered.

> *"4.1.6 As detailed in section 2.6 the draft Local Plan has been submitted for Examination. Manston Airport has not been allocated for any proposed development in the Draft Local Plan.*
>
> *4.1.1 Draft Local Plan paragraphs 1.38 – 1.45 explain the current status of the Manston Airport in context of the plan. A Commercial Viability Report was undertaken by Avia Solutions in relation to Manston Airport which concluded that the airport operations at Manston are very unlikely to be financially viable in the longer term, and almost certainly not possible in the period to 2031.*
>
> *4.1.2 However, TDC recognises the proposed development being put forward by RiverOak and thus in order to not prejudice the dDCO process TDC did not allocate the Airport site.*
>
> *4.1.3 In the event that a dDCO is not accepted or granted, or does not proceed, the Council will need to consider the best use for this site, in the next Local Plan review after a minimum of two years."*

2.3 We do not agree that the decision not to allocate the site is appropriate, or required, and would refer the ExA to the TDC Report prepared for the Extraordinary General Meeting held on 18 January 2018 to consider the draft Local Plan. At this EGM, Members voted down the draft local plan that had been recommended by TDC's officers. The TDC report referred (in paragraphs 2.128 – 2.130) to the DCLG guidance, confirmed that progressing the draft local plan with a mixed use allocation of the Manston site would not prejudice the DCO or its outcomes, and recommended an allocation of the site for mixed uses. The document extends to 386 pages and a link is provided below to the document on TDC's website.

(https://democracy.thanet.gov.uk/documents/g4872/Public%20reports%20pack%2018th-Jan-2018%2019.00%20Council.pdf?T=10)

2.4 It appeared from the public comments of local politicians supportive of RSP's proposals, such as the local MP Craig Mackinlay, that the rejection of the draft local plan was, at least in part, driven by a fear that removing the policy restricting use of the site to aviation and allocating it for mixed uses would make SHP's land more expensive for RSP to acquire should they succeed in a DCO. In expressing his delight at the members decision to reject the draft local plan at a meeting on 11 February 2018, Mr Mackinlay made the following statement (see first two minutes of the video available on the following link https://www.youtube.com/watch?v=gvVlQt5SSok);

> *"we all know that the DCO would have trumped whatever happened in that local plan, but the fear would have been that had it been redesignated away from aviation for mixed use, it would have instantly inflated the value, possibly to unacceptable levels in the future. That was my great worry."*

2.5 In the period up to July 2018, there were concerted efforts by some TDC Members to retain the airport related policy for the site. This is despite Members being advised that it would be unlawful for TDC to put forward a draft local plan that was not supported by TDC's evidence base.

2.6 We consider that it is also important to bring to the ExA's attention that TDC Members had previously sought to overrule evidence led professional advice from its officer team. The ExA will note that the detailed section 42 consultation response from TDC officers in February 2018 was not taken into account by RSP, so a number of relevant issues raised by officers relating to local impacts and the need for proper mitigation that is appropriately secured and enforceable have therefore not been taken into account as part of (and prior to the submission of) the Application.

2.7 As set out in paragraph 9.13 of the Planning Statement (APP-080) and page 320 of the Consultation Report (APP-075), the reason for this is said to be because Robert Bayford (a councillor at the time and now the leader of TDC), wrote to RSP on 20 February 2018 asking them to disregard the section 42 response as *"unrepresentative and flawed"* as it was written by officers and had not been endorsed by Members. Subsequently, Mr Bayford has recanted that statement on 28 March 2018 and acknowledged that Members at TDC should not seek to fetter officers' exercise of professional judgement. Mr Bayford confirmed that the section 42 response should in fact be considered, as highlighted in the Consultation Report (APP-075) at Table 10.2. Despite this, the Applicant still did not have regard to the feedback from TDC.

2.8 We would therefore encourage the ExA to review the s42 consultation response from TDC officers in conjunction with the LIR, which provides more detail on some of the issues that would affect the local community and the concerns regarding the Applicant's project. This document is enclosed as Annex 2.

Kent County Council

2.9 We note the fundamental issues identified by KCC regarding Highways and Transportation and query whether there is any prospect that these issues are capable of being addressed and rectified within the examination period.

3. Initial Comments on the Applicant's First Revised dDCO

Part 1 (Preliminary): 2. Interpretation:

3.1 The definition of *"maintain"* makes reference to materially new or materially worse environmental effects from those identified in the environmental statement. As the Environmental effects in the Environmental Statements have been presented as the worst case, the inclusion of "materially" in this context is wholly inappropriate. Similarly, the references to "*materially new or materially worse environmental effects"* should be replaced by *"new or worse environmental effects"* in Articles 6 and 14, and throughout Schedules 1 and 2.

Article 9: Guarantees in respect of payment of compensation, etc.

3.2 The drafting of this Article is wholly inappropriate. It is noted that the ExA advised that this Article will be examined through Written Questions and through a Compulsory Acquisition Hearing. SHP will be making representations on the dDCO articles at the hearing, which will be followed up in writing. Accordingly, no further comments are made at this time.

Article 18: Authority to survey and investigate the land

3.3 The wide powers of access sought are inappropriate and are likely to have a blighting impact on land held by SHP and other landowners. In its revised Explanatory Memorandum (paragraph 3.44), the Applicant argues that it is required in order to *"remove the necessity to compulsorily acquire that land and thus reduce the land brought within the Order limits."* Whilst this may be the case for small areas of land, it is certainly not the case for the land interests held by Stone Hill Park Ltd, which are critical for the Applicant's plans. The primary intent of the drafting would be to appear to be delay the point at which the Applicant is required to acquire land, effectively giving itself a 5 year Option. The effect of this Article is one of blighting, as it has the potential to restrict the ability of landowners to undertake commercial operations on its land for many years. At the very least, this Article should not apply to land interest held by Stone Hill Park Ltd.

3.4 It is also worth highlighting that there have been three separate authorisations or agreements (see paragraphs 3.4.1 -3.4.3 below) that provided for access to be taken over the land owned by SHP. In each case, the Applicant has been in breach of the

conditions of the relevant authorisation or agreement - these conditions were necessary to protect the legitimate interests of the landowners.

3.4.1 Section 53 Authorisation issued to RiverOak Investment Corporation LLC on 16 December 2016: The Applicant unlawfully accessed the land under this authorisation, resulting in all rights to enter the land immediately ceasing;

3.4.2 Voluntary agreement between the Applicant and SHP dated 3 August 2017: The Applicant was in material breach of the agreement as a result of its failure to reimburse SHP for the agreed additional third party security costs SHP incurred to facilitate the 24 hour a day access sought by the Applicant;

3.4.3 Section 53 authorisation granted in September 2018 to the Applicant: The Applicant's rights to enter the land have ceased as a result of its failure to comply with the Conditions (again this related to the failure to reimburse the landowner for the agreed additional third party security costs incurred to facilitate the level of access sought by the Applicant).

3.5 Full details of the circumstances surrounding each breach outlined in paragraphs 3.4.1 – 3.4.3 can be provided on request. The Applicant's failure to comply with these 3 authorisations / agreements is at least part of the reason it has not completed the required ecology and biodiversity surveys.

3.6 It is noted that the Applicant has provided some drafting under sub headings 7 and 8 in Article 18 relating to the temporary suspension of the right of access to survey when Operation Brock or Operation Stack are in place. Firstly, we would note that the purpose is overly restrictive and fails to consider other circumstances where access would need to be restricted under the Operation Stack/Brock agreement (e.g. site preparation or development works). Secondly, as the services are provided by SHP under a Parking Services Agreement, any notification would be required to be delivered by SHP, rather than the Secretary of State. Thirdly, the drafting fails to include the protective Conditions that the Secretary of State for Housing, Communities and Local Government considered necessary to protect the Landowner's and Occupier's legitimate interests under its prior s53 authorisations.

3.7 Given the Applicant's consistent history of breaching the terms of previous authorisations agreements that provided for access to the land and the aggressive tactics it has employed regarding access over the last two years (e.g. including disregarding clear advice from the Inspectorate and DCLG in pursuing its aggressive attempts to access the land under s.172 of the Housing and Planning Act 2016), wide ranging powers of the type sought by the Applicant would be highly prejudicial to any landowners or occupiers of the land.

<u>Schedule 1: Authorised Development</u>

3.8 It is noted that Schedule 1 has been amended so that it now differentiates between the NSIP and associated development works and that a definition of associated development has been added to Article 2. However, we would note that the Applicant completely failed to address the ExA's written question DCO 1.1 and has also failed to fulfil the specific commitment given at the dDCO hearing on 10 January 2019 to provide an explanation and justification of the works that comprise NSIP development and

associated development. We can also find no evidence that the Applicant has fulfilled the commitment provided in paragraph 18 of Annex 4 to its revised NSIP Justification.

3.9 In Annex 1, we provide further detail on these failures by the Applicant. It is now two months since the start of the examination and nearly seven months since the acceptance of the Application yet the Applicant still refuses to provide an explanation and justification of how each element of the proposed works satisfy the criteria for NSIP development or associated development. The only reasonable explanation for this disregard for deadlines set by the ExA, is that the Applicant is unable to provide justification that its proposed development complies with the relevant legislation and guidance, or that the relevant components of the application are actually needed or justified.

Schedule 2 Part 1 (9): Noise Mitigation

3.10 In its response to written questions and in the revised Noise Mitigation Plan, the Applicant proposed to restrict the total annual air transport movements to 26,468. It further notes that this excludes movements associated with General Aviation. It is wholly inappropriate to only include this cap in the Noise Mitigation plan. It is critical to the assessment of the project as a whole, and must be on the face of the dDCO itself.

4. Response to the Rule 13 and Rule 16 letter issued on 8 February 2019.

4.1 We also refer to the Rule 13 and Rule 16 letter issued on 8 February 2019. In line with our previous correspondence, we confirm that SHP wish to attend and speak at the hearings on Compulsory Acquisition and Need and Operations. SHP is unlikely to attend the Open Floor Hearings but may attend the hearing on Noise.

Yours sincerely,

For and on behalf of
Stone Hill Park Ltd

York Aviation

Manston Airport NSIP

Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority

Introduction

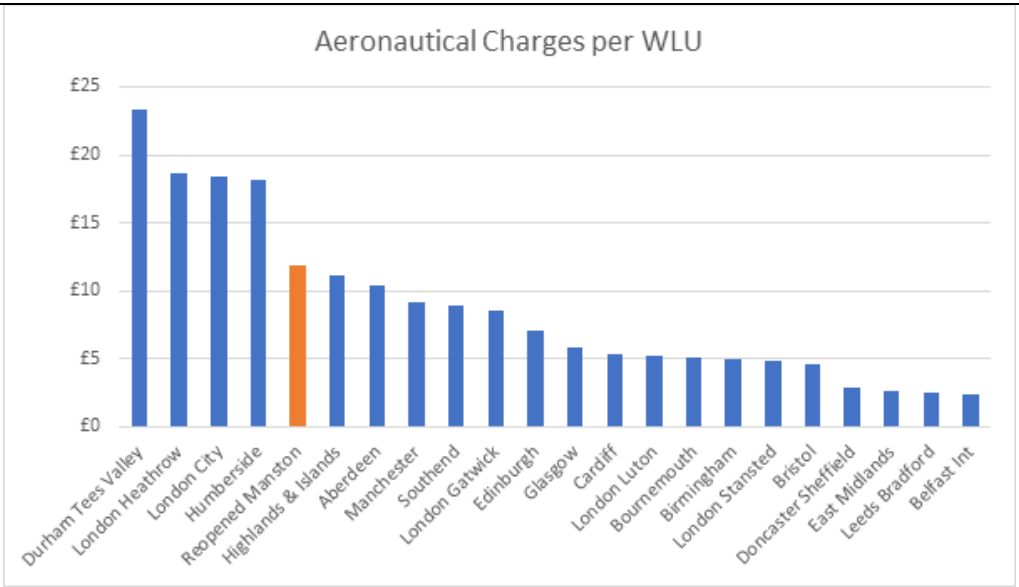
As with other submissions made by the Applicant, we note that the answers given are in places inconsistent and contradictory and this serves to undermine their credibility and to cast further doubt upon the overall robustness of the need case. Many of the responses simply repeat material already submitted and do not provide the further requested clarification nor, in some cases, respond to the question put.

We comment here on points of relevance to the need case and the forecasts of usage for the development that underpin the entire NSIP Justification, including the assessment of socio-economic impacts. We have referenced our answers to the ExA's question number but do not repeat in full the question and answer given. We cross refer as required to the York Aviation 2017 Report and the 2019 Update Report as required where points have already been addressed in our evidence. Where we have nothing to add to our previous analysis, we do not comment on the specific question and answer.

AQ.1.19	The question posed seeks justification for the assessed capability of the proposed cargo and passenger stands and questions whether the impacts of this level of usage have been assessed in the ES. It is clear that the claimed capability has not been assessed in the ES and the Applicant now proposes that there should be aircraft movement limits within the Noise Mitigation Plan. However, this would not be binding and could be varied by the Applicant when reviewed. The answer cross refers to calculations at OP.1.11, which provides no further insight into how the quantum of infrastructure has been justified. However, the more pertinent question is why, if this is the capability of the infrastructure, the totality of this infrastructure is required to handle the number of aircraft movements which are now proposed as the cap on activity. We address this at Section 6 of our 2019 Update Report and demonstrate that, even allowing for airlines operating at the times they prefer and for robustness and resilience, the maximum amount of development required would be around half of that applied for.
CA.1.4	We note that all of the Northern Grass area has been redefined as being for airport related works (Works 15-17). However, there remains no justification for why the totality of this area is required for airport related uses. The additional benchmarking of the requirements for such airport related uses from the Applicant, that was promised by Deadline 3, and as part of the updated NSIP Justification Statement has not been provided. To assist the ExA further in understanding the limited requirement for such non-airside airport related development, we would refer the ExA to a recent report prepared for East Midlands Airport in relation to a proposed change of use of a building formerly used for cargo activities from airport related to non-airport related uses. This report (attached as **Appendix A**) makes clear that there is no longer demand for

	airport-related landside accommodation even at the UK's main air freight hub. This would strongly suggest the same would be true at Manston.
CA.1.14	The response does not address the question adequately. Whilst members of the advisory team, (e.g. Viscount Aviation) may have experience of airport management and operations, the Applicant itself has no track record of successful airport operation and development in the UK. The only UK airport operated directly by the Applicant or its principals was Manston and its owner at the time, Wiggins Group (for whom Tony Freudmann was employed), and its successors all failed to secure a viable airport operation.
CA.1.15	The Application Documents are predicated on the Airport's first year of operation being 2020. This is highly unlikely to be achievable. As we discuss later (F.1.6), the amount of capital expenditure now cited as required to enable the Airport to be operational strongly suggests that opening in 2020 would not be physically achievable given the expected timeframe for a DCO decision. In any event, it is highly unlikely that the required airspace changes could be completed in time to allow the Airport to become operational before 2022 at the earliest. This would significantly narrow the gap between the time when the Airport might become operational and the delivery of additional runway capacity at Heathrow to facilitate cargo capacity growth there. The CAA's response to Question Ns.1.24 makes clear that it would normally likely to take at least 60-70 weeks from the initiation of the airspace change process to flight path options being defined. There then follows a CAA decision making process of at least 8 weeks. We note that the process was initiated on 14th January 2019, meaning that the earliest that the required airspace could be in place would theoretically be mid-2020, assuming no delays to the process as set out in the CAA document CAP1616, which outlines the process for delivering an airspace change. Heathrow has recently consulted on its design envelopes for achieving independent parallel approaches to its existing runways ahead of Runway 3. This consultation has just closed and Heathrow Airport expects to be able to consult on design options in 2020 and to submit its final options to the CAA in 2021 for approval, with implementation being in 2022 - https://afo.heathrowconsultation.com/wp-content/uploads/sites/4/2019/01/3625-HRW-2R-AIR-CON-1-3.1-3R-Consultation-Booklet-Update-1-AW-LR-pages.pdf. This would suggest that flightpath implementation in 2022 is the earliest possible date given the consultation requirements of the CAP1616 process, but we note that RSP has not yet commenced any of the consultation required regarding Design Principles or Design Envelopes that would be required ahead of the definition of the options and submission for approval. Furthermore, the Statement of Need, as published on the CAA Airspace Change website - https://airspacechange.caa.co.uk/PublicProposalArea?pID=112 links the change to the FASI S programme, which is a major airspace redesign exercise covering the whole of the South East of England, including inter alia the redesign of airspace required to facilitate the 3rd runway at Heathrow. It is our understanding that, because of the complex interactions between flightpaths serving all of the airports in the South East, consultation on flight path options across the full range of airports is planned to be concurrent to ensure that all of the interfaces are correctly identified. This is planned for 2022, with implementation of the new airspace arrangements in the period 2024-2026. It is entirely possible that new flightpaths for Manston could not be in place until this later date.
E.1.2	The Applicant's response to Question E.1.2 states that the information provided at Tables 3.7 and 3.8 of the ES represent the worst case for environmental assessment. However, as made clear in Table 3.1 of the York Aviation 2019 Update Report, the information in these tables does not match other information regarding the mix of aircraft types expected set out elsewhere in the Application Documentation. In particular, Appendix 3.3. of the ES, which purports to set out the forecasts used as the basis of the environmental assessment, shows a higher proportion of Code E aircraft in the fleet mix than the data in Tables 3.7 and 3.8, which would have the effect of increasing some aspects of the environmental impact. The ExA cannot be certain, therefore, that the worst case impacts have been consistently assessed.
E.1.3	We note that when considering the capability of the infrastructure proposed by RSP, we did not consider the capability provided by 3 tear down aircraft stands. In the absence of any clear justification for the provision of 3 full aircraft stands for such purposes, the provision of these

	stands simply adds to the overall degree to which there is over-provision of infrastructure even in the highly unlikely event of RSP's 'forecasts' being achievable.
F.1.5	The Applicant has appended a summary table of income and expenditure which it claims is the Business Model underpinning the whole investment of over £300m. For the reasons well explained in the 2019 Report from Altitude Aviation Advisory, this level of information will be wholly inadequate for any investor to contemplate investment in an airport, let alone such a high risk enterprise as the re-opening of Manston Airport. This cannot be considered as a Business Model without substantial further detail of the costs and revenues by specific line item (landing fees, passenger charges, freight throughput charges, handling charges, fuel income, commercial passenger income, rentals, car parking etc) and without detailed explanation and justification for the assumptions used line by line. This has not been provided by the Applicant. Based on the information provided by the Applicant, Aeronautical Revenues per Workload Unit (WLU) are projected as £17.27 in Year 1 falling to £11.29 in Year 20. This means that on average the expected aeronautical charges per WLU are around £12 over the period. This would imply a charge per passenger of around £12, which is much too high for a Ryanair/low fares airline dominated airport, or revenue per tonne of cargo of around £120. This is over 2.5 times higher than the airport is previously achieved when operational. To the extent that the effect of low fare airlines is to reduce the contribution of passenger revenues overall, then charges for cargo operations will be higher and are more likely to be around the £180 per tonne mark assumed for Year 1 before passenger operations are assumed to commence. This would be approaching 4 times what Manston previously earned per tonne of cargo. It is also worth comparing these charges to those observed elsewhere at UK airports using the UK Airports Performance Indicators 2016/17 produced by Leigh Fisher. This suggests that Manston would have amongst the highest aeronautical charges in the UK, substantially above a wide range of major and established UK airports. We note particularly that charges would be 4.5 times higher than what RSP consider to be the nearest comparator, East Midlands. It is important to note that aeronautical income per WLU figures are distorted at very small airports, such as Durham Tees Valley and Humberside, which have limited commercial passenger and freight operations but more substantial general aviation activities, including in the latter case helicopter operations serving the North Sea gas rigs. In both cases, the main airline operator carrying passengers is KLM, which will be willing to pay substantially higher airport charges than a low cost airline as many of the passengers will be transferring globally at Amsterdam and paying relatively higher fares to the airline overall. The only other airports which are projected to have higher charges than RSP propose for Manston are Heathrow and London City. This illustrates the extent to which the income assumed by RSP is unreasonable as Manston could not be expected to command the level of charges levied at the UK's main hub airport or at London City Airport, with its unique position serving the City and Canary Wharf.



As we made clear at para. 7.36 of our 2019 Update Report, charges at this level would make Manston totally uncompetitive, with the obvious implication that it would struggle to attract any users at all. Given the expected mix of traffic, it will need to charge at the levels seen at Stansted, Doncaster Sheffield and East Midlands to have any hope of attracting cargo operators and low cost airlines. Charges at this level would certainly not factor in any compensation to the airlines for switching costs or other cost factors identified by Azimuth as we discuss at para. 3.27 of our 2017 Report.

Total Revenue per Workload Unit is forecast as £27.39 in Year 1 falling to £18.82 in Year 20. This can be compared to East Midlands Airport, which is a highly successful air freight hub with passenger operations by mainly low cost airlines, which earned total revenue per WLU of £6.82 in 2016/7, the latest year for which data is available in the *Leigh Fisher Airport Performance Indicators*. The revenues assumed to be attainable in the 'Business Model' submitted by the Applicant are wholly unrealistic for a largely cargo/low cost airline operation. We would note that Aeronautical Revenue comparisons generally are more robust as the total revenues per WLU recorded for smaller airports can be heavily impacted by the extent to which broader property revenues may be included so creating a false picture of true airport related earnings.

It is unclear how the remaining revenue streams have been divided between 'Commercial Net Income' and 'Other Income' in terms of revenue from passengers and revenue derived from letting property on the Northern Grass.

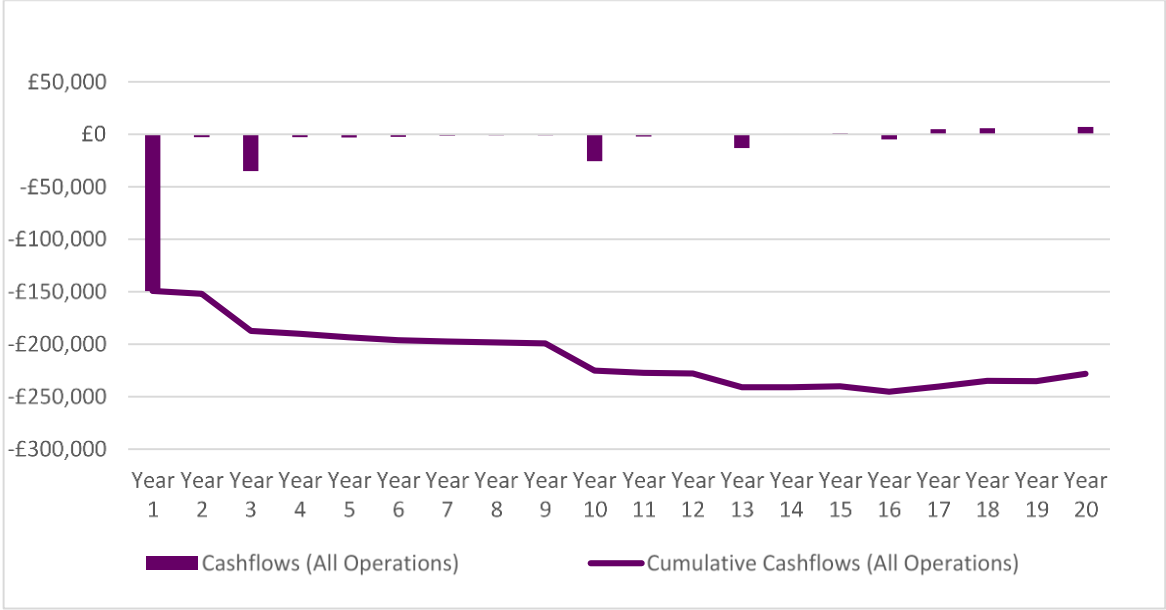
Please note that there was an error in the definition of a Workload Unit given at reference 140 of our 2019 Update Report which should have read that 1 million Workload Units (WLU) comprises 1 million passengers or 100,000 tonnes of cargo per annum. The use of WLUs within our report was correct.

F.1.6	We note that the Applicant has now provided an updated assessment of the capex requirements to bring the Airport back into use. Although a more detailed schedule of areas is now provided, this remains inadequate to understand the costs involved in individual elements of the project. Nonetheless, it is significant that the Applicant now acknowledges that the cost involved in bringing the Airport back into use and for

	the initial two phases of capital investment are substantially greater than originally stated. The Phase 1 costs have risen from £100m to £186m and the Phase 2 costs from £45m to £69m, i.e. early years expenditure has increase from £145m to £255m. Excluding the £80m we originally assumed for the cost of developing the Northern Grass in line with the phased programme now presented, the net costs for the airport related development south of the road is expected to be incurred as follows: • Years 0/1 £144m • Years 3/4 £31m • Years 9/10 £25.2m • Year 13 £12.8m • Year 16 £6.4m • Year 19 £6.4m Of course, if the uses proposed for the Northern Grass are now assumed to be strictly airport-related, these uses would not be expected to generate significant commercial property income and so the net effect of allowing for the investment required to open up the Northern Grass is likely to materially worsen the financial position compared to more general business park uses which might have provided some element of cross subsidy to airport operations. Overall, the increased upfront costs have significant implications for the cumulative cashflow based on more realistic revenue assumptions as set out in Section 7 of our 2019 Update Report, even assuming RSP's demand 'forecasts' could be realised. We have updated **Figure 7.2** from

our 2019 Update Report. This shows that on a cumulative cash flow basis, the amount of funding required from debt and equity is likely to reach £250m in around Year 16 before there is any possibility for debt to start to be repaid. It is important to note that interest charges are excluded from this analysis.

Figure 7.2: Scenario 1: RSP Proposals Cumulative Cashflows for Manston Airport (£ million)



Source: York Aviation

As with our previous assessment, we cannot calculate an IRR (internal rate of return) for the first 20 years of the project so our assessment remains that it is highly unlikely that rational investors could be persuaded to invest in the project.

F.1.15 As we noted in our 2019 Update Report (para. 7.4), RSP has committed to adhering to the principles set out in the Airports NPS of ensuring that its development is cost efficient and sustainable so as to minimise costs to airlines, passengers and freight users, albeit we recognise that these provisions of the Airports NPS may not be directly applicable other than to consideration of the 3rd runway at Heathrow. They are, nonetheless, highly relevant to the consideration of whether any airlines would actually choose to operate from Manston. The answer given by RSP is that *"The Business Model is predicated on being able to offer airport users competitive terms."* However, as we have demonstrated in Section 7 of our 2019 Update Report and in commenting on the response to Question F.1.5 above, this is far from the case and the anticipated revenues in RSP's Business Model are far in excess of what users would be willing to pay. There are two possible outcomes; either airlines will not operate to Manston and the expected passenger and freight volumes will not materialise, or the revenues earned will be materially less than set out in the submitted Business Model. Either way, the implication is that the development will not be cost efficient or viable and the operation is highly unlikely to be sustainable, as was the case with previous attempts to operate a commercial airport at Manston. Although

	the answer claims that there will be net benefits to users, these benefits have not been set out or quantified anywhere in the Application Documents.
F.1.16	The economic licensing regime referred to in the Airports NPS applies only to Heathrow and Gatwick currently. The application to other airports is subject to market power assessment. Based on our assessment of the likely market for Manston it is not plausible to assume it would attain a position of substantial market power.
F.1.17	It is important to note that the provisions of the Civil Aviation Act 2012 apply principally in relation to the economic licensing of airports with substantial market power. As this will not apply to Manston, the process of seeking an economic licence will not apply. In the response, the Applicant appears to confuse the process of applying for an Aerodrome Licence/EASA Certificate with the separate requirements of the Civil Aviation Act 2012. Schedule 8 of the Civil Aviation Act 2012 makes provision for airports with a turnover of greater than £1 million in two consecutive years to obtain a certificate conferring the status as a Statutory Undertaker. RSP will not be able to apply for such a certificate until they have been operational for 2 years and can demonstrate that the turnover threshold has been exceeded.
ND.1.1	The response to this question claims that the Airports Commission did not consider the potential role that Manston might play as a freight airport. In its response to the ExA's questions, the Civil Aviation Authority helpfully provides the submission made by the previous operator of the Airport to the Airports Commission. It is clear here that the proposition submitted by Manston was for a major freight airport (point b) of the submission, which we note was written by the Aviation Strategy and Policy Consultancy now part of Northpoint and one of RSP's current advisers. In the light of this, it is not credible to suggest that the Airports Commission did not consider Manston other than in terms of a role in meeting passenger demand. It is also disingenuous to say that the Airports Commission's Interim Report and shortlisting did not consider freight as benefits to freight users were extensively discussed throughout the Commission's Interim Report (Section 3) and formed part of the consideration of benefits, albeit these could not be specifically quantified (AC Interim Report, para. 3.100). The inclusion of air freight benefits as part of the Commission's Sift criteria is made clear at para. 3.7 of their *Guidance Document 02: Long Term Capacity Options: Sift Criteria May 2013*. Whilst there may have been further submissions on air freight by TfL on behalf of the Mayor of London (Ramboll/Oxford Economic Report *Impacts on the Air Freight Industry, Customers and Associated Businesses 2013)* later in the process, it is clear that the Airports Commission gave full consideration to the implications for the air freight sector in its shortlisting process. The proposal that Manston could act as a major freight airport to relieve congestion at the other airports was not followed through/rejected by the Airports Commission, which only mentioned Manston as a possible reliever airport for General Aviation (see our 2019 Update Report para. 2.21). RSP have added reference to passenger capacity in square brackets to quotation from Appendix 2 to the Airports Commission's Interim Report. This is not correct and seeks to mislead the reader. The quotation needs to be read in context of proposition submitted by the operator of Manston which put forward a major freight role. The Applicant also makes reference to the recent policy support for all airports making best <u>use</u> of their existing runways alongside the development of a 3rd runway at Heathrow. This policy still requires the case to be made for each specific airport. As we make clear in our 2019 Update Report (paras. 2.16, 2.17), this requires a realistic assessment to be made of the usage of each runway and the benefits deriving from that usage which can be balanced with any environmental harm that might arise. The policy cannot be taken in isolation without considering the extent to which there are net benefits from the level of usage proposed. The policy does not support safeguarding runways in perpetuity against some prospect of future use.

ND.1.2	The Applicant quotes extensively from the recent Aviation Strategy Green Paper in relation to the Government's support for the air freight sector. However, the Applicant fails to make reference to how the Government envisages the need to be met (para. 4.49 of the Green Paper): *"The government supports continued growth of the air freight sector particularly making best use of existing capacity at airports, to continue to facilitate global trade for UK businesses and consumers. It has already taken action by supporting the Northwest Runway scheme at Heathrow, which has been estimated to nearly double the capacity for freight at the airport to 3 million tonnes per year."* At para. 4.47, the Green Paper makes specific mention of *East Midlands and Stansted alongside Heathrow as the principal freight gateways.* It is important to note that the reference here is to *"existing capacity"* rather than existing runways as the means by which the growth of air freight is to be supported. The truth is that there is no specific support in policy for re-opening Manston as an air freight hub. Whilst policy is generally supportive of facilitating air freight, it does not follow that Manston is a solution.
ND.1.3	We note that the answer given here simply refers back to previously submitted Azimuth material. If the ExA had considered this sufficient, we presume that the question would not have been put. It is clear that the Applicant has not given adequate consideration of the alternatives for handling demand for air freight services across the UK.
ND.1.4	The Applicant's response completely fails to mention the clear position of Government that the requirement for more air freight capacity will principally be met by the provision of the new Northwest runway at Heathrow and through greater use of existing facilities, principally at East Midlands and Stansted. The analysis of the contribution of Heathrow at Section 5.2 of Azimuth's Vol I appears to proceed from the assumption that the new capacity will principally be used for low cost airlines offering little bellyhold capacity. This is completely at odds with the Airports NPS, which especially sees the 3rd runway as offering the potential for more global connectivity, including to points not currently served, and a doubling of capacity for air freight. Specifically, the Government sees the 3rd runway at Heathrow as: "*expected to lead to more long haul flights and connections to fast-growing economies, helping to secure the UK's status as a global aviation hub, and enabling it to play a crucial role in the global economy"* (Airports NPS, para. 3.18). It is these flights that will enable Heathrow to double its freight handling capability. Azimuth erroneously adopt a set of criteria for considering alternative airports in terms of their own asserted requirements for a freight focussed airport. The need for a new freight focussed airport is unsubstantiated by evidence, as we make clear in Section 4 of our 2019 Update Report. In our 2017 and 2019 reports, as well as our 2015 Report for TfL and the Freight Transport Association that Azimuth persist in wrongly interpreting, we make clear that the principal alternative likely to be used for any cargo that could not be accommodated at the Heathrow hub is bellyhold capacity at alternative airports.
ND.1.5	Examination of the Air Cargo World article cited by Azimuth at footnote 5 strongly suggests the information provided relates to rates for scheduled and bellyhold cargo in the run-up to Christmas. This is a transient phenomenon associated with the shipment of goods for Christmas. In any event, even if freight rates for bellyhold rise on a temporary basis, this may still be below the equivalent cost of a dedicated freighter operation as we set out at para. 4.7 of our 2019 Update Report. Given the difference in cost of dedicated freighter operations, these would not solve the problem. We note that the article at Footnote 6 makes clear that this problem was not just confined to the UK or Europe but affected routes between the Far East and the US suggesting that the high seasonal freight rates are a global issue rather than specific to the air freight sector in the UK. Increased bellyhold capacity at Heathrow is likely to be an effective means of ameliorating the seasonal issue in terms of freight rates to and from the UK.
ND.1.6	This response seeks to compare the situation at Frankfurt with that at Heathrow in terms of the number of freighter services operated/the proportion of freight handled on dedicated freighter aircraft rather than bellyhold. The proportions for Paris and Amsterdam are also stated. These four airports are the principal hub airports in Europe. The context for the greater number of dedicated freighter aircraft operated to

these airports is easily explained by the difference in bellyhold capacity offered for sale to non-European points at each of these airports. Based on the Official Airline Guide database (OAG), the tonnage capacity offered in bellyholds of departing passenger aircraft in the week beginning 4th March 2019 was:

- Heathrow - 41,275 tonnes
- Paris - 25,382 tonnes
- Amsterdam - 20,707 tonnes
- Frankfurt - 17,122 tonnes

The relative share of freight carried in dedicated freighter aircraft is in inverse proportion to the amount of bellyhold capacity available at each of the airports.

An important feature of these hub airports is that they have well developed freight forwarding infrastructure concentrated around them given the global connectivity offered by the hubs and the national airlines based there. This consolidation is driven in the first instance by the hub connectivity offered in the bellyhold of passenger aircraft but the existence of the freight forwarding and consolidation centres makes these airports the first choice for dedicated freighters to operate to the extent required to supplement any gaps in the network of bellyhold services available. These conditions are not replicable at other non-hub airports, other than for express freight/integrator operations for which Germany like the UK has specialist airports where such operations are based. Leipzig and Cologne serve as hubs for such operations in the same way as East Midlands serves as the UK main integrator hub. It is notable that, despite handling 44 million passengers a year with major global connections, Munich Airport only handled 3,807 freighters in 2018, despite Bavaria being a major manufacturing economy. This only serves to highlight the special circumstances which make Frankfurt attractive for dedicated freighter operations, notwithstanding its night closure period, and so long as it has available slots. Just as with Heathrow, the attraction of Frankfurt for freighter handling is simply not replicable elsewhere in Germany.

There are also important scale factors that apply to the position of Germany in terms of the total air freight market:

- the economy is around 30% larger than the UK;
- of which manufacturing's share is over 20% compared to 9% in the UK;
- the population is around 25% higher than the UK driving imports.

Hence, it is unsurprising that the need for air freight capacity is greater to and from Germany than to and from the UK. Furthermore, Germany's central location within Europe means as it acts as a distribution hub for much of Central Europe, well beyond its borders, in a manner that the UK could not hope to replicate. Hence, given the more limited bellyhold capacity available at Frankfurt, the need for more dedicated freighter operations is hardly surprising. The fact that they choose to operate to Frankfurt despite the night closure period is a sign of the power of the hub.

When the economic factors are properly considered, alongside recognition of the special characteristics that give rise to demand for cargo services to major national hub airports, the relative performance of Frankfurt and Heathrow is easily explained. The UK is currently adequately

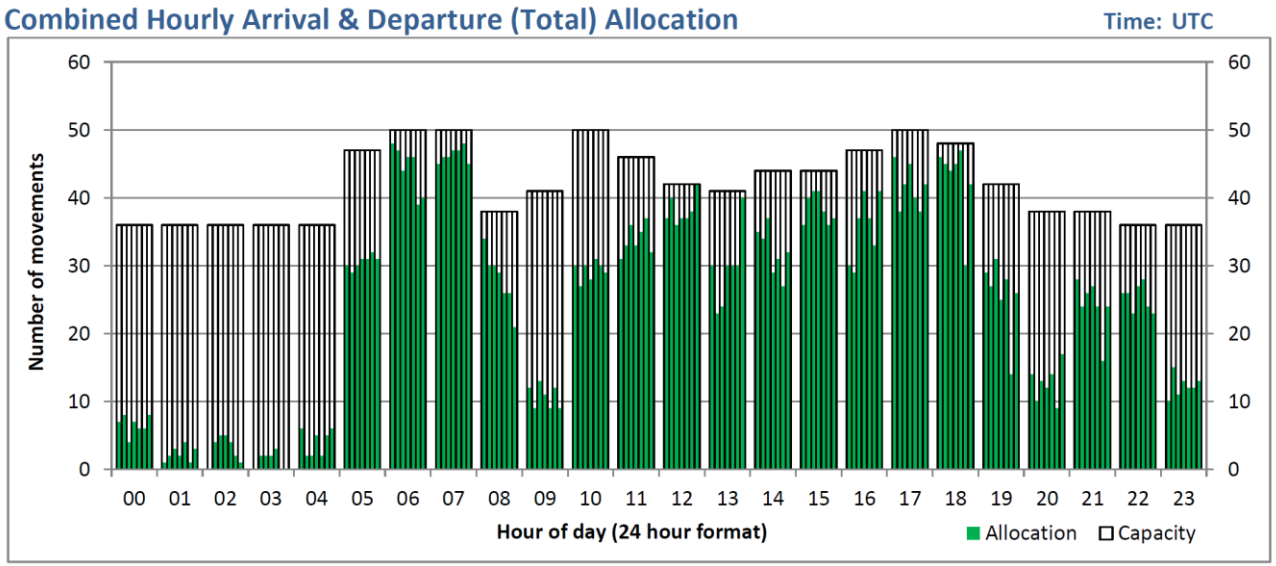
	served by the existing combination of bellyhold capacity and freighter capacity available at Heathrow, East Midlands, Stansted and other existing airports, as shown in Figure 4.7 of our 2019 Update Report. The situation at Frankfurt is simply not a relevant comparator with the key requirement being increased global connectivity at Heathrow, that the 3rd runway will provide, rather than an increase in capacity for dedicated freighter aircraft at a remote location.
ND.1.7	This response continues to rely erroneously on our work for TfL and the FTA. We previously corresponded with Dr Dixon of Azimuth Associates regarding their misinterpretation of this work (see correspondence attached at **Appendix B**). Azimuth's response explains our use of a gravity model approach to look at how any excess demand for air freight capacity might be dispersed in the event of there being a shortage of capacity across the main London airports. What the response fails to recognise is that the expected distribution of any air freight which could not use the London airports (see page 23 of our report for TfL and the FTA attached as **Appendix C**) was based not solely on access times but on the attractiveness of alternatives in terms of bellyhold and freighter capacity available. The share of the main European hubs is, thus, a reflection of the relative strength of their networks including bellyhold capacity, offering capacity at competitive freight rates; a competitive position that Manston would simply not be able to replicate. A dedicated freight airport would be expected to intercept no more than a small fraction of any displaced demand. The response goes on to wrongly ascribe diversion to Europe to lack of facilities at UK regional airports but the real issue is bellyhold capacity on long haul services coupled with the structural focus of the forwarding and consolidation sector adjacent to the main hub airports, including Heathrow. Manston would not address this structural issue, which is, indeed, one of the main reasons why Manston would fail. It should be noted that Heathrow is addressing the congestion in its cargo centre (See para. 4.21 of our 2019 Update Report) and there is no evidence that other UK airports have suffered from equivalent congestion issues such as to impact on their attractiveness.
ND.1.8	We would note that response the perhaps wrongly assumes, as Azimuth does throughout its reports, that air freight using the London airports is necessarily destined for London and the South East only. This table of comparative journey times set out in the response might be relevant for the fresh fruit and flowers market that Manston used to handle and might recapture if the price charged to airlines was low enough but it is not relevant for the bulk of cargo that Manston would need to attract if it were to seek to achieve the share of the UK market asserted by Azimuth. Our analysis, set out in Figures 4.4 and 4.5 of our 2019 Update Report, shows how widely dispersed across the UK the market for air freight is. Our analysis would suggest that only around half of UK air freight is destined for or originates in London and the South East but, despite this, regional airports handle only 23% of freight tonnage. This analysis would point to at least 1/3 of freight using London airports as having an origin or destination elsewhere in the country. Hence, the relevant journey times are not to specific distribution centres serving London (such as Sainsbury's local distribution centres) but to Heathrow where much of the total UK air freight is consolidated into economic loads and to the 'Golden Triangle' for UK distribution in the vicinity of East Midlands and the M1/M6 junction. Manston has no real advantage in the former case and is not an option in the latter. We would suggest that the contour maps provided by the Applicant in the appendices only serve to make this point. This response also contains the extraordinary claim that Stansted does not have a dedicated freight facility. The cargo facilities at Stansted are described at https://www.stanstedairport.com/about-us/cargo/. This states that Stansted has a 'World Cargo Centre' with 55,000m^2 of warehouse and office space. This facility is currently split over two warehouse units, the larger of which has been in operation since before 2000 with the second being added around that time. The second and smaller unit has been recently been extended and it is clear that Stansted has significant space safeguarded adjacent to the cargo facilities and cargo aprons to expand further. Stansted's dedicated cargo

	stands can simultaneously accommodate 4 x A380, 3 x B747-8F, 1 x B747-400F and 1 X B767-300 or up to 15 smaller code C aircraft. The scale of facilities is substantial as illustrated in the satellite picture below.
ND.1.9	We note the explanation given regarding the difference between express freight or integrator operations and the more general air freight model. There is no evidence that the UK needs a dedicated freight hub for general air freight given the substantial bellyhold capacity available at Heathrow and growing bellyhold capacity at UK regional airports. Any growth in freighter aircraft movements in the UK in recent years is almost entirely within the integrator model.
ND.1.10	It is important to note that the table reproduced in the Azimuth Reports from the DfT's 2017 UK Aviation Forecasts reflects the position on the basis that no additional capacity is provided at any of the London airports. To a large extent, the identified constraints relate to passenger capacity defined in planning conditions. The table takes no account of consented increases in passenger capacity at Stansted, the third runway at Heathrow and any other capacity developments in the pipeline. Hence, this chart is of no relevance to considering the extent to which there would be capacity for more freighter movements across the London airports. Part ii) of the response contains another extraordinary statement that little additional terminal or runway capacity has been added at UK airports for decades. This appears to ignore the development of a second runway at Manchester, Terminal 5 at Heathrow, expansion at Gatwick and Stansted, Luton's expansion to 18 million passengers a year. The response claims that Manston is required because further expansion elsewhere will take time. However, as we have identified in our 2019 Update Report, there is no immediate shortage of air freight

	capacity. Even on the basis of the table referred to at i) of the answer, Stansted Airport would not be expected to be full until 2040 by which time R3 at Heathrow will have been in place for some time.
ND.1.11	The Applicant gives another extraordinary response that most freighter movements do not operate to a timetable and are ad hoc based on demand. This is wrong and misleading. Integrator operations all operate to timetables but these are not usually published in a central database. At Frankfurt, 18,000 of the 28,000 dedicated freighter movements in 2018 operated to a published timetable; of the rest, we would expect a substantial proportion to have been integrator movements also operating to a timetable but not published as such. The published freighter schedule is already in place for much of the next 12 months with over 15,000 movements are already timetabled (see timetable information extracted from OAG at **Appendix D**). The number of scheduled freighter movements in the UK is lower at over 7,000 dedicated freighter movements already scheduled for the next 12 months. It is important to note that the schedule will not be complete for the winter scheduling season (from Nov) at this point in time, so the final total of annual scheduled freighter movements will be greater. In the response, Azimuth Associates wrongly interprets the increase in cargo tonnage between Frankfurt and China as indicating an increase in trade. This is not necessarily so. Similarly, the Manchester study looked at increased cargo export figures from Manchester Airport once Hainan Airlines commenced the operation of a passenger flight offering bellyhold capacity but, whilst exports flown from Manchester to China increased, the total of UK exports fell negating the effect of any increase in exports flown to/from Northwest England. It is also relevant to note the Cathay Pacific example cited in our 2019 Update Report (para 4.19), where a dedicated freighter operation was replaced by bellyhold capacity as a more cost effective operation. The ability to carry bellyhold freight is integral to a route's viability but the overall route economics enable cargo capacity to be sold at a lower rate per tonne than dedicated freighter operations (see 2019 Update Report para. 4.7). The thrust of this response ultimately describes ad hoc freighter operations, which are largely charter operations, which made up around 36% of all freighter movements in the UK in 2017, i.e. c.19,000. Of these, over half are within the UK. This again serves to indicate the small scale of the market from which Manston hopes to attract a share. We have addressed the low probability of Manston attracting operations by Amazon's dedicated freighter fleet in our Update Report at para. 3.10.
ND.1.12	We note that the sample routes used in the freight rate graph do not relate to the UK. Indeed the market where rates show the most volatility is Hong Kong-North America where there is no suggestion that lack of airport capacity drives rates higher. The volatility in the rates on the European markets illustrated is less. Even so, the range of volatility looks to be around 2.5x, less than the 4.5x estimated cost differential of using a dedicated freighter compared to bellyhold capacity. Hence, these examples do not provide evidence that there is a role for dedicated freighters to be operated, even on an ad hoc basis at times of seasonal demand. Any relief role for Manston as asserted is likely to be limited. The Heathrow quotation referenced in the response points to the need for more bellyhold capacity on passenger routes, which R3 will permit, rather than a need for dedicated freighter aircraft.
ND.1.13	Much of the response simply repeats material already contained in the Azimuth Reports. As we have addressed in some detail in both of our reports, Azimuth's interpretation of UK air freight statistics is flawed and betrays a lack of understanding of the market dynamics. The fact that the UK is now experiencing strong air freight tonnage growth suggests that the performance of the sector is less related to congestion and more to underlying economic factors. There has been no shortage of capacity for freighters at airports other than Heathrow, specifically Stansted and EMA so, if anything, any restrictions in freighter growth reflect Heathrow specific issues, rather than a general constraint, which

Manston cannot address any more than the already well established airports. As we have pointed out in response to ND.1.6 above, the reason that a greater proportion of freight is carried in dedicated freighter aircraft at the Frankfurt hub is a result of the substantially lower volume of bellyhold capacity available rather than any constraint on dedicated freighter operations at Heathrow.

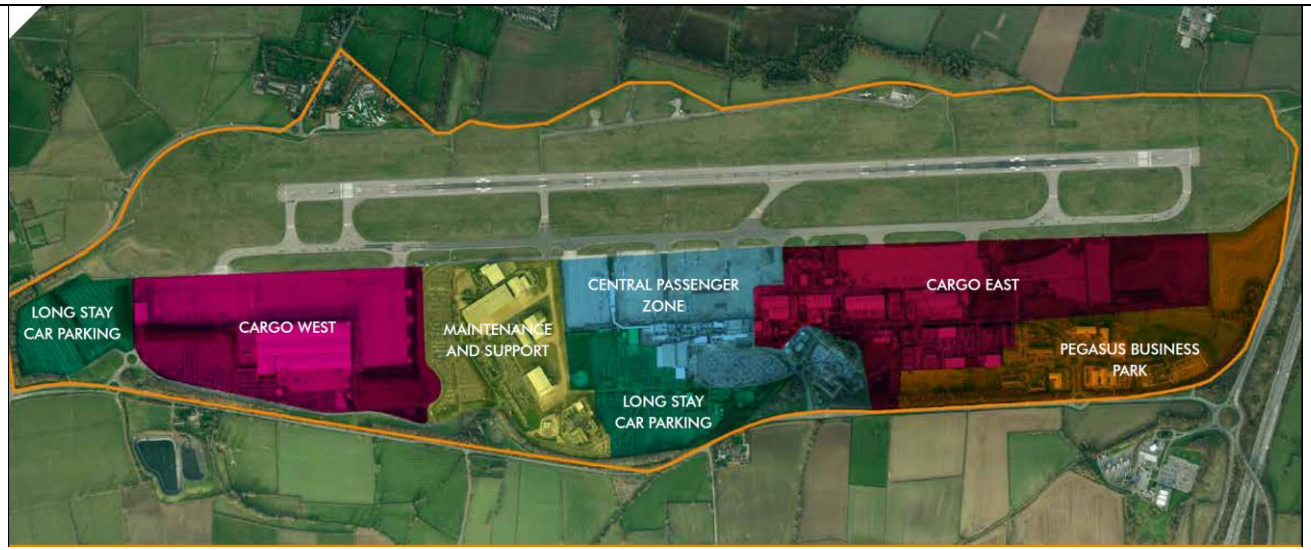
In terms of whether Stansted operates under capacity constraints for cargo aircraft, the Applicant tries to infer from growth in passenger aircraft movements (ATMs) and a fall in cargo ATMs that this can only be due to passenger aircraft crowding out cargo aircraft. First of all, as we have pointed out in response to ND.1.8 above, Stansted operates with dedicated freight aprons and so there is no conflict between the stand occupancy requirements of low cost carriers and those of cargo carriers. The quotation from Schiphol appears entirely irrelevant in this regard. The Applicant wrongly uses the initial raw slot demand at Stansted in the answer to ND.1.18 to suggest that Stansted Airport is more constrained than it actually is. The correct information to use is the pre-season allocation of slots which we illustrate below for Summer 2018 taken from the Airport Coordination Ltd Pre-Season Report https://www.acl-uk.org/wp-content/uploads/2018/03/STN_S18_SOS.pdf.



The graph above shows the actual spare runway capacity to accommodate additional freighter movements at Stansted at the start of the summer season in 2018. As can be seen there is ample spare capacity for additional ad hoc freighter movements to be scheduled if required (the already timetabled operations will be included in the chart).

The response also cites the recent Steer 2018 report for Airlines UK (see para. 4.6, 4.16-4.19 of our 2019 Update Report) in relation to recent airfreight growth to and from the UK compared to faster growth across Europe and, whilst acknowledging that this may be in part due to underlying economic factors, attempts to assert that it is someway due to constraints on dedicated freighter operations at Stansted. The evidence shows this to be simply nonsense.

ND.1.14	The Applicant has appended to this response its correspondence with the Department for Transport. Unsurprisingly, Azimuth Associates repeats its view that the Department's assumption that there will be no growth in dedicated freighter movements to and from the UK is wrong. Contrary to what is inferred in the response, the Department has not promised to produce a forecast of dedicated freighter movements, notwithstanding the current growth in cargo tonnage. What the Department actually said was: *"The Department is currently revaluating air freight policy as part of the developing Aviation Strategy, and you may have seen last July's Call for Evidence and the recent (April 2018) Next Steps response documents which set out some initial options……..We take your suggestion of conducting more detailed modelling of air freight on board and will consider it along with the other suggestions we have received as part of the strategy."* It is evident from the section on the Supporting Freight at paragraphs 4.45 to 4.50 of the Green Paper that the Department has not taken up the suggestion that detailed forecasts of dedicated freighter movements should be produced. Rather as covered in earlier responses, the Department has placed particular emphasis on the role of the existing airports Heathrow, East Midlands and Stansted and stressed the expected doubling of air freight capacity at Heathrow. In the context of the emphasis that the Department is placing overall on ensuring that the UK has sufficient airport capacity in the right places to support the broader economic growth agenda, it is inconceivable that they would not have factored into their analysis of the capacity requirements, as set out in the October *2017 UK Aviation Forecasts*, the need for more dedicated freighter aircraft if they believed it to be a likely requirement. In our discussions with the Department, we are not aware of any intention to produce forecasts of freighter aircraft movements in the near future.
ND.1.15	In this response, the Applicant attempts to assert that capacity for dedicated freighter aircraft at East Midlands Airport (EMA) is somehow constrained by capacity. At 76,000 annual aircraft movements in 2018 according to CAA Airport Statistics, EMA has ample spare runway capacity. A single runway can typically support well over 200,000 aircraft movements a year before significant constraints start to arise. The Airport's 2015 Sustainable Development Plan (https://live-webadmin-media.s3.amazonaws.com/media/2934/ema-sdp-2015-land-use.pdf) identifies land and facilities to support 10 mppa (up from 4.9 mppa) and 1.2 m tonnes of cargo (from 360,000 tonnes). The forecast tonnage is 700,000 tonnes by 2040, which the Applicant appears to have incorrectly construed as a capacity constraint. Land is clearly zoned for expansion in Cargo East and West as illustrated below.

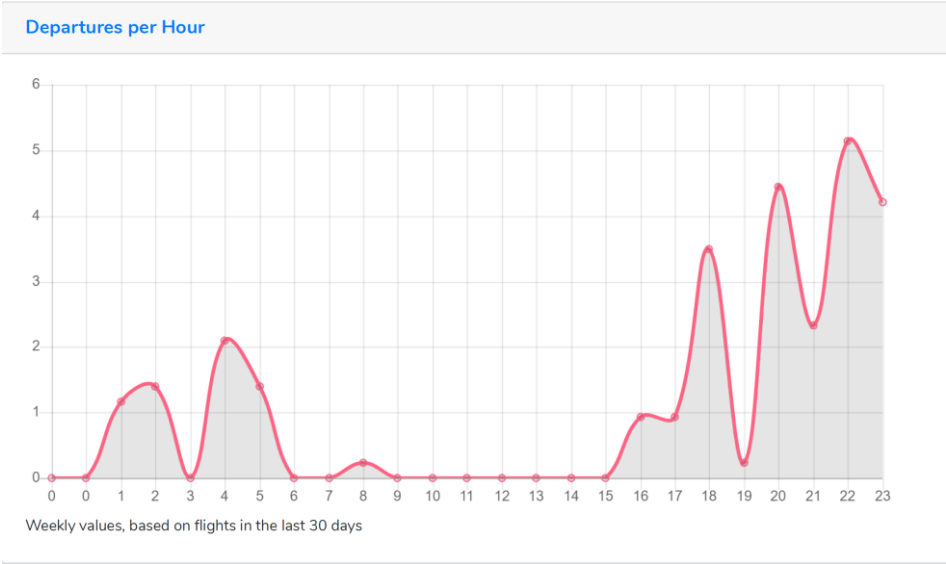


The reason why the EMA plan places emphasis on meeting integrator demand is because this is where there is demand for growth in dedicated cargo services. More general freighter movements could be accommodated if there was demand. Given the position of the Airport next to the East Midlands Gateway logistics park (https://www.slp-emg.com/c/location.php), it is highly unlikely that further expansion of cargo facilities at the Airport would be refused. Specifically, policy EC4 of the North West Leicestershire Local Plan supports growth at the Airport in line with its Master Plan (subject to environmental assessment):

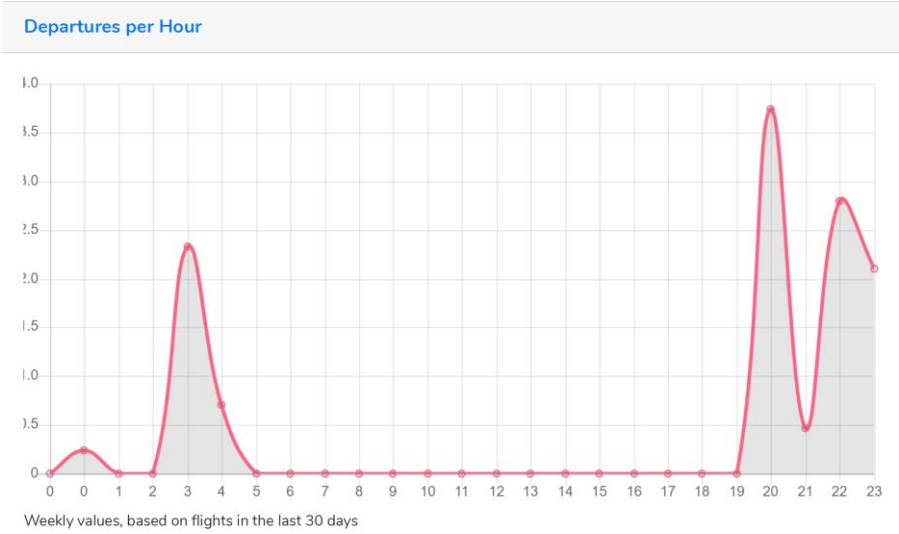
*"**Policy Ec4 – East Midlands Airport***
(1) The growth of East Midlands Airport will be supported provided development that gives rise to a material increase in airport capacity or capability:
(a) Is limited to that necessary to support an airport capable of handling up to 10 million passenger and 1.2 million tonnes of cargo per year; and
(b) Incorporates measures that will reduce the number of local residents affected by noise as a result of the airport's operation, as well as the impact of noise on the wider landscape; and
(c) Incorporates measures to ensure that local air quality satisfies relevant standards; and
(d) Is accompanied by improvements in public transport access to the airport and other measures that will reduce the level of airport-generated road traffic (per passenger); and (e) Will protect and enhance heritage assets within the vicinity of the airport."

In the light of this policy support, it is simply unreasonable to assert that EMA operates under any real or prospective constraint on its air freight operations for the foreseeable future.

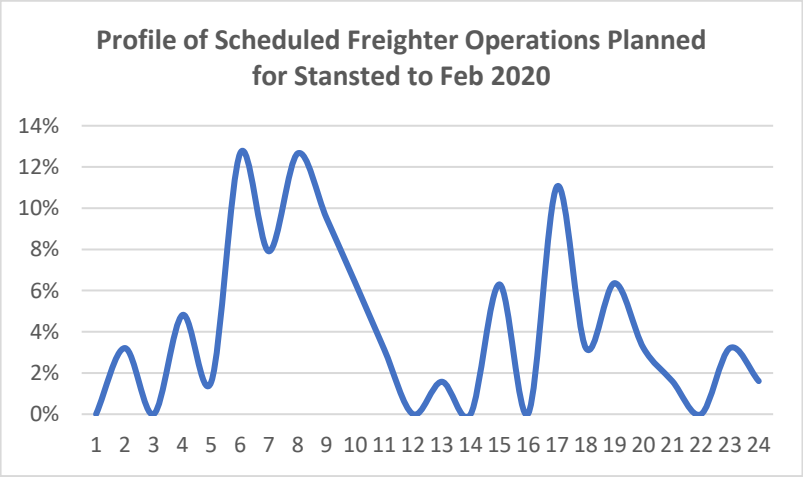
	The Applicant claims that it has taken the potential for EMA to increase from 360,000 tonnes of cargo to 1 million tonnes in its forecasts. It is totally unclear how this scale of growth has been factored in (see Figure 4.7 of our Update Report) as the Applicant's methodology for forecasting freight movements and tonnage is totally opaque.
ND.1.16	In this response, the Applicant claims night flying by integrators due to passenger flights crowding out movements during the day. This is patently untrue as the pattern of operation at EMA shows (see Table 3.2 of our 2019 Update Report). The response goes onto claim that it is not proposed for Manston to have an integrator base, yet the information provided in Appendix 3.3 to the ES shows that 48% of freighter aircraft movements in Year 20 (more in the earlier years) are expected to be operated by the integrators DHL or Fedex, including feeder flights by small aircraft which clearly implies the expectation of an integrator hub operation. At 8,327 integrator movements in Year 20 (as shown in the ES), Manston would be expecting to operate around 60% of the total number of integrator flights at East Midlands. By any measure, this implies some form of base or hub operation. Such an operation would only be possible if the airlines could operate a similar pattern of day/night movements as seen at EMA, as we outline at paras. 3.37-3.44 of our 2019 Update Report. Even if the operation was on a non-based basis, the pattern of day night movements would be very similar as it should be noted that EMA operates partly as a hub but also as a spoke to DHL's main operation at Leipzig. These movements would have to operate with timings based on late evening arrivals from the main hub and early hours' departures. The Applicant should be asked to clarify as a matter of urgency the intentions regarding integrator operations as, if these movements are removed from the forecasts, the number of predicted freighter aircraft movements is below the threshold for an NSIP (see para. 3.46 of our 2019 Update Report)
ND.1.17	The respondent does not actually answer the question posed. The answer deals with trucking of food, which is not an indication of high value air freight potential. As explained in Section 4 of our 2019 Update Report, trucking of freight between hubs is an integral part of the air freight system. The DfT figures referred to by the Applicant are travelling under an airway bill and will meet required delivery times for the high value/low weight model. Such freight is not a separate category of air freight and would normally be considered as part of the general air freight sector - see Steer Report for Airlines UK (http://airlinesuk.org/wp-content/uploads/2018/10/Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Report-v22-Oct-2018-b-SENT.pdf) para 2.8ff for a description of different types of freight operation. This explains that the role of trucking is integral to general air freight handling (paras. 2.17-2.19) and not necessarily of itself any indication of capacity constraints but is simply a manifestation of how the market works.

ND.1.18	The answer refers to Stansted's previous passenger cap of 35 mppa but fails to recognise that this has been increased to 43 mppa. The response again confuses the DfT's 2017 presentation of the limiting capacity at each airport as being a movement limit not a passenger limit. It is clear from reading the DfT 2017 UK Aviation Forecasts, specifically Tables 63, 64 and Fig 7.4 (as reproduced at Fig 2 of Azimuth Vol I) that the limits reflected, particularly for Stansted, are based on passengers. Table 66 of the DfT UK Aviation Forecasts 2017 shows clearly that Stansted's peak forecast number of ATMs is 212,000 ATMs, i.e. the Airport is not projected to fully use its consented movement capacity of 274,000 ATMs, of which the limit for cargo flights is now 16,000 per annum as per new permission, i.e. 60% growth in cargo flights above current levels. It is simply wrong to assert any form of imminent constraint on the overall number of freighter aircraft movements at Stansted. The concept that MAG is favouring low cost airlines over freight at Stansted is pure speculation and without any foundation. Nor would air traffic control delay freighter operations to favour passenger flights but they would adhere to air traffic flow management slots as issued by Eurocontrol based on filed flight plans. In truth, there is no evidence that freighter operations are restricted at Stansted. Any short term fall in freight tonnage is almost certainly coincidental and related to underlying economic factors. As illustrated in response to ND.1.13, Stansted has recently extended its cargo facilities, which it would not have done so had it intended to force out freighter activity. As we have noted in response to ND.1.13 above, the Applicant uses the Stansted raw demand graph rather than the correct allocation chart. There is currently plenty of spare runway capacity at the times when the freight operators want to fly. We have looked at the times when the airlines currently want to fly (on the basis that there is no evidence that airlines are currently constrained from operating at the times they wish by any current capacity constraint at Stansted). The full details are given in **Appendix E**. Summary graphs are shown below: **Fedex** 

UPS



Scheduled Freighter Operations



It is clear that the integrators operate primarily at night with c.36% of all departures at night and a similar pattern for scheduled freighter operators. In overall terms, we estimate that around 45% of all non integrator freighter aircraft movements at Stansted operate with either an arrival or departure in the night period. If these operators had to move from Stansted due to the effect of night constraints, they would only

do so to an airport that could provide the flexibility to maintain current schedules, i.e. for Manston to be a candidate it would require to be able to operate a substantial number of night flights, well in excess of the proposed night quota in the Noise Mitigation Plan.

The situation at Amsterdam has also been misinterpreted by the Applicant. The 80% use it or lose it rule for slots has been in place under EU Regulation 95/93 for many years. This means that systematic off-schedule operations by any airline may result in some airlines losing their grandfathered slots and, with an airport at its overall annual movement limit, alternatives at a different could not be allocated as would have been the case before the limit was reached. This is not some new rule aimed at cargo carriers specifically but a part of EU law.

ND.1.19

It is interesting to note that the Applicant does not expect the position of most freight at Heathrow being carried bellyhold in long haul passenger aircraft to change once R3 opens. In terms of the balance of slot usage with R3, it is Government policy that the use of R3 should be focussed particularly on securing global connectivity and in ensuring improved regional domestic connectivity through the ringfencing of some slots (see Aviation Strategy Green Paper para. 3.52). On this basis, the Applicant's estimate of 85,000 of new slots being for long haul services is almost certainly conservative but would still represent an increase of c.50% in global connectivity compared to 2018 (c.175,000 long haul flights based on OAG data). The current bellyhold capacity offered for sale at Heathrow on long haul routes is c. 14 tonnes per sector on average (OAG). On this basis, 85,000 additional flights would equate to 1,200,000 tonnes, i.e. taking Heathrow to the 3 million tonnes total. It should be noted that this is a throughput estimate not a formal constraint so the tonnage achieved could be higher. Contrary to assertions made by Azimuth in its reports, newer aircraft types carry more tonnage per flight meaning that the future bellyhold capacity is likely to be greater on average per aircraft than today. Hence, Heathrow might well achieve more than 3 million tonnes of cargo once R3 is operational. We have extracted bellyhold tonnage capacities being offered for sale on average by aircraft type on 28th Feb 2019 to illustrate the high capacity offered by some newer types, in particular the Boeing B787:

Type	Bellyhold Tonnage
Airbus A330	11.0
Airbus A340	12.7
Airbus A350	20.0
Airbus A380 Passenger	20.2
Airbus Industrie A330	13.5
Airbus Industrie A350	20.0
Boeing 737 Passenger	5.4
Boeing 747 (Passenger)	15.2
Boeing 757 (Passenger)	7.1
Boeing 767 Passenger	13.9
Boeing 777 Passenger	23.2
Boeing 787	38.2

	We would also highlight that the Boeing industry reports, on which Azimuth seek to place substantial reliance throughout their reports, quotes lower (belly) hold capacity growth on passenger aircraft of 6% in their *World Air Cargo Forecast 2018-2037* (Executive Summary page 7) so Azimuth are simply wrong to speculate that the ability to carry bellyhold is reducing not increasing. We would reiterate para. 2.15 of our 2019 Update Report that Heathrow with R3 provides for growth for 31 years.
ND.1.20	This response seems to proceed from the premise that Heathrow could only attain 3 million tonnes of cargo per annum through extensive introduction of freighter flights. As we have demonstrated in response to ND1.19, this is easily deliverable from bellyhold capacity. Once again, the response is littered with speculation about the need to demolish Terminal 4 to provide more cargo aircraft stands, which is without substance. The fact that slots to use R3 may be released incrementally is not an issue as the release will be in line with demand. The Applicant again claims that it has taken account of growth in air freight capacity at Heathrow in its forecasts for Manston. Once again, this is totally opaque in the methodology. Our assessment (see Section 3 of our 2019 Update Report) is that there will be ample spare capacity. The remainder of the response asserts that, notwithstanding growth in capacity at Heathrow and elsewhere, there will be 400,000 tonnes of freight by 2050 which will require a dedicated freighter operation. This appears to be estimated by growing the current tonnage on dedicated freighters at the London airports by c.2% p.a. However, it does not follow that this freight would not be better suited to using the increased belly hold offer from Heathrow with a 3rd runway. As we have pointed out at paras. 4.4 and 4.19 of our 2019 Update Report, there is clear evidence of airlines discontinuing dedicated freighters when increased bellyhold capacity is available. Comparisons between Heathrow and Frankfurt (see ND.1.6) reinforce the point. Freighters, other than integrator operations and a small number of niche ad hoc/charter operations, fill the gap when bellyhold is not available rather than being a distinct market as the Applicant's response appears to suggest.
ND.1.21	We note the team experience cited. There is little here to give confidence that the team could bring Manston to profitable operations.
ND.1.22	Again, this answer appears to assume that freight is necessarily destined for Central London. Whilst this may be true for urgent documents carried by the integrators, is it not the case for the vast bulk of air freight. Otherwise, the Applicant's answer describes well the reasons why EMA is the main UK freight hub.
ND.1.23	We do not dispute that a 'No Deal' Brexit could lead to delays at the border for trucks in the short term until new systems and processes are put in place. However, the bigger issue with a 'No Deal' Brexit is likely to be the overall impact on the economy. Forecasts suggest that the economy could be up to 9.3% smaller than it would otherwise be in the event of 'No Deal' (https://www.bbc.co.uk/news/uk-politics-46366162). There would simply be less demand for freight transport so reducing any market that Manston might avail of. This is likely to be a much more significant factor in terms of the prospects for dedicated freighter operations at Manston than short term issues of customs clearance at the Channel crossings.
ND.1.24	The response that increased security measures could result in increased delays to cargo on passenger aircraft is pure speculation. The assertion is unsubstantiated and runs counter to the thrust of the Aviation Strategy Green Paper (Section 5) whereby the Government has set out a clear intention to improve the passenger experience.
ND.1.25	The advantages of dedicated freighter operations cited by the Applicant come at a cost which few shippers of general cargo are willing to pay. There is always an economic trade-off between time and cost so, for most air freight, the hub and spoke system works well as it does for passengers. Whilst Azimuth quotes *Boeing 2016 World Air Cargo Forecast* as saying 80% of cargo between Asia and Europe used dedicated

	freighters, the latest Boeing 2018 report (referred to earlier) shows this proportion has fallen to 75%. Hence, it is completely wrong for the Applicant to claim that there is not a general trend to a reducing share of cargo carried on dedicated freighter aircraft. The trend is clear and relates to the overall cost effectiveness of transporting goods. Boeing, in its 2018 report, stresses that dedicated freighters tend to concentrate on the main trade routes whilst bellyhold and hubbing provides the global reach. This contrasts with the view of the Applicant that some how dedicated freighters offer more flexibility to get goods from A to B. The response appears to cling to the belief that decline in freighter use is due to the lack of a dedicated freight airport, citing Leipzig and Liege as having few passengers and seeking to dismiss East Midlands and Stansted as freight airports because they handle more passengers than Leipzig and Liege. At 4.9 mppa, East Midlands is still a relatively small airport in passenger terms and remains able to focus largely on freight. It is frankly ludicrous to liken East Midlands Airport to Amsterdam Schiphol, which handled over 71 million passengers and nearly 500,000 ATMs in 2018. Reference again made to the potential for Amazon dedicated freighter operations. It is important to understand the purpose of Amazon's freighter operations in the context of the US market. The operation of their own aircraft is about feeding their distribution centres to keep them stocked with product https://aviationweek.com/commercial-aviation/amazon-air-seen-little-threat-incumbent-package-carriers. The circumstances in the US are very different and distances in the UK much shorter so delivery times can be met from depots in the centre of the country without the same need to fly between distribution centres.
ND.1.26	This answer again seeks to draw comparisons between Stansted, East Midlands and Amsterdam Schiphol Airports. We note that this answer correctly quotes the planning conditions at Stansted which were inaccurately cited earlier in the Applicant's responses. The response also states that constraints at East Midlands will be overcome when the new UPS handling facilities are operational. Whilst these facilities will enable UPS to grow to a scale to match DHL, we are not aware of any evidence that activity at East Midlands has been constrained to date.
ND.1.27	The response continues to assert that the decline in dedicated freighters in the UK is due day and night time slot constraints. This is not borne out by experience at the UK's unconstrained airports albeit this may have been a factor, in part, at Heathrow. However, to the extent that there has been any constraint at Heathrow, this has not manifested itself in growth in dedicated freighter movements elsewhere, despite both Stansted and East Midlands having ample spare capacity. There is no reason why the re-opening of Manston would make any difference to the clear trend. It should be noted that globally Boeing (2018) forecasts growth in freighters operating globally of 70% but 100% growth in freight. This suggests a global decline in the freighter share of the market of at least 17.5% over 20 years (and more if capacity of dedicated freighter aircraft were to increase relative to increase in bellyhold capacity). The decline in freighter operations is likely to be strongest in markets where there is strong growth in bellyhold capacity, as would be the case with a 3rd runway at Heathrow.
ND.1.28	This response again says that the focus of Manston will not be on integrator operations, yet such operations make up 48% of the Year 20 freighter movements (more in the early years) as set out in Appendix 3.3 of the ES. The Applicant appears not to understand its own evidence. The response says that other than the integrators, dedicated freighter operators do not depend on night flying. However, our analysis of non-integrator freighter operations at Stansted (see ND.1. 18) shows around 45% of operations were dependent on a night movement when either arriving or departing. Hence, the ability for airlines to operate a substantial proportion of their flights at night would be essential to Manston being able to attract such operations.

ND.1.30	This response is wrongly dismissive of the work of Aviasolutions for Thanet District Council (see Section 6 of our 2017 Report). The response also refers erroneously to a footnote on page 14 of Avia's 2017 commentary on Local Plan Consultation Responses, whereas the question refers to Aviasolutions earlier 2016 Report. As we point out in our 2017 Report (paras. 6.8 and 6.16), Aviasolutions correctly interprets our report for TfL and the FTA in 2015. Despite having been told in 2017 that they were misconstruing the meaning of the analysis contained in this report (see ND.1.7), the Applicant clings to its erroneous interpretation of our 2015 Report and quotes in this answer a claimed freight capacity shortfall of 2.1 million tonnes without any new runway or capacity across the London airports as the basis for its claim that Aviasolutions got it wrong. Our views and those of Aviasolutions do not diverge as the Applicant claims, they are in essence the same. The Applicant's view is where the error lies. It is important to note in relation to the role of trucking in the market that this is a matter of cost as well as speed. Dedicated freighter services would not address this issue. The Applicant continues with further criticisms of the Aviasolutions analysis and claims that out of date data has been used because Southend Airport is excluded from the analysis. As any experienced aviation consultant would be aware, Southend has not been included in the CAA Departing Passenger survey in the whole period since 1990, albeit it is being surveyed in 2019. Whilst we noted the Aviasolutions work in our 2017 Report, we have conducted our own analysis of the market from first principles. The Applicant asserts that, somehow, the performance of Manston will be different and claims to use more up to date data than used by Aviasolutions. However, this is not so, as much of the analysis set out in the Azimuth Reports relies on data and analysis used by the Airports Commission in 2013-2015 and fails to take into account subsequent developments and decisions. Once again, the answer states that the London system will be full by 2030 but, as pointed out numerous times in our Reports and responses, this relates to the circumstance where a 3rd runway is not built at Heathrow. Given that the question from the ExA relates to the Aviasolutions 2016 Report which did specifically address viability, it is important to note the conclusion of that report: "*7.3.9. Conclusion - The asset would require significant long term investment but would only generate a marginal return on the capital invested. These returns are also predicated on a large number of external variables over which the owner of Manston Airport has limited influence. It is AviaSolutions' view that based on this scenario there is no viable long term prospect of an economically viable airport being established at Manston".*
ND.1.31	This answer largely repeats earlier answers (ND1.18) that MAG has made a strategic choice to favour passengers over freight at Stansted. Nowhere in Section 5.1 of Azimuth Volume I does it quote MAG as saying it prefers passengers over freight, albeit Azimuth construes this to be the case. Paras 2.52, 2.53 of the Stansted Airport Ltd (STAL) Planning Statement (https://www.uttlesford.gov.uk/media/7748/Stansted-Airport-application-planning-statement/pdf/35__Planning_Statement__final_.pdf) for its recent planning application makes clear there are substantial aspirations for cargo growth: *"2.52 Today, Stansted is the third largest air freight centre in the UK, handling around 10% of the UK's air cargo market. In 2017, 260,000 tonnes of freight, worth over £12bn, were handled on c.12,000 dedicated freighter flights. This helps connect local firms, small and medium*

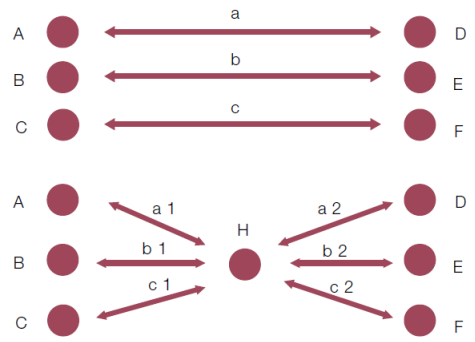
	sized enterprises in Essex and hi-tech companies in Cambridge, to global markets. In addition to dedicated air freight, the flights of DHL, FedEx, UPS and Royal Mail provide London with an express cargo hub for time critical, often overnight, deliveries. *2.53 Long haul services, such as those recently announced to the Middle East and North America, also bring trading benefits through the capacity to carry air freight. Belly-hold cargo is an important factor in maintaining the viability of long haul services, as well as giving local businesses easier access for importing or exporting goods. This new cargo capability will complement the existing 'all freight' services to, for example, Memphis and Qatar."* It is important to note, however, that STAL anticipates that more long haul scheduled services will be the principal means to drive throughput of cargo. We would further note in response to the Applicant's answer that there is no evidence that there was ever a shortage of capacity at Manston nor that its limited operations in the past were due to any shortfall in facilities. The past performance was reflective of market realities, which have not fundamentally changed.
ND.1.32	This response claims there were no facilities for handling outbound export cargo at Manston, which is absolutely incorrect. The response also restates unsupported expectations of cargo services by type of airline. As we note at para. of our 2019 Update Report, several of the airlines listed as operating in Appendix 3.3 to the ES do not have dedicated freighter aircraft in their fleets. To assist the Examining Authority, we have included the fleet lists of these airlines (from ch-aviation) at **Appendix F**. Freighter aircraft are denoted by an (F). We have included Qatar Airlines in the list where it is evident that they do operate a young fleet of freighter aircraft but, for the reasons we outline, they are highly unlikely to operate to Manston. We have addressed the shortcomings of the Business Model at F.1.5.
ND.1.33	This answer again is based on there being a shortage of capacity for dedicated freighter operations across the London airports. As we have demonstrated, this is not so. Elsewhere the response is muddled as, whilst it correctly identifies the potential of import of flowers from Africa, it claims that the UK will be importing of consumer goods from Pakistan and exporting clothing. This does not appear to be rational given the relatively limited clothing manufacture in the UK and limited consumer goods exported from Pakistan. The response is also unclear about China and implies that it would be a market for exports rather than the majority of trade currently being imports. In any event, there is no evidence that these markets or goods would be candidates for using dedicated freighters and would more likely seek bellyhold capacity (the experience at Manchester Airport with Hainan Airlines and Cathay Pacific would rather tend to prove this point.) We do not believe that the majority of these goods would be of such an urgent nature as to justify dedicated freighters, other than the fresh flower market that Manston historically handled.
ND.1.34	This answer continues to proceed on the basis that most air freight is to and from London. For the reasons already explained (see Section 4 of our 2019 Update Report), this is not the case.
ND1.35	It is not clear where the figure of 394 perishables flights per year comes from? The ES data at Appendix 3.3 shows 444 such flights (Cargolux from Africa/Nairobi in Year 20). Once again, there is lack of clarity of the basis upon which the application has actually been assessed, with different figures being quoted in different parts of the documentation.

ND1.36	The answer wrongly cites the proportion of KLM passengers within the total passenger forecast. This does not answer the ExA's question as to what proportion would be hubbing at Amsterdam. The answer given appears to mean that the route is assumed to carry 75,000 passengers per annum and does not grow through the period. This would equate to c.52 passengers per flight on average based on the 1,456 movements shown in Appendix 3.3 to the ES. KLM's smallest aircraft, the Embraer175 jet, has a capacity of 88 pax, implying a load factor of 60%. This is below a sensible viability threshold which we have assessed as 80% as an initial minimum rising to 88% (2019 Update Report para. 5.29). KLM's network wide load factor is 89.1% in 2018 (https://news.klm.com/klm-2018-traffic-results/) so the route is unlikely to be viable on the basis set out by the Applicant. We note that the response claims that there have been updated discussions with KLM in Feb 2019. We would not dispute that the airline may have expressed interest in recommencing the service but this may well depend on the support package available from RSP and from local authority stakeholders to support the re-introduction of the service. By way of comparison, our forecasts suggest that, if operated, the route could support 111,000 passengers in Year 20 with 67% connecting in Amsterdam. This would be roughly on a par with the number of passengers carried from Durham Tees Valley to Amsterdam in 2018.
ND.1.37	Part i) of the response fails to address the implications of limits on night flying on the prospects for Manston. In practice, the answer given simply demonstrates that a busy passenger schedule during the day is not an impediment to effective freighter operations as the Applicant has elsewhere tried to argue would be the case at Stansted. For the reasons we have set out at ND.1.6, to the extent that freighters are willing to confine their operations to day time hours at Frankfurt, this reflects the power of the hub and air freight consolidation at Frankfurt which would not be replicable at a small remote airport like Manston. Frankfurt is able to leverage its market power in the air freight sector in the same way as Heathrow.
ND.1.38	The response says that bellyhold freight is only cheaper where *"demand outstrips supply".* This is economically irrational as normally prices rise as demand outstrips supply. We have explained at ND.1.6 why Frankfurt has more dedicated freighter capacity than Heathrow. In terms of convenience for shippers, bellyhold is a more flexible option precisely because it uses hubbing to connect multiple points. Box 2b from the Airports Commission Interim Report 2013 illustrates the point. Hubs increase connectivity compared to point to point services.

Box 2b: What are aviation hubs and how do they work?

In a hub-and-spoke model, airlines and alliances focus their route networks on one or more key airports which maximise connecting opportunities for passengers. For example, an airline that operates direct services between three pairs of airports (A-D, B-E, and C-F) could instead route its flights via a hub (H) as shown below.

This creates more route options, with passengers travelling from any airport in the network now able to access five different destinations (six, including the hub itself). Furthermore, the additional passengers transiting through the hub make it more viable for the airline to add new routes at that airport or increase frequencies on existing routes, bringing further connectivity benefits. On the other hand, such a model may incentivise airlines to replace some thinner direct routes with routes that involve a transfer, which is less convenient from the perspective of those passengers who travel on this particular route.



Dedicated freighters are inherently less flexible for shippers in terms of getting freight from A to D, E and F etc, and are a more expensive option. Hence, freighter services are being replaced as more bellyhold capacity comes on stream, other than on an ad hoc basis for special loads which can only be justified in limited circumstances..

This answer again makes reference to our 2015 Report for TfL and the FTA. The quotation cited makes clear that we were referring to constraints biting on bellyhold capacity at London not on capacity available for dedicated freighter operations. We have made clear to Azimuth for some time that they have been misrepresenting the conclusions of our 2015 Report.

The Applicant asserts that e-commerce is creating a market for pure freighters to secure delivery times but this only works along narrow corridors of very dense demand. To the extent that such freighters are required (and there is little or no evidence that this is so in the UK context), there are choices as to how to serve London given the availability of capacity at Stansted today.

ND.1.39	The response claims that because of pent up demand for more freighters, movements at Manston will grow quickly. However, as noted earlier, over half of the initial movements are shown at Appendix 3.3 of the ES to operated by an integrator, which contradicts earlier

	statements that Manston will not be an integrator base. Hence, if an integrator base is not to be a feature at Manston (as we strongly believe), it is difficult to see where the initial growth might come from. In essence, this answer repeats much of the circumstantial material from earlier answers, including speculation about future operations at Stansted despite clear evidence of investment in increased air freight facilities there. Air freight operations from the dedicated facility do not impede the fast turnaround of low cost airlines, rather these airlines choose not to carry freight themselves as this would slow down their turnaround times. We would also note that when operating long sectors, Ryanair does not seek to operate 4 rotations within a day. All low cost airlines target their last arrivals late in the evening, with aircraft on the ground overnight.
ND.1.40	The answer says that mail flights are not included as they would require night operations. Again, this is different from the information shown at Appendix 3.3 of the ES which shows 770 annual movements on postal services with Boeing737 aircraft (4.5% of total freight movements). Once again, the information provided by the Applicant is contradictory.
ND.1.41	We note that the question did not highlight that the estimate of 18,000 non-domestic cargo ATMs for England and Wales was for day time ATMs only. Total non-domestic freighters in 2018 were 30,338 according to CAA Airport Statistics. 18,000 movements represents a robust estimate for the total number of non-domestic freighter ATMs across England and Wales. What is significant is that only 6,801 of these freighter movements were outside of the EU in 2018, yet Azimuth forecast Manston handling 2,746 such flights in its first year of operation rising to 4,698 in Year 3 (70% share of static market) and 7,785 by Year 20 based on the sector length and movement data in App 3.3 to the ES. This is simply not credible. The answer again claims that passenger flights will displace daytime freighters at EMA. The Applicant's assertions about capacity constraints at East Midlands are hardly borne out by the recent (18th Feb) notification by the Airport that it intends to build 1.4 hectares of apron for additional cargo activity (3-5 aircraft dependent on size) adjacent to the new UPS facility using its GPDO powers. https://www.leicestermercury.co.uk/news/business/ups-gets-green-light-114m-1277726 https://plans.nwleics.gov.uk/public-access/applicationDetails.do?activeTab=documents&keyVal=PNHJVCLR0L300. This suggests that to the extent that there is demand for additional freighters to serve the UK, EMA is already committed to providing the infrastructure required to handle them. It also would strongly suggest that growth is being driven by the integrator sector as the facility is adjacent to the new UPS distribution centre under construction. Of course, we are told elsewhere that it is not intended that Manston will be used by integrators.
ND.1.42	The Department for Transport (DfT) may not forecast freighter movements in detail but they have made a reasoned assumption based on the evidence that there is unlikely to be growth. In the context of considering the need for more airport capacity to ensure that aviation supports economic growth (see Airports NPS and Aviation Strategy Green Paper), it is not plausible to suggest that DfT would seek to understate the need. Contrary to what is stated in the response, the e-mail from the Department does not say that it is planning to produce a forecast for dedicated freighters using UK airports. What the DfT says is that it will take on board the suggestion that forecasts should be produced and consider this as part of the development of a new Aviation Strategy. The recent Aviation Strategy Green Paper does not take up the suggestion nor indicate that any forecasts are in prospect. It is our understanding that such forecasting work is not underway. The remainder of this response is pure speculation.
ND1.43	This response refers to the reference to Manston on the 2003 Future of Air Transport White Paper. We have addressed this at paras. 2.19 and 2.20 of our 2019 Update Report.

ND1.45	We recognise that discussions with airlines are likely to be commercially confidential but the lack of any commitment or documented support from any of the airlines cited as likely to operate, even in general terms, is a concern. We have set out reasons why we do not believe the list of air freight operators to be plausible in our 2019 Update Report.
ND1.46	This response simply repeats generic support for growth in the air transport sector. Policy still expects the specific need to be demonstrated for any development at an airport even within the principle of making best use of runways, other than in relation to Heathrow and the 3rd runway to which the Airports NPS applies. As we have noted in our 2019 Update Report (para. 2.21), any support for Manston within the Airports Commission work was as a reliever airport for local uses, business and general aviation.
Ns.1.24	See answer to CA1.15 above.
Ns.1.28	The response does not provide the requested information regarding the comparative size of night noise quotas at other airports where they exist.
SE.1.2	This answer asserts that there would be a 45% increase in staying visitors in the local area as a consequence of the Airport handling passenger flights. The calculation appears to be based on the assumption that 25% of 1.4 million passengers will stay overnight in the local area. It is important to note that 1.4 mppa passengers is only 700,000 people making an outward and a return journey. Based on the route network proposed for Manston, we would expect the vast majority of passengers to be outbound leisure largely from the local catchment area (as we set out in Section 5 of our 2019 Update Report). Only the routes to Amsterdam and Dublin might be expected to attract a material proportion of foreign visitors, and these routes make up 22% of our passenger forecast. Given that the Applicant's passenger forecast is overstated and, even assuming half of the passengers on these two routes were foreign resident, the impact on local staying visitors (other than connected with the possible ad hoc cruise charters) would be no more than ¼ of that suggested by the Applicant on the most optimistic basis that all of these passengers remained in the local area.
SE.1.3	No comment on response.
SE.1.5	This section provides little in terms of new information and, in fact, highlights some additional flaws in the Applicant's analysis. We refer the ExA to the analysis in our 2017 and 2019 reports. Direct employment – EMA is not an unreasonable comparator but as previously stated the figures for East Midlands are inflated by significant non-airport related employment on the Pegasus Business Park. We do not believe that this has been taken account of. The application of productivity growth only from Year 11 is illogical given the explanation provided. We would in fact expect productivity growth to be higher in the early years as an airport is getting established and growing as companies are able to benefit from rapid growth in economies of scale. Indirect/Induced Employment – this still does not address the issue of what study area is actually being examined and, hence, whether multipliers adopted are appropriate. Catalytic – we remain of the view that these multipliers are too high in the context of the operation of Manston, the surrounding area and the extent of alternatives. Again, there is still no consideration of the study area involved and the influence of this on any catalytic multiplier. In relation to construction labour available locally, while it would appear that RSP is seeking to make appropriate partnerships locally in terms of new entrants to the market, there is little evidence that they have considered how to work with existing construction firms operating in the area to try to ensure opportunities are recognised by and accessible to these firms.

	The appendices provide some more detail on the breakdown of on-site employment. It is difficult to comment further on these, particularly as it is not the breakdown of employment that is at question here but the overall scale, which is ultimately linked to the demand forecasts. However, in relation to freight employment, in particular, we note that no source for the employment density assumptions is provided and there may be double counting between the employment directly by the airport company and third party employment in this activity. Overall, this makes it difficult to comment on their validity or otherwise. We would, nonetheless, make the following observations: • if there are 507 direct airport employees related to cargo handling, what do the other 1,250 employed by other companies do? This appears to be based on the assumption of 50% express freight use (i.e. integrators), which again contradicts the other statements made in response that there will be no integrators operations based at the Airport. • 600 employees in MRO/aircraft dismantling is excessive. The demise of the Monarch Engineering heavy maintenance operation illustrates the problems in the market. http://www.travelweekly.co.uk/articles/320450/hundreds-of-jobs-lost-as-former-monarch-maintenance-arm-collapses. This operation employed 250 staff across two sites at Luton and Birmingham, excluding the line maintenance activities. These latter are associated with maintaining aircraft operations at busy airports so would not need to be replicated in hangarage at an airport like Manston. • If there are 40 staff employed in the FBO, what are the other 50 GA related staff. 40 staff in an FBO are likely to be excessive given the limited business aviation market in the vicinity of Manston given its remoteness from London? • Why would there be 50 staff associated with surface transport located at the Airport? Overall, we continue to believe that the employment density at Prestwick remains the most relevant comparator, noting that this includes Ryanair heavy maintenance activity and so may overstate the number of potential jobs if heavy maintenance or dismantling could not be attracted to Manston.
SE.1.6	This answer claims that there would be no displacement of activity from any other airport and that all the demand that Manston would attract would be unmet demand. This is at odds with claims in the Azimuth Report (see F.1.5 above) that consideration of the costs of switching operations for the airlines and forwarders has been taken into account, which would imply that at least some proportion of the 'forecast' demand is expected to have switched (been displaced) from elsewhere. For the reasons we have demonstrated, there is little or no unmet demand for additional dedicated freighter services to/from the UK and other airports have sufficient spare capacity to accommodate any requirements. Hence, given that the economic effects have, in essence, been quantified by Azimuth at the national level, given the multipliers used, the displacement effects relating to demand attracted to Manston that might otherwise have used Stansted or East Midlands in particular have to be accounted for.
SE.1.10	This answer simply reiterates Azimuth figures. No supporting evidence provided as to what export markets it is intended to serve or why the profile would be different from previously seen at Manston in terms of the import export balance (see our response to ND.1.32). The reference appendix is missing from the bundle but assumed to be FRAPORT report on activity in 2018 referred to elsewhere. The cited quote does not say anything about whether this was growth in imports or exports.
SE.1.13	We have commented on the employment assumptions at SE.1.5. The employment estimates provided by the Applicant are not robust for the reasons given in our 2017 and 2019 Reports. This is particularly so in terms of the local employment implications.

SE.1.15	We note that the question relates to the robustness of the assessment in terms of whether the 'worst case' has been identified. In so far as this question relates to the consequential implications of the levels of employment for the requirement for additional housing in the local area, this does represent very much of a 'worst case' as national level employment is construed as being realised locally. However, in terms of balancing of environmental costs and benefits, the overstatement of employment and GVA impact (see para. 3.54 of our 2019 Update Report) will mean that the balance may not have been correctly struck within the environmental assessment.

lc/7.3.19

Appendix A

Market Overview Demonstrating Market Demand for Office Space at East Midlands Airport and the Locality

Former DHL Offices
Unit 435 Air Cargo Centre
East Midlands Airport
Argosy Road
Castle Donington
DE74 2SE

Prepared for:-

Antonia Martin Wright
Anglo Scandinavian Estates 1 LLP c/o
Commercial Estates Group Limited

Prepared by:-

John Proctor BSc (Hons) MRICS FHP
Property Consultants

Prepared supplemental to a proposed Section 73 Planning Application to vary the current condition within the Planning Consent granted which limits occupation of the property to Airport related uses

FHP reference: JMP/HG
Date: 30th April 2018

FHP
www.fhp.co.uk

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6.0	Further Information / Clarification

Appendices

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II	Photographs
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Executive Summary

Commercial Estates Group on behalf of Anglo Scandinavian Estates 1 LLP (CEG) have owned the Air Cargo Centre in East Midlands Airport since 2012.

The Air Cargo Centre is a mixed office and warehouse park which is accessed from Beverley Road at East Midlands Airport.

One of the most substantial occupiers within the Air Cargo Centre has always been DHL who have expanded their distribution hub and representation on the Airport and vacated Unit 435 which comprises a two storey self contained detached office building of some 18,000ft² and adjacent warehouse accommodation.

The Air Cargo Centre principally, I would estimate, dates back to the late 1970s / 1980s and was evolved upon the basis that it would attract Airport related uses to help the expansion of the Airport.

Since that time the East Midlands Airport has grown organically to become an Airport of national and regional significance being stated as being the second largest freight Airport within the UK behind Heathrow and one of the major regional passenger Airports in Central England.

In the 1990s / 2000s East Midlands Airport recognised the need to widen the commercial base of the Airport and to improve its location as a business destination to complement the Airport related uses.

Between the late 1990s and the mid 2000s they actively promoted Pegasus Business Park as a prime Business Park of regional significance marketing the proposition into the national and regional markets and most particularly focusing upon its central location being equidistant between Nottingham and Derby and some 20 miles to the North of Leicester.

Pegasus Business Park was promoted through a joint venture with Wilson Bowden Developments but this came to an end in the mid 2000s, since which time there has been more limited development within the park and demand profile was in any event significantly affected by the recession.

When Pegasus Business Park was evolved some 137,000ft² of office buildings were developed over a four year period and in broad terms 70% of the occupation was to non Airport related uses and 30% of the occupation was to Airport related uses.

The non Airport related occupiers were all new inward investment relocations whereas the Airport related occupiers of UPS, The Immigration Service and Babcock were already represented onsite.

In order to bring the DHL office building up to date significant investment is required and it is clear that there is inadequate profile of demand to underwrite the investment required to refurbish the building if the building can only be offered to Airport related uses.

As a consequence, CEG are making a Planning Application to lift the current condition within the planning consent which limits the usage to Airport related occupiers.

This precedence has previously been considered in 2013 when BMI vacated the adjacent office building of 25,000ft² - planning consent was granted lifting this condition which enabled CEG to attract PKF to relocate their East Midlands Regional Office to the Airport.

As a consequence of the limited demand from Airport related uses which has been proven over the last 15 years the lack of provision of Grade A offices within the region we have concluded that the release of the condition will not be detrimental to the onward growth of the Airport but will complement its aspirations for the future and help continue to promote the Airport as a destination of regional significance.

1.0 Instructions and Introduction

1.1 Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group (CEG) own the freehold interest in the Former DHL Offices, Unit 435 Air Cargo Centre, East Midlands Airport, DE74 2SE.

1.2 The property was built in the late 1980s and has, since it was constructed, been occupied by DHL together with adjacent warehouse properties.

1.3 DHL have recently completed an extension to their Air Cargo hub within the Airport and have vacated the property.

1.4 It is understood that the original planning consent granted incorporates a condition which restricts the occupation of this building to Airport related uses.

1.5 The same condition was placed on a number of the surrounding buildings within the Airport boundary to ensure that as part of the evolution of the Airport that it was allowed to grow as a passenger and commercial Airport destination.

1.6 The Airport has grown substantially both as a commercial and passenger Airport but also as a commercial destination of significance within the East Midlands region.

1.7 The profile of occupiers and uses at Regional Airports has changed as Airport operators have realised that they need to ensure that their destinations are not entirely related upon Airport related uses.

1.8 As a consequence of its age and the fact that the property has since construction been occupied by DHL Unit 435 is now an outdated office facility in need of substantial refurbishment to upgrade the building to modern day use.

1.9 The report has been commissioned by CEG to accompany a Section 73 Planning Application which requests that the current condition limiting the use of the occupation for Airport related uses is widened to an open office use in line with Category B1(A) of the Use Classes Order 1987 (as amended).

1.10 [ ] Planning Consultants have requested a report which demonstrates the demand profile for offices within this location to consider whether or not there will be any detriment to the onward growth of the Airport in such event that the planning consent was widened.

1.11 A similar study was undertaken in June 2013 when the former offices of British Midland were vacated, this building has subsequently been refurbished to provide Grade A offices and is now the East Midlands HQ of PKF Cooper Parry. A similar Market Report and consideration of market conditions was commissioned and undertaken by myself, a copy of that report being attached within Appendix I.

1.12 This report therefore refocuses upon the office market, has due regard to the nature of the subject building and updates the market prognosis and characteristics over the period 2013 to 2018.

1.13 I am preparing this report in my capacity as a Director of FHP Property Consultants who are one of the leading Commercial Property Consultancy businesses within the East Midlands region.

1.14 In preparing the report I have the advantage / knowledge of having been personally involved in the evolution and marketing of Pegasus Business Park within the East Midlands Airport and subsequently in a number of the existing buildings both owned by Manchester Airport Group (East Midlands Airport) and in private ownership.

2.0 The Property

2.1 The property provides a 1980s constructed two storey detached self contained office building of brick elevations under pitched roof which is understood to provide approximately 1,672m² (18,000ft²) net of offices over two floors.

2.2 The property is located within the boundary of East Midlands Airport and forms part of the mixed office and warehouse development known as the Air Cargo Centre, the majority of which is still owned by CEG.

2.3 The property sits immediately adjacent to the former offices of British Midland which is now occupied by PKF Cooper Parry Chartered Accountants as their Regional East Midlands Office and is provided with a self contained car park for approximately 100 cars.

2.4 It is understood that the offices were originally constructed for DHL who vacated the premises in late 2017 having relocated this office function to their main distribution and office building which is also located within East Midlands Airport.

2.5 The building provides two floors of open plan offices. Photographs of the property both internally and externally are attached within Appendix II.

2.6 The property offers a tired and outdated internal specification as follows:-

- Entrance reception incorporating lift and stairs access fronting Bennerley Road
- Two floors of open plan offices
- Male, female and disabled WC facilities to each floor
- Solid floors with carpet finishes
- Suspended ceiling with inset lighting
- Aluminium powder coated double glazed windows

3.0 East Midlands Airport – Commercial Overview

3.1 It is my understanding that East Midlands Airport was opened in 1965 since which time it has established itself as the country's second largest Air Cargo Airport behind Heathrow.

3.2 In addition the Airport is one of the UK's recognised regional passenger Airports with approximately four million passengers reported to use the Airport on an annual basis.

3.3 FHP was formed in 1990s and it was during the 1990s that we first became involved with East Midlands Airport when at that time Hallam Land Management were seeking to promote Ginbro Farm and more latterly in the late 1990s when the East Midlands Airport sought to attract Joint Venture Developers to promote non core surplus land within the Airport's boundary to improve the Airport's relationship with the regional community and to promote a Regional Business Park which would be open to Airport and non Airport related uses.

3.4 The nature of the East Midlands Airport as a commercial destination as a consequence was transformed, in particular by:-

1. The planning consent which was granted on Ginbro Farm in the early 1990s and negotiated by Hallam Land Management – this released in excess of 100 acres in the south western quadrant of the Airport's boundary and was subsequently acquired by East Midlands Airport who attracted DHL to relocate their UK air freight headquarters to East Midlands Airport and enabled the implementation and expansion of additional long stay car parking in support of the Airport's growth.

2. The evolution and implementation of Pegasus Business Park through a Joint Venture Agreement between Wilson Bowden Developments and the East Midlands Airport which was entered into in or around 1997. Here I was personally involved in the evolution of Pegasus Business Park acting on behalf of Wilson Bowden Developments and East Midlands Airport which saw approximately 137,000ft² and buildings developed and occupied over the period 1999 to 2002.

3.5 Of these buildings approximately 32,000ft² was taken by Airport related users with UPS, Babcock and The Immigration Service taking the opportunity to relocate their existing offices within East Midlands Airport and upgrade to more modern facilities. The remaining 105,000ft² was taken by non Airport related users, namely Powergen (now Western Power), Regus and PWC as I onwardly summarise in greater detail.

4.0 Pegasus Business Park – Buildings Developed 1999 to 2002

Occupier	Size (net)	Nature of Business
United Parcel Services (UPS)	1,114m² (12,000ft²)	Airport related office serving the East Midlands Airport and the wider UPS network.
Babcock (originally Hunting Air Services)	929m² (10,000ft²)	Airport related occupier.
The Immigration Service	929m² (10,000ft²)	Airport related function.
Powergen (now Western Power)	4,180m² (45,000ft²)	Non Airport related.
Regus Serviced Office Centre	1,858m² (20,000ft²)	Non Airport related.
Price Waterhouse Coopers	3,716m² (40,000ft²)	Non Airport related regional office.

4.1 The evolution of Pegasus Business Park is fully summarised within our report dated 11th June 2013 commissioned to accompany the Section 73 Planning Application submitted on the adjacent building.

4.2 It shows that Pegasus enabled UPS, Babcock and the Immigration Office to upgrade their existing offices within the Airport but demonstrates that Pegasus was more widely regarded as a Regional Business Park which generated demand from the East Midlands from non Airport related occupiers.

4.3 Pegasus Business Park was extremely successful over its three / four years of active marketing and development and it would have continued to have grown had there not been a breakdown in the relationship between East Midlands Airport and Wilson Bowden Developments which prevented the park from being onwardly promoted and developed through the Joint Venture vehicle.

4.4 As summarised within the report of June 2013 subsequent development at East Midlands Airport has been more sporadic with the completion of the Holiday Inn Express and Premier Inn Hotels and two phases of offices implemented by Cannock Developments, the first phase being Cygnus Court - three smaller individual units of between 418m² (4,500ft²) and 743m² (8,000ft²) and Osprey House, a self contained building extending to 2,369m² (25,500ft²).

4.5 The evolution of the development of these properties and a summary of the marketing that was undertaken was summarised within our report June 2013.

4.6 The analysis undertaken in 2013 demonstrated that the majority of demand generated was from non Airport related uses.

5.0 Office Market Update - 2013 to 2018

5.1 Our report of June 2013 profiled the demand for offices at that time.

5.2 In the intervening period there has been little change in the occupational line up within the Airport albeit at the time of preparing the report PWC have recently downsized their East Midlands office on the park by approximately 50% with Savills (Nottingham) marketing approximately 18,000ft² within their office building.

5.3 A copy of the sales particulars of Savills is attached within Appendix III.

5.4 It is also appropriate and relevant to note that there has been significant new development within the distribution sector within the immediate locality, in particular with:-

1. Aldi choosing the Sawley Crossroads site approximately 2.5 miles to the North of the site and accessed from the A50 for their 1.5 million square feet two phase Midlands distribution facility.

2. The consent granted and the implementation of the East Midlands Gateway 600 acre distribution park being implemented by Segro and Roxhill where it is anticipated that ultimately 6 million square feet of distribution space will be provided, anchored by the first deals which have been announced to Amazon and Shop Direct.

5.5 The implementation of the distribution park complements the existing distribution focus, both within the Airport most particularly dominated by the DHL distribution facility and to the North of Castle Donington cantered on Willow Farm and more particularly the East Midlands Distribution Centre.

5.6 These developments improve the regional significance of the location which was already recognised as a strategic office location on the M1 corridor as previously highlighted.

5.7 It is understood, in speaking with Savills, that of the 18,000ft² which has been vacated by PWC within their building that terms have been agreed to let 6,000ft² to HBC for a non Airport related use and that the discussions are ongoing with a major service company for their East Midlands office to potentially relocate from Ashby, again a non Airport related use.

5.8 MAG have continued to market their surplus land within the boundary of East Midlands Airport and have the capacity to build additional new build offices both within Pegasus Business Park and adjacent to the National Grid building at the entrance to the park but so far as we are aware no significant interest has been attracted which can stimulate speculative development either from Airport or non Airport related uses.

5.9 The former DHL building is tired and in need of substantial refurbishment to attract an office occupier and initial cost estimates indicate that between £1,200,000 and £1,500,000 will need to be spent on the building to bring it up to modern day standards and to provide accommodation to a similar standard to that which has been offered by PWC within the PWC Building which has no restriction on user.

5.10 The marketing of the building will of course not exclude Airport related uses and this sector will, as part of the marketing, be targeted and therefore in such event that an Airport related user is in the market the building will still be available for occupation but having regard to the fact that the last Airport related office user was last attracted to the site when Pegasus was initially conceived in the early 2000s it is clear that it is more likely that the potential occupier for the site will be of a non Airport related use as opposed to being directly Airport related.

5.11 The vibrancy of the business element of the Airport is important both to increase the stature of the East Midlands Airport as a destination – attracting PKF Cooper Parry in 2013 to relocate their East Midlands office bringing together their offices from Nottingham, Derby and Leicester together with HSBC bringing a Regional Office into the park only helps to strengthen the business element of the Airport which of course, through both its passenger and freight traffic, highly dependent upon the business as well as the domestic markets.

5.12 Within our report of June 2013 we undertook a case study on the development of the last speculative office building within the East Midlands Airport, namely Osprey House. This is now occupied by National Grid.

5.13 There has been no speculative office development within the Airport, nor within the region, since that time of any significance.

5.14 The Airport is one of the most significant office locations within the North West Leicestershire District Council boundary with demand being generated from within the region with the average size of office occupier being larger than one finds elsewhere on the principle Business Parks which are located on the M1 corridor.

5.15 The East Midlands M1 corridor office market is dominated by the office parks of:-

1. Grove Park / Meridian Business Park, J21, M1

2. To a much lesser extent, Forest Business Park adjacent to the Bardon and Mount Park Distribution Parks at J22

3. Pride Park, Derby / Interchange Office Park, J25, M1

4. Nottingham Business Park / Phoenix Office Park, J26, M1

5. Sherwood Business Park, J27, M1

5.16 With the exception of Sherwood Business Park at J27 which is a former Enterprise Zone where there is an oversupply of offices there has been no significant speculative development undertaken since we last evaluated the market profile of the area.

5.17 The office market within the East Midlands area as a whole has relied upon the provision of Grade A refurbishment projects as there is inadequate confidence within the market nor has there been sufficient rental growth to underwrite speculative development.

5.18 It is our view that it is important that a building of this significance within the East Midlands Airport is brought back into use and provides Grade A offices which can be offered on an unrestrictive basis within the open market.

5.19 A building of this size should attract a further 150 to 250 employees to East Midlands Airport.

5.20 The fact that there has been no significant office occupier attracted to the Airport for some 15 years would indicate that by allowing the building to be marketed on an unconstrained basis will not have detriment impact upon the growth of the Airport and it is understood that the Airport themselves are supportive of the proposal.

5.21 In such event that the building was purely marketed and available for Airport related uses then CEG would be unable to commit to the expenditure to refurbish the building to provide a Grade A office and could only market the building on the basis that works would have to be held back until such time that an occupier for the majority of the building was identified to take the property on appropriate commercial terms.

5.22 As confirmed, the last lettings of significance to Airport related uses were to UPS (12,000ft^2), The Immigration Service (10,000ft^2) and Hunting Air Services (10,000ft^2).

5.23 All three occupiers were already located within the Airport and took the opportunity, as previously confirmed within both this report and the report of 2013, to upgrade their space from outdated facilities and since that time Hunting were acquired by Babcock and they have subsequently closed the office.

5.24 The letting prognosis and prospects of reletting the building to an Airport related use are therefore on this basis extremely low if not remote.

5.25 It is therefore for these reasons as summarised that it is appropriate to release the existing restrictive condition and allow the building to be brought back into use and provide a Grade A office facility to be provided on a speculative basis.

6.0 Further Information / Clarification

6.1 I would hope that the contents of this report are self explanatory – clarification / confirmation of any of the points arising can be provided if required.

Prepared by .....

John Proctor BSc (Hons) MRICS
FHP Property Consultants
10 Oxford Street
Nottingham
NG1 5BG

Dated 1st May 2018

Appendix I

Market Overview

Former BMI Offices
Unit 423 Air Cargo Centre
Argosy Road
East Midlands Airport
DE74 2SA

Market overview demonstrating market demand for office space at East Midlands Airport and the locality.

Prepared for:-

Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group and North West Leicestershire District Council

11 June 2013

Prepared by John Proctor BSc (Hons) MRICS – FHP

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Appendices

Appendix I	**FHP Property Particulars**
Appendix II	**Pegasus Business Park Marketing Literature dated Autumn 2000**
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Executive Summary;

This report has been prepared at the request of Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group as freehold owners of Building 423 Air Cargo Centre, Argosy Road, East Midlands Airport.

The building comprises a detached 1980s built two storey office building with a net internal area of approximately 25,500ft².

The report is prepared to accompany a Section 73 Planning Application to be submitted by Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group to accompany a Planning Application which is seeking to vary Condition 7 of the existing planning consent which currently allows the property to be used as offices but only upon the basis that the occupier is of an Airport related nature.

North West Leicestershire District Council have requested a report which demonstrates the demand profile for offices in this location to consider whether or not there would be any detriment to the onward growth of the Airport and the wider planning and economic strategies being evolved by North West Leicestershire to agree to the widening of the usage as requested.

This report has been provided by John M Proctor BSc (Hons) MRICS, a Director of FHP Property Consultants, and analyses the marketing which has been undertaken within the East Midlands Airport area for the past 15 years with particular reference to FHP's direct involvement in the evolution and implementation of Pegasus Business Park and more recently the marketing of individual buildings and most particularly Osprey House, a 25,000ft² building which was let to National Grid in April 2012.

The evidence indicates that there is little or no demand currently being generated from Airport related users for offices of this nature within this locality.

As a consequence the logical conclusion from FHP's perspective is that unless the planning consent in respect of the office development is widened, this office is likely to remain vacant for a considerable period of time.

The lack of demand would however by implication lead one to also conclude that widening the consent would not be of detriment to the onward growth of East Midlands Airport as a location as there is no current demand for space of this nature.

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1.0 Instructions and Introduction;

1.1 I, John Proctor, a Director of FHP Property Consultants have been instructed by Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group (CEG) as freehold owners of the Former BMI Baby Offices, Unit 423 Air Cargo Centre, East Midlands Airport to review the demand profile for offices of this nature.

1.2 This report is intended to accompany a Section 73 Planning Application requesting that the restricted use which limits the occupation of this building to Airport related users only can potentially be widened to an open office use in line with Use Category B1 (A) of the Use Classes Order 1987 (as amended).

1.3 I am preparing this report in my capacity as a Director of FHP Property Consultants who are recognised as one of the leading Commercial Property Consultancy businesses within the East Midlands region.

1.4 In preparing this report I have the advantage / knowledge of having marketed office properties at East Midlands Airport since the mid 1990s.

1.5 I head the Office and Industrial Agency Teams at FHP and over the past 15 years I have, by way of illustration, acted for Wilson Bowden Developments and East Midlands Airport in the evolution and implementation of Pegasus Business Park.

1.6 Here I was personally involved as Agent to Wilson Bowden Developments from 1997 until 2005 and personally agreed the letting and sale of buildings within Pegasus to occupiers such as Powergen (subsequently E-on and Western Power), Price Waterhouse Cooper (PWC), Regus, Babcock, The Immigration Office and UPS totaling some 137,000ft².

1.7 After the demise of the joint venture between Wilson Bowden Developments and East Midlands Airport FHP have subsequently acted for Cannock Developments and IM Properties and most recently concluded the 25,500ft² letting of Osprey House on behalf of IM Properties in April 2012.

1.8 I am currently instructed by Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group, advising them as freeholders of the former offices of BMI Baby which are still subject to a lease to BMI which terminates in July 2013 and I am providing strategic advice to Manchester Airport Group on both existing office and industrial premises and their undeveloped land within the Airport boundary.

1.9 I am able to provide my commentary set in the context of also having active involvement in the wider East Midlands Airport and most particularly the three major conurbations, Leicester, Derby and Nottingham.

2.0 The Property;

2.1 I attach in Appendix I the property particulars of FHP.

2.2 The document confirms that the building comprises a 1980s constructed two storey self contained office building of brick elevations under pitched roof providing approximately 25,500ft² of offices over two floors.

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2.3 It is my understanding that the offices were originally constructed for DHL and more recently have been used as the headquarters of BMI Baby who vacated the premises in early 2011.

2.4 The property is currently still held by BMI Baby on a lease which expires in July 2013.

2.5 Segro Estates owned the property until December 2012, the freehold interest now being owned by Commercial Estates Group.

2.6 Lambert Smith Hampton are currently advising BMI Baby and it is my understanding that they commenced marketing of the premises in September 2010 on a "soft" basis with active marketing commencing in January 2011.

2.7 FHP were originally invited to provide advice to Segro Estates in June 2012 to provide advice as to the potential marketability of the property once the BMI Baby lease terminated and onwardly their instruction was reconfirmed by Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group following their purchase of the building.

2.8 The building has been marketed since late 2010, by Lambert Smith Hampton and more recently in conjunction with soft marketing implemented by FHP and Innes England acting jointly for the freeholder.

2.9 The building provides open plan offices with its specification generally (modest modernisation and refurbishment is required) of a standard which meets the needs of an office occupier. Features of the specification include:-

- Entrance reception with lift and stairs access between the ground and first floors
- Two floors of open plan offices
- Male, female and disabled WC facilities to both floors
- Fully accessible raised floor within the office area
- Comfort cooling
- Plaster and emulsioned walls
- Aluminum powder coated double glazed windows
- Suspended ceiling within inset Category II light fittings

2.10 The property forms part of what is known as the Air Cargo Centre, a mixture of warehouse and office buildings which in themselves sit within the boundary of East Midlands Airport at Junction 23a of the M1.

2.11 East Midlands Airport opened, we believe, in 1965 and has established itself as the country's second largest air cargo operation, having grown by virtue of its central location in the UK.

2.12 In addition the Airport is one of the UK's recognised passenger airports with approximately

4.3 million passengers using East Midlands Airport in 2012.

2.13 The growth of the Airport has naturally led to parallel growth of the supporting business space required to both serve the Airport and more recently its expansion as a recognised business destination within the East Midlands area and I understand approximately 6,500 people are employed at EMA.

2.14 From my own personal experience I am of the view that the interrelationship of the East Midlands Airport with the region as a business destination was transformed particularly by two major elements, namely:-

1. The planning consent granted to Gimbro Farm in the early 1990s negotiated by Hallam Land Management which released in excess of 100 acres in the south western quadrant of the Airport's boundary which attracted DHL to locate its UK Air Freight Headquarters at East Midlands Airport and enabled the implementation of additional long stay car parking in support of the Airport's growth.

2. The ultimate Joint Venture Agreement between Wilson Bowden Developments and East Midlands Airport which was originated in the mid 1990s and implemented I believe in 1997 to promote non core surplus land within the Airport's boundary as a regional business park open to both Airport and non Airport related users, leading to the evolution and implementation of Pegasus Business Park which saw buildings developed for UPS, Babcock, The Immigration Service, Regus, Powergen and Price Waterhouse Cooper totaling 137,000ft², these buildings being developed over the period 1999 to 2002.

2.15 A copy of the marketing literature dated Autumn 2000 is enclosed within Appendix II.

3.0 <u>Market Overview</u>;

3.1 I am providing this brief market overview within the context of having been directly involved in the marketing of both land and buildings at East Midlands Airport since the mid 1990s. In addition I, and the Office Agency Team at FHP, have advised both Land Owners, Developers, existing Owners and Tenants of office parks, existing office premises and new build schemes within the East Midlands region.

3.2 Market trends naturally change and most recently the impact of the economic downturn, the implementation of central and local Government policies in relation to transportation and general work practices linked to the onward maturity of the digital world have affected the profile of the office market.

3.3 In the broadest terms over the past 15 / 20 years we have witnessed the growth of the out of town office park market which was through my eyes conceived in the mid 1980s and in the East Midlands area a feature of development and workplace habits during the 1990s and the 2000s followed by the demise of the out of town office locations caused by the change in workplace habits, Government transportation strategies and the economic downturn most particularly.

3.4 These market trends are reflected by the phases of development which have been seen within East Midlands Airport.

3.5 At the outset of the launch of Pegasus Business Park in the late 1990s / early 2000s there was strong demand at a time when there was:-

a) Latent demand within the area

b) A demand for out of town offices

As a consequence the development was kick started by the 44,000ft² presale to Powergen with Wilson Bowden Developments speculatively developing two buildings of 20,000ft² simultaneously which were let to The Immigration Office, Babcock and Regus.

3.6 Prelettings followed to UPS and PWC, these building being completed in 2001 / 2002. A copy of the marketing brochure prepared in 2000 is attached within Appendix III.

3.7 Onward development at Pegasus was constrained by the failing joint venture between Wilson Bowden and East Midlands Airport with the next phase of development being undertaken in 2005 / 2006 when the two budget hotels were completed and two phases of offices were implemented by Cannock Developments with the first phase being Cygnus Court, three smaller units of between 4,500ft² and 8,000ft² and latterly Osprey House, a self contained building of some 25,500ft² on which I onwardly provide detailed commentary demonstrating the demand for offices in this location from the period of 2007 to today's date.

3.8 Interestingly, and of relevance to the Planning Application, is the relationship of Airport and non Airport related occupiers who have taken space at the Airport.

3.9 In the initial phase of Pegasus there was Airport related occupation with UPS, Babcock (previously Hunting Aviation) and The Immigration Office all taking the opportunity to upgrade from their existing premises at the Airport.

3.10 Whilst I am not an expert in Airport related trends within the UK, FHP have been actively promoting offices within the Airport boundary since the mid 1990s, both within Pegasus where there are no restricted use provisions and also elsewhere within the Airport's boundary on behalf of MAG, Segro and now Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group where the restriction does exist.

3.11 What has become evident both through our own marketing and through our liaison with the Property Team at East Midlands Airport is that there has been ongoing centralisation of administrative facilities and merger of both passenger and Airport related airline providers / suppliers in parallel with the enhanced technological ways of modern working which have reduced the demand for offices at each and every Airport location.

3.12 This has been clearly illustrated by our marketing of Centennial House (marketing details attached in Appendix IV) – here we have acted for MAG for the past five years seeking to promote offices from 500ft² to 10,000ft² in a self contained two storey 1980s built office building with the space being available on flexible terms.

3.13 It has proven extremely difficult to attract occupiers and similarly other more peripheral offices within the Airport's Estate have also been vacated both within the terminal building and elsewhere within the Airport's boundary as this trend is continued.

3.14 MAG themselves, through both the Property Teams at East Midlands Airport and Manchester, promote the availability of the land and are regularly in communication with the principal office occupiers and freight forwarders etc who occupy space at Airports through their existing portfolio and estate of their managed Airports throughout the UK and it is significant that there has not been a single notable inward investment of an Airport related occupier over and above the relocation / expansion of the offices of UPS, Babcock and The Immigration Service which occurred simultaneous with the implementation of the Pegasus Business Park proposals in the late 1990s.

3.15 This concern has been raised by MAG to both ourselves and Colliers who have been jointly appointed to promote surplus buildings and land at the Airport and they are now wishing to understand how they might be able to promote the Airport to a wider audience to help the onward growth of the Airport as a business destination.

4.0 Market Evidence of Occupational Trends / Demand at East Midlands Airport;

4.1 Office accommodation of this nature within the East Midlands Airport boundary has been actively marketed since the late 1990s.

4.2 The initial marketing was driven by the evolution and growth of Pegasus Business Park which grew quickly in the late 1990s / early 2000s at a time when out of town business parks were expanding quickly.

4.3 The growth of Pegasus was in part fuelled by the relocation of Airport based operators with UPS, The Immigration Service and Babcock all taking advantage of an upgrade in the standard of accommodation that they previously occupied on site.

4.4 Despite the fact that as part of the marketing all other Airport operators and Airport related users were identified, no other significant Airport related occupiers have been attracted to Pegasus albeit Heavyweight Air Express have took some 6,000ft² in Cygnus Court in 2009 expanding their existing operation which was previously located within a warehouse unit.

4.5 Marketing of Pegasus through the joint venture between Wilson Bowden and East Midlands Airport came to an end in 2004 / 2005 as East Midlands Airport retook control of marketing the site which coincides with the sale of the Airport to the National Express Group and subsequently to MAG.

4.6 Marketing of surplus land has however been onwardly undertaken by MAG and more recently FHP and Colliers International have been appointed on a Joint Agency basis (in 2012) to promote the land.

4.7 In the interim period Cannock Developments have implemented two schemes, namely Cygnus Court, a three unit scheme of two storey detached offices adjacent to the offices of PWC developed in 2004 and the development of Osprey house, a self contained 25,000ft² developed in 2006 / 2007.

4.8 The purpose of this report is to analyse the demand for Airport related users at East Midlands Airport in order that North West Leicestershire District Council should consider whether to continue to protect office buildings for Airport related uses.

4.9 The best evidence is up to date market testing and whilst I have provided a brief overview on the wider marketing which has been undertaken at East Midlands Airport since 1995 the best evidence is the more recent marketing which has occurred on buildings offering similar size and nature of accommodation to that provided by the former BMI building.

4.10 I am able to provide that evidence by reference to:-

1. An analysis and summary of the marketing which was undertaken on Osprey House – a new build self contained three storey office of the same size as the BMI building where FHP acted as Joint Agents with Lambert Smith Hampton, marketing over the period 2007 to 2012 (the building ultimately being let to National Grid who are now in occupation).

2. The marketing of the first floor of Pembroke House by Lambert Smith Hampton which was marketed from January 2011 and let to Miranda Technologies in October 2012.

3. By reference to the marketing of the BMI building itself which has been undertaken by Lambert Smith Hampton over the period September 2010 to today's date and more latterly in conjunction with FHP acting on behalf of Anglo Scandinavian Estates 1 LLP c/o Commercial Estates Group where soft marketing commenced in the Autumn of 2012.

5.0 Osprey House – A Case Study;

5.1 I have attached as a separate document the marketing meeting minutes and enquiry schedules of both FHP and Lambert Smith Hampton over the period June 2007 to completion of the letting in April 2012.

Property Summary;

5.2 I attach in Appendix V three marketing brochures which were developed during the life of the marketing:-

a) The original brochure being prepared October 2005

b) The updated brochure prepared and issued early 2008

c) The final brochure completed and issued 2011

5.3 In summary, Lambert Smith Hampton and FHP were instructed in the Autumn of 2005 to jointly market the proposed speculative development of Osprey House on behalf of Cannock Developments.

5.4 Over the entire period from October 2005 until the letting concluded to National Grid the property was marketed in a structured way including:-

a) Erection of signage

b) Preparation of marketing brochures

c) Local and national advertising

d) Continual and regular (in broad terms 3 to 6 monthly) mailing to Airport related occupiers, Property Agents and businesses within the East Midlands region

e) Registration on relevant websites including www.estatesgazette.com, www.novaloca.com, www.fhp.co.uk and www.lsh.co.uk

f) Preparation of flyers and postcards (both hard copy and more latterly digital)

g) Preparation of a dedicated website www.osprey-house.co.uk

5.5 The initiatives are summarised within the marketing meeting minutes enclosed within the separate document and the enquiries which were generated throughout the life of the marketing are summarised on the enquiry sheets.

5.6 For ease of reference I have summarised the key dates as follows:-

September 2007	Practical Completion of Osprey House.
November 2007	Onsite launch – Agents key occupiers invited.
March 2008	Detailed negotiations commenced with E-on.
May 2008	Draft Heads of Terms issued to E-on and agreed June 2009
February 2009	E-on withdrew from the negotiations
February 2009	Active marketing recommenced
April 2009	Detailed interest from i2 Limited, a serviced office occupier. Financial terms could not be agreed and i2 became nervous of the location.
Summer 2008 to Spring 2010	Osprey was considered as a potential relocation of Alstom Limited (commercial boilers division) to relocate facilities 12,000ft² from Derby and Ashby.
January 2010	Property considered by Games Warehouse (5,000ft² requirement) to occupy one floor.
April 2010 to September 2010	Osprey House / East Midlands Airport considered by Leicestershire Fire Authority for their headquarters.
April 2010	Initial interest received from Chinook Sciences (renewable regeneration specialists) for 12,000ft².
May 2010	Proposal submitted to Chinook Sciences.
June 2010	Redesign for the marketing package recommended. Relaunch of brochure commissioned June 2010.

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June 2010	Terms agreed with Chinook Sciences Limited.
June 2010	Relaunch of marketing package put on hold.
September 2010	Chinook withdrew from the transaction on HR grounds.
September 2010	Reactivated marketing campaign, i.e. new brochure, new signage, dedicated website, postcards and emailers.
December 2010	Interest received from Countrywide Surveyors (10,000ft²).
January / February 2011	Full relaunch of marketing, mailing and launch of website.
April 2011	Interest received from National Grid (25,000ft² requirement).
June – October 2011	Detailed negotiations with National Grid.
October 2011	Terms agreed with National Grid.
April 2012	Building let to National Grid.

5.7 The building was actively marketed for more than four years following Practical Completion.

5.8 The void period was exaggerated over and above what one would ordinarily expect to see for a building of this size and nature by virtue of the fact that completion of the building was shortly before the commencement of the economic downturn and the weakening for demand for out of town offices as previously summarised.

5.9 What is surprising is that if one analyses all of the enquiries that were received / entertained over the marketing period there is a distinct lack of demand from Airport related users. This profile of demand endorses the market commentary offered.

6.0 Pembroke House;

6.1 Pembroke House is a 20,000ft² self contained building which was developed and completed by Wilson Bowden Developments at the entrance of Pegasus Business Park and completed in 2000 – the building was originally let to The Immigration Service who still occupy the ground floor and Babcock who relocated from older 1970s offices within the Airport who had acquired Hunting Air who had a longstanding representation at EMA.

6.2 LSH commenced marketing in January 2011 and agreed a letting to Miranda Technologies (an IT company) who relocated from their offices in Stamford on Soar, Leicestershire (North of Loughborough) with lease completion being October 2012 (a marketing period of 22 months).

6.3 Details for Pembroke House are attached in Appendix VI.

7.0 Unit 423;

7.1 BMI Baby commissioned soft marketing of this building in September 2010 appointing LSH to act upon their behalf – active marketing commenced in parallel with their vacation of the building in January 2011.

7.2 LSH actively marketed the building and I attach within Appendix VII both the original and more up to date marketing particulars of LSH.

7.3 The marketing included erection of signage, mailing and advertising with the property being fully exposed to the market in an active manner since the beginning of 2011.

7.4 I understand in speaking to Philip Quiggin at LSH who handled the enquiries that the levels of demand at the outset were poor albeit interest was received during 2011 from Miranda Technologies and Micros, both of whom are IT companies with regional offices based within the East Midlands region.

7.5 As the BMI lease comes to an end in July 2013 Segro (who previously owned the building prior to CEG's purchase) asked FHP and Innes England as Joint Agents to undertake parallel soft marketing of the space which commenced in the Autumn of 2012.

7.6 Since that time interest has been generated in the property (as previously confirmed) by a major corporate company and a regionally based professional services company.

7.7 The property has therefore been actively marketed now for more than 2.5 years and one would hope that the discussions with the professional company will yield to a successful letting as these discussions are advanced.

7.8 Over the 2.5 year period there has not been a single expression of interest however from an Airport related use.

8.0 <u>Demand Overview / Interpretation;</u>

8.1 From my own experience I have always seen East Midlands Airport as contributing to the East Midlands economy. It has the ability to provide a well accessed, high profile commercial location in a position which is equidistant between Nottingham and Derby and whilst accessible via the A1 from Leicester there is less linkage to Leicester from my own experience.

8.2 The occupiers who have been attracted to the Airport have cited these components as being the major reasons as to why they choose this location.

8.3 The original deal on Pegasus was the sale of 44,000ft² to Powergen. They brought together operations from Nottingham and Coventry.

8.4 PWC merged their East Midlands offices into Castle Donington with National Grid bringing together offices from Junction 26 of the M1 in North Nottingham and Rugby.

8.5 The most recent occupier into the East Midlands Airport is Miranda Technologies who as previously confirmed occupy the first floor of Pembroke House in following Babcock's relocation (this letting completing some 22 months after marketing of the space commenced). Miranda were previously based in Stamford on Soar, a village approximately four miles North of Loughborough, who were bringing together more regional representation thereby requiring a strategically located office with easy access to both the East and West Midlands. Colliers International in Birmingham represented Miranda in their search for premises.

8.6 There are signs that there is a slight strengthening demand for offices on the M1 corridor, witnessed by the occupation of National Grid and Miranda, together with the level of interest which has more recently been generated on Building 423 itself.

8.7 As previously confirmed it is our understanding from LSH that the enquiries generated on this building through 2011 were relatively poor with a slight improvement during 2012 with interest expressed from Miranda Technologies (who took Pembroke House) and Micros, a software company, seeking to bring together their Leicester and Nottingham Offices into one building.

8.8 More recently, and in conjunction with the more active marketing implemented by FHP on behalf of Anglo Scandinavian Estates 1 LLP c/o Commercial Estate Group, there has been a higher level of interest with Building 423 being considered in detail by both a corporate company and a professional company who have representation in Nottingham, Derby and Leicester.

8.9 Negotiations with the professional company are at an advanced stage and there are strong prospects that terms may be agreed which would enable the professional company to locate their regional office in this location.

8.10 What is clear however is that there is very little evidence of Airport related demand for office occupiers at East Midlands Airport. This is proven by extensive marketing which has been undertaken over the past 15 years where FHP have either had a direct or indirect involvement. At the outset of the marketing of Pegasus there was latent demand from within the Airport which led to UPS, Babcock and The Immigration Office taking space within the initial development phases in late 1999 / early 2000s.

8.11 Since that time I cannot find evidence of substantial interest in EMA from Airport related users from the marketing which has been undertaken on space of a similar size and profile to Unit 423.

8.12 There is additional space within the Airports estate which is vacant together with the surplus development land which is being onwardly marketed.

8.13 If a significant occupier is attracted to EMA then their use can be accommodated on a design and build basis.

8.14 There is regular turnover of existing stock both within the East Midlands Airport property portfolio and within the separately owned buildings illustrated by the previous marketing of individual buildings and suites within Pegasus, at Osprey House and Cygnus Court.

8.15 My conclusion therefore having regard to the marketing evidence summarised within this report is that if the existing restriction remains that it is most likely that Building 423 will remain vacant for the foreseeable future.

8.16 The evidence of the marketing which I have summarised does indicate that by considering an open consent for office usage that this will not be detrimental to the growth of the office as the location is not currently generating demand from this sector.

8.17 Indeed one could argue that by widening the consent this will actually contribute to onward growth by enhancing the size and stature of this location regionally. Even when users are not Airport related they do use the facilities within both the Airport and the immediate vicinity.

8.18 I would hope that the contents of this report demonstrate that there has been both active marketing of the Subject Property since early 2011 which has confirmed that there is no interest from an Airport related user and that the evidence and case study of Osprey House and the overall market commentary linked to my involvement in Pegasus Business Park and other buildings within the East Midlands Airport over the past 15 years demonstrate similarly that there is very little market demand from Airport related users for this location.

Prepared by [redacted]....

John Proctor
FHP
[redacted]

Dated 24 June 2013

FHP PROPERTY CONSULTANTS

Appendix I

FHP Particulars

FHP PROPERTY CONSULTANTS

To Let

1,184m² (12,740ft²) - 2,375m² (25,561ft²)

High quality office with large open plan floor plate and excellent secure parking

Nearby facilities include:

east midlands airport
Nottingham · Leicester · Derby
Premier Inn
Radisson
M&S SIMPLY FOOD
COSTA COFFEE
BURGER KING
moto
Holiday Inn Express
Travelodge
WHSmith

Nearby occupiers include:

pwc
e·on
ups

Argosy Road
Pegasus Business Park
Castle Donington
DE74 2SA

- Sought after business park address
- Easy access to Notts, Derby and Leicester
- Travel to London by train in 1hr 30min from East Midlands Airport
- High quality specification
- Excellent parking provision

Visit our website www.fhp.co.uk

0115 950 7577

Fisher Hargreaves Proctor Ltd | 10 Oxford Street Nottingham NG1 5BG

FHP PROPERTY CONSULTANTS

FHP PROPERTY CONSULTANTS

Office | Derbyshire, DE74 2SA

Argosy Road
Pegasus Business Park
Castle Donington
DE74 2SA

1,184m² (12,740ft²) to 2,375m² (25,561ft²)

+ An Outstanding Location

Pegasus Business Park is part of East Midlands Airport, making it one of the best located office parks in the East Midlands.

It offers almost instant access to the M1 at J23A and the A42. The A50 at J24A is within 5 minutes drive and East Midlands Parkway station is just 10 minutes drive away.

These unparalleled transport connections have already attracted a number of big names to this outstanding location.

+ The Property

The offices have been fitted out to a high standard by the current tenant. The accommodation is predominantly open plan together with a number of partitioned offices, meeting rooms, training rooms and canteen.

The property offers:

- Air conditioning
- Raised access floors
- Passenger lift
- Suspended ceiling
- Category II lighting
- 201 parking spaces
- Passenger lift
- Double glazing throughout

+ Service Charge

A small estate charge is applied to cover landscaping, road clearance and security issues.

More information is available upon application to the agents.

Visit our website www.fhp.co.uk

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FHP PROPERTY CONSULTANTS

Offices

+ Accommodation

We calculate the following Net Internal Areas:

Floor	M²	Ft²
Ground Floor	1,191	12,820
First Floor	1,184	12,740
Total NIA:	**2,375**	**25,560**

(This information is given for guidance purposes only and prospective tenants are advised to undertake their own measurements prior to contract)

+ Rent

Rent on application.

+ Business Rates

The property is current assessed for Rating purposes with a 2010 Rateable Value of £320,000. Please contact the agents for an outline of the Rates payable.

(This information is given for guidance purposes only and prospective tenants are advised to undertake their own enquires of the Local Authority)

+ A Day at Pegasus Business Park

7.30am	Quick work out in the gym at Raddison Blu.
8.15am	Grab a coffee on the way to work from Costa Coffee.
9.30am	First meeting of the day in the plush new meeting room.
11.00am	Back to the Raddison Blu for our sales seminar.
1.30pm	Lunch from M&S Food.
3.00pm	Informal team brainstorming session in the kitchen/breakout space – great brainstorming session.
6.00pm	Meet partner and go to the airport to catch flight to Barcelona. Great weekend and I didn't have to pay for airport parking.

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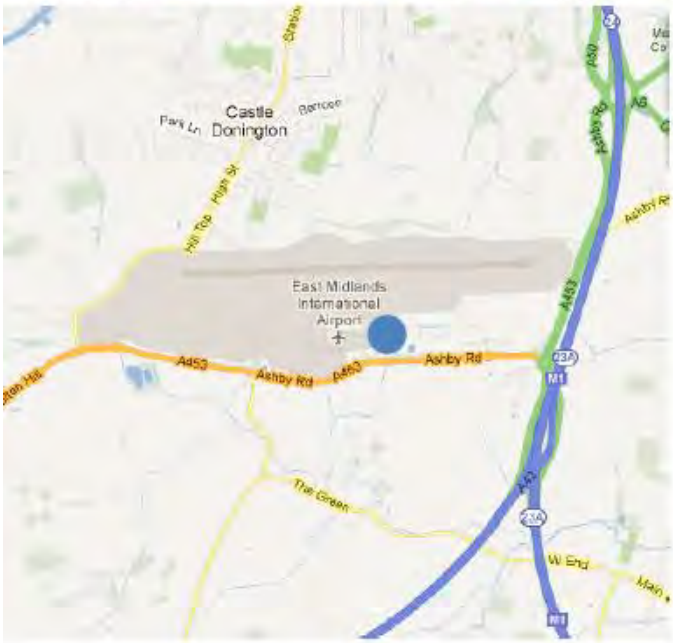
Office | Derbyshire, DE74 2SA

Offices



+Journey Times

Destination	Time	Distance (Approx)
Nottingham	28 minutes	14 miles
Derby	22 minutes	15 miles
Leicester	32 minutes	19 miles
Birmingham	45 minutes	40 miles
Coventry	50 minutes	42 miles
Stoke	57 minutes	47 miles

+Nearby Transport Hubs

Destination	Time	Distance (Approx)
East Midlands Airport	2 mins	0.5 miles
East Midlands Parking	10 mins	7 miles
Birmingham Airport	41 mins	37 miles
London St Pancras	1hr 50 mins	By train from EMP

+ Interested

For further information or to make arrangements to view please contact:

James Hartley
FHP – Nottingham
T: 0115 9507577
M: 07887 787882
E: james@fhp.co.uk

George Dunnicliff
FHP – Derby
T: 01332 343222
M: 07876 396008
E: george@fhp.co.uk

Or contact our joint agents:

Tim Richardson
Innes England
T: 01332 362244
E: trichardson@innes-england.com

FHP, their clients and joint agents give notice that:
1 - They are not authorised to make or give any representations or warranties in relation to the property either here or elsewhere, either on their own behalf of their client or otherwise. They assume no responsibility for any statement that may be made in these particulars. These particulars do not form part of any offer or contact and must not be relied upon as statements or representations of fact.
2 - Any areas, measurements or distances are approximate. The text, photographs and plans are for guidance only and are not necessarily comprehensive. It should not be assumed that the property has all necessary planning, building regulation or other consents and FHP have not tested any service, equipment or facilities. Purchasers must satisfy themselves by inspection or otherwise. Figures quoted in these particulars may be subject to VAT in addition.

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Appendix II

Pegasus Business Park Marketing Literature dated Autumn 2000

FHP PROPERTY CONSULTANTS

3 NEW OFFICE BUILDINGS

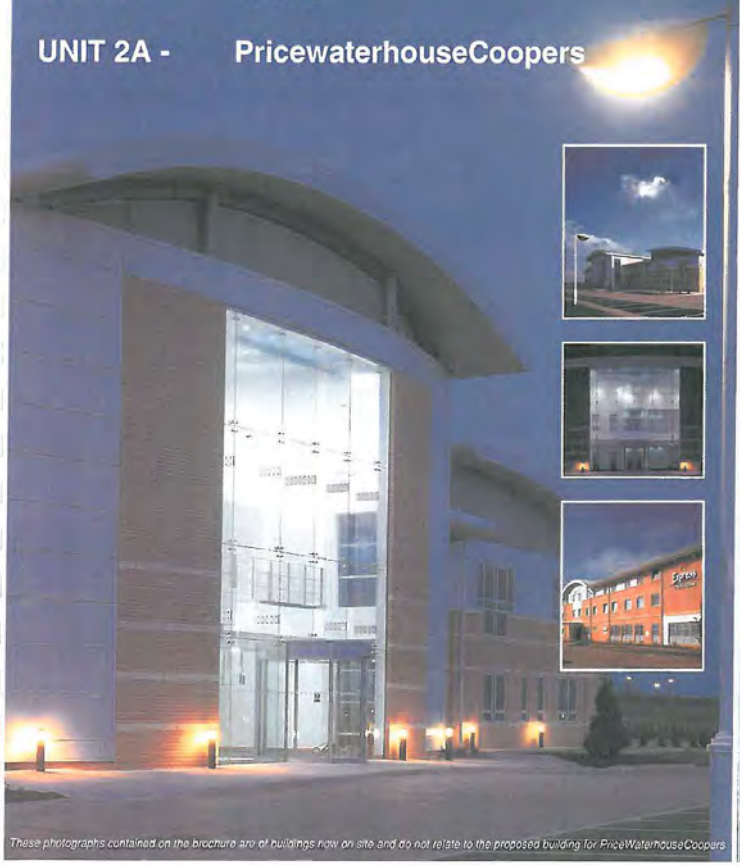
Wilson Bowden
Business Parks

PEGASUS
BUSINESS PARK

UNIT 1A - Immigration Office and Babcock Rosyth Defence Ltd

UNIT 1B - Regus

UNIT 2A - PricewaterhouseCoopers



These photographs contained on the brochure are of buildings now on site and do not relate to the proposed building for PriceWaterhouseCoopers

Anticipated income £1,114,750 per annum

Price £13,175,000

Initial yield 8% (net)

Pegasus Business Park
East Midlands International
Junction 23A/24, M1
Leicestershire

A prestigious 60-acre Office Park in the heart of the U.K.

Already chosen by:

- PowerGen
- Regus
- United Parcel Services
- Holiday Inn Express

FHP
PROPERTY CONSULTANTS

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

INVESTMENT CONSIDERATIONS

- Pegasus Business Park is a joint venture development by Wilson Bowden Developments Limited in conjunction with the East Midlands Airport.
- Pegasus Business Park provides a 62 acre masterplanned Business Park which is designed to provide upon completion a 60,385m² (650,000ft²) Office Park, hotels and creche facilities.
- The Park is situated immediately **adjacent to East Midlands Airport** accessed from **Junction 23A of the M1** central to Nottingham, Derby and Leicester.
- Conceived as the first regional Business Park for the East Midlands. Occupiers also include **Powergen, UPS and Express Holiday Inns.**
- Units 1A and 1B have recently been completed and let to the **Immigration Service, Babcock Rosyth Defence Limited** and **Regus Plc** and provide approximately 1,933m² (20,811ft²) and 2,221m² (23,912ft²) respectively.
- Terms have been agreed for **PricewaterhouseCoopers** to locate their new East Midlands Regional office to the Park. The 3,716m² (40,000ft²) building (2A) is due for completion September 2002 (term certain).
- New leases ranging between 11 years and 15 years 6 months.
- Rental levels ranging from £146.93/m² (£13.65/sqft) to £158.77/m² (£14.75/sqft).
- Minimum rental uplift of 2% per annum compounded at first review for the PricewaterhouseCoopers building.
- Anticipated total net income **£1,114,750 pa**
- Price - **£13,175,000** exclusive of VAT reflecting an initial yield of **8%** net of costs at 5.7625%
- Full unexploited Capital Allowances will be made available to the Purchaser.

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1

Wilson Bowden Developments

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BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

INTRODUCTION:

Wilson Bowden Developments Limited are developing the Pegasus Business Park with their joint venture partners the East Midlands Airport. Units 1A and 1B have recently been completed and have been let to the Immigration Service, Babcock Rosyth Defence Limited and Regus Plc.

Terms have been agreed to pre-let Unit 2A to P.W. & Co for the new East Midlands regional office of PricewaterhouseCoopers. A detailed planning application has been submitted for Unit 2A with the anticipated completion date being 10th September 2002.

Wilson Bowden Developments Limited and the East Midlands Airport are seeking to dispose of the three buildings subject to the occupational tenancies as a single package.

PEGASUS BUSINESS PARK – EVOLUTION:

The Park comprises a 62 acre masterplanned Business Park conceived to provide a regional Business Park serving the East Midlands region.

Work commenced on site in March 1999 since which time 9,929m² (106,882ft²) of offices have been completed together with the 90 bed Holiday Inn Express Hotel at the entrance to the Park.

The detailed planning application for the PwC building has been submitted and a further planning application is imminent for the next phase of speculative buildings.

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

LOCATION:

Pegasus Business Park is situated adjacent to the East Midlands International Airport, which is strategically located in the centre of the country giving easy access to the immediate surrounding cities of Nottingham, Derby and Leicester.

- By road, Pegasus Business Park is easily accessed from Junction 23A or 24 of the M1 motorway, where the A42(M) and A50(T) all converge and is therefore central to Nottingham, Derby and Leicester. Excellent communications provides access to the following:

Birmingham	33 miles	Liverpool	91 miles
Bristol	118 miles	London	116 miles
Derby	12 miles	Manchester	73 miles
Leeds	81 miles	Nottingham	16 miles
Leicester	19 miles	Sheffield	48 miles

- Rail communications are good with Loughborough, Long Eaton, Nottingham and Derby stations all accessible via a short bus or taxi ride from Pegasus Business Park. These are all served by the main Inter-City trains operated by Midland Mainline and Central Trains. A new Midland Parkway mainline station is proposed to be developed by 2003 (subject to the outcome of the public enquiry) at Kegworth which is located only 2.5 miles to the north east.

- By air, Pegasus Business Park, due to it's location adjacent to East Midlands Airport, benefits from British Midland's scheduled flights to fourteen European destinations and on-ward destinations from Brussels, Amsterdam and Frankfurt.

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

EAST MIDLANDS AIRPORT:

East Midlands Airport opened in 1965 and has now established itself as the country's second air cargo operation having exploited its central location in the UK. The airport currently handles more than 175,000 tonnes of freight and 14,000 tonnes of mail and is currently ranked in the Top 20 European Airports in terms of total cargo through-put. Figures produced in 2000 indicated that EMA handled 26% of the UK's cargo carried on dedicated freighter aircraft.

In addition, over 2.2 million passengers used East Midlands Airport in the year 2000. In the first half of 2001 passenger figures are up 7.3%. The largest growth has been in the inclusive tour and charter markets, particularly to the Greek Islands, Cyprus and Majorca. Direct flights to Orlando commence in summer 2002, which are expected to lead to a significant increase in passenger traffic.

The airport's runway was extended last year and is now the 6th longest in the UK giving the airport an excellent opportunity for further expansion.

THE BUILDINGS:

Units 1A and 1B have been completed and comprise detached 2 storey buildings whereas Unit 2A is designed over 3 storeys. The individual building specifications vary slightly but principally include:

- Feature 2 storey reception areas
- Comfort cooling and full air conditioning*
- Triple glazing
- Fully accessible metal encapsulated raised floors with three compartment floor boxes with power provision
- Suspended ceilings with Inset Category II lighting
- Passenger lifts
- Full carpeting
- Male and female WCs to each floor*

* The PwC building includes full air conditioning to include humidification and dehumidification.

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BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

Floor plans (both to scale and reduced) together with copies of the agreed specifications are available upon request.

CAR PARKING:

The buildings are provided with a better than average level of car parking. The ratio for Units 1A and 1B is one space per 25m² (269ft²). The anticipated ratio for the PwC building is one space per 20m² (215ft²).

TENURE:

The freehold interest is being retained by the East Midlands Airport who are granting a new 150 year Headlease.

The ground rent payable under the Headlease is equivalent to 10% of the annual rents **received** under the Underlease.

TENANCIES:

Unit 1A:

Ground Floor:

Terms have been agreed for **The Secretary of State for The Environment Transport Local Government and The Regions** to enter into a new **15 year lease** drawn on effective full repairing and insuring terms via service charge provisions and incorporating 5 yearly upward only rent reviews.

The anticipated rental is **£152,662 pa (£158.77/m² - £14.75/ft²).**

The suite is to be occupied by the **Immigration Office**.

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

First Floor:

The first floor is to be let to **Babcock Rosyth Defence Limited** on the basis of a **15 year lease** drawn on effective full repairing and insuring terms via service charge provision and incorporating 5 yearly upward only rent reviews.

The anticipated rental is **£146,552 pa (£150.74/m² - £14/sqft)**

Unit 1B:

The property is let to **Regus Business Centres (UK) Limited** on the basis of a **25 year lease** which incorporates a break clause at the end **of 15 years 6 months** which can be triggered by 12 months prior written notice.

The initial rent is **£359,397 pa (£15.03/ft²).** At rent review, the open market rental is uplifted by a further 10.11% to rentalise the financial contribution made by the developer towards the Regus fit out.

The base rent is therefore **£146.93/m² (£13.65/ft²)**

Unit 2A:

Heads of Terms have been agreed for the property to be let to **P.W. & Co** on the basis of a **15 year lease** drawn on full repairing and insuring terms with 5 yearly upward only rent reviews.

The lease incorporates a tenant only break clause operable at the end of the tenth year of the term by serving a minimum of 12 months prior notice in writing. This will trigger a 12 months rental penalty.

At first review the rental is subject to a **minimum rental uplift** calculated by applying growth at the rate of **2% per annum (compounded).** Thereafter the reviews are upward only without indexation.

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

The anticipated initial rent is **£580,000 pa (£156.08/m² - £14.50/ft²)***.

P.W. & Co have an option to request that the building is extended by a further 1,858m² (20,000ft²). The option is valid for 6 months following the exchange of the Agreement for Lease and would be let on terms consistent with those previously summarised.

* The rental is subject to a Confidentiality Agreement jointly binding on the Landlord & Tenant.

GROSS AND NET RENTAL INCOME:

The anticipated gross annual rental is	**£1,238,611 pa.**
The net rental income is anticipated as being	**£1,114,750 pa.**

TENANT'S CONVENANTS:

Unit 1A:

The Immigration Office are to occupy the ground floor suite. The Heads of Terms have been agreed and the Lease is to be taken in the name of The Secretary of State for The Environment Transport and The Regions.

Babcock Rosyth Defence Limited is principally engaged in the re-fit and repair of naval vessels and in heavy engineering and manufacture.

The office at Pegasus is to be occupied by Hunting Contract Services who provide administrative and facility contracts to the Ministry of Defence. In March 2000 Babcock Rosyth Defence Limited acquired the whole of the share capital of FBM Marine Holdings (UK) Limited and FBM Lairdside Limited. This business is now re-named FBM Babcock is Europe's leading supplier of fast passenger ferries to the expanding world market.

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

Financial highlights for the year ending 31st March 2001 reputed turnover of **£172,408,000,** profit prior to taxation of **£9,903,000** and net assets (and shareholders funds) of **£9,625,000**.

Unit 1B:

Regus Plc (formerly Regus Business Centres Plc) successfully achieved the simultaneous listings on the London Stock Exchange and NASDAQ in October 2000.

Regus are providers of high quality business services to the global economy and their international network of adaptable business centres allows Regus customers to outsource, completely or in part their work space requirements. By December 2000, Regus operated 64,070 work stations in 335 centres across 48 countries.

The Regus Centre at East Midlands Airport provides 280 work stations.

Unit 2A:

The property is to be let to P.W. & Co which is an unlimited company wholly owned by the Partnership of PricewaterhouseCoopers. PricewaterhouseCoopers are the largest providers of financial services in the world.

RENTAL EVIDENCE:

Since its inception, Pegasus has demonstrated sustained demand.

Powergen's 4,180m² (45,000ft²) building was completed in April 2000 and purchased. The Regus letting was completed in 2001 and is structured off a base rent of £13.65/ft² reflecting the rental for the standard developer's specification with the rent uplifted to £15.03/ft² to rentalise the Regus fit-out.

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

Unit 2C comprises a 2 storey building of 1,594m² (17,159ft²) let to United Parcel Services (UPS) on a new 15 year lease. The building has been constructed to a differing specification which together with operational issues between the Airport and UPS reflects in the rental of £129.17/m² (£12/ft²).

Unit 1A was constructed on a speculative basis and completed in late 2001. The rental agreed with Babcock reflects £150.70m² (£14/ft²) and the letting to the Immigration Service reflects £158.77/m² (£14.75ft²).

The quoting rent on the park is now £166.85/m² (£15.50/ft²)

ESTATE MANAGEMENT COMPANY:

The roads within Pegasus are private and the upkeep and maintenance of all common areas within the Park are administered by the East Midlands Airport via service charge provisions.

Contributions to the service charge are calculated based on the ratio of the size of the plot in proportion to the whole park.

COLLATERAL WARRANTIES:

The tenant and the purchaser receive the benefit of collateral warranty documentation drawn under seal from the appointed professional team to include:

- Architects – Stephen George & Partners, Leicester
- Structural Engineers: BWB Engineers, Nottingham
- Sub-contractors with design responsibilities

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

CAPITAL ALLOWANCES:

Fully unexploited capital allowances will be available in respect of the properties and further details will be provided in due course.

VAT:

The developers have elected to waive the exemption to VAT which will be payable at standard rate.

FINANCIAL PROPOSAL:

Our clients are seeking **offers in respect of buildings 1A and 1B together with a forward commitment to purchase building 2A** in the order of:-

£13,175,000
(Thirteen Million One Hundred and Seventy Five Thousand Pounds)

Subject to contract and exclusive of VAT.

Our clients will seek to adopt an agreed multiplier which will be applied to the agreed rental for the PwC building to include the 1,858m² (20,000ft²) extension should this option be exercised.

INITIAL YIELD:

8.00% net of costs at 5.7625%

BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

FURTHER INFORMATION:

Further information is available by contacting:

Scott Tyler
020 7409 8825

Philip Hunt
020 7409 8805

John Proctor
0115 8411130

FPDSavills Commercial Limited
20 Grosvenor Hill
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W1K 3HQ
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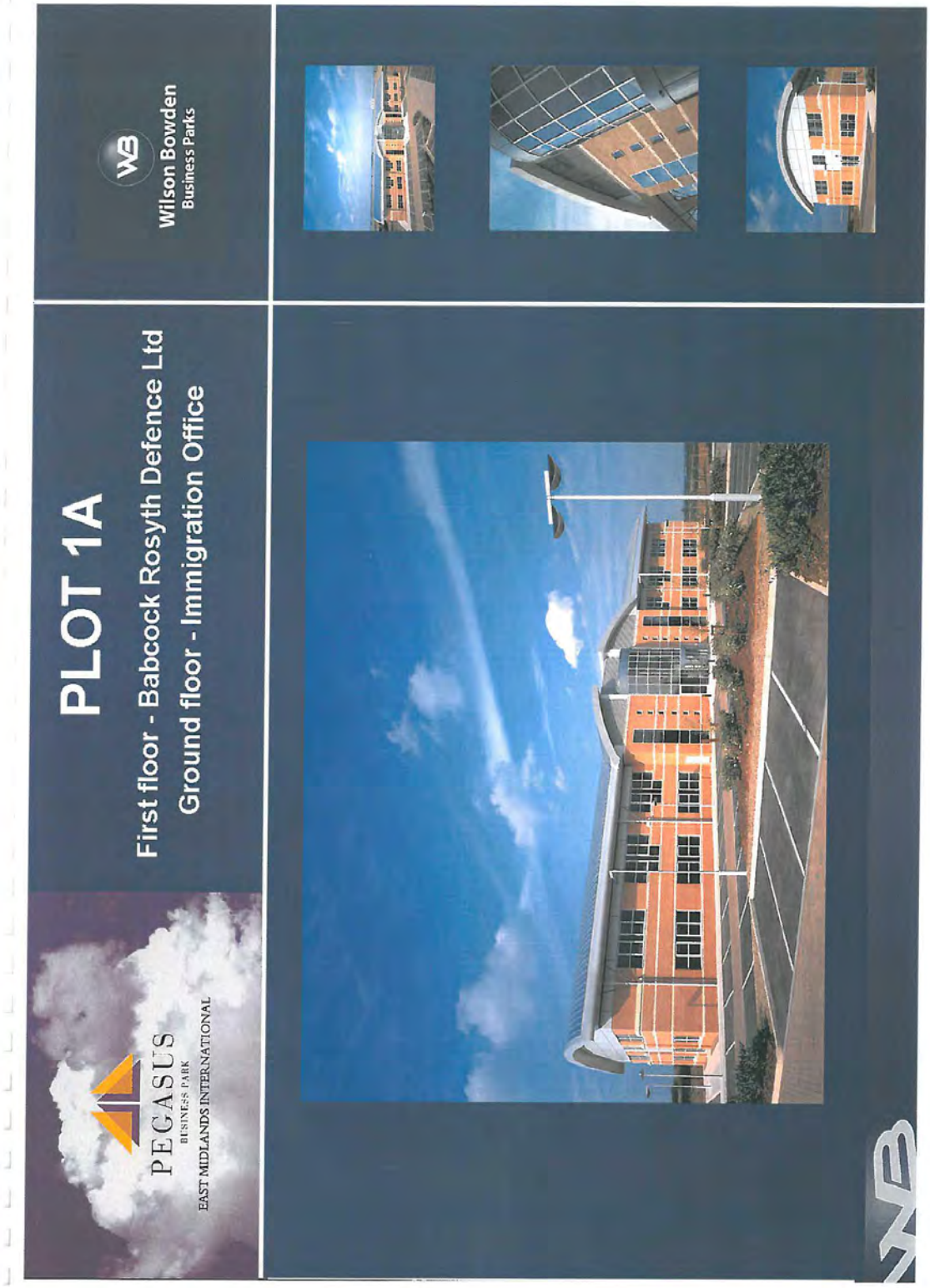
Fisher Hargreaves Proctor 0115 950 7577

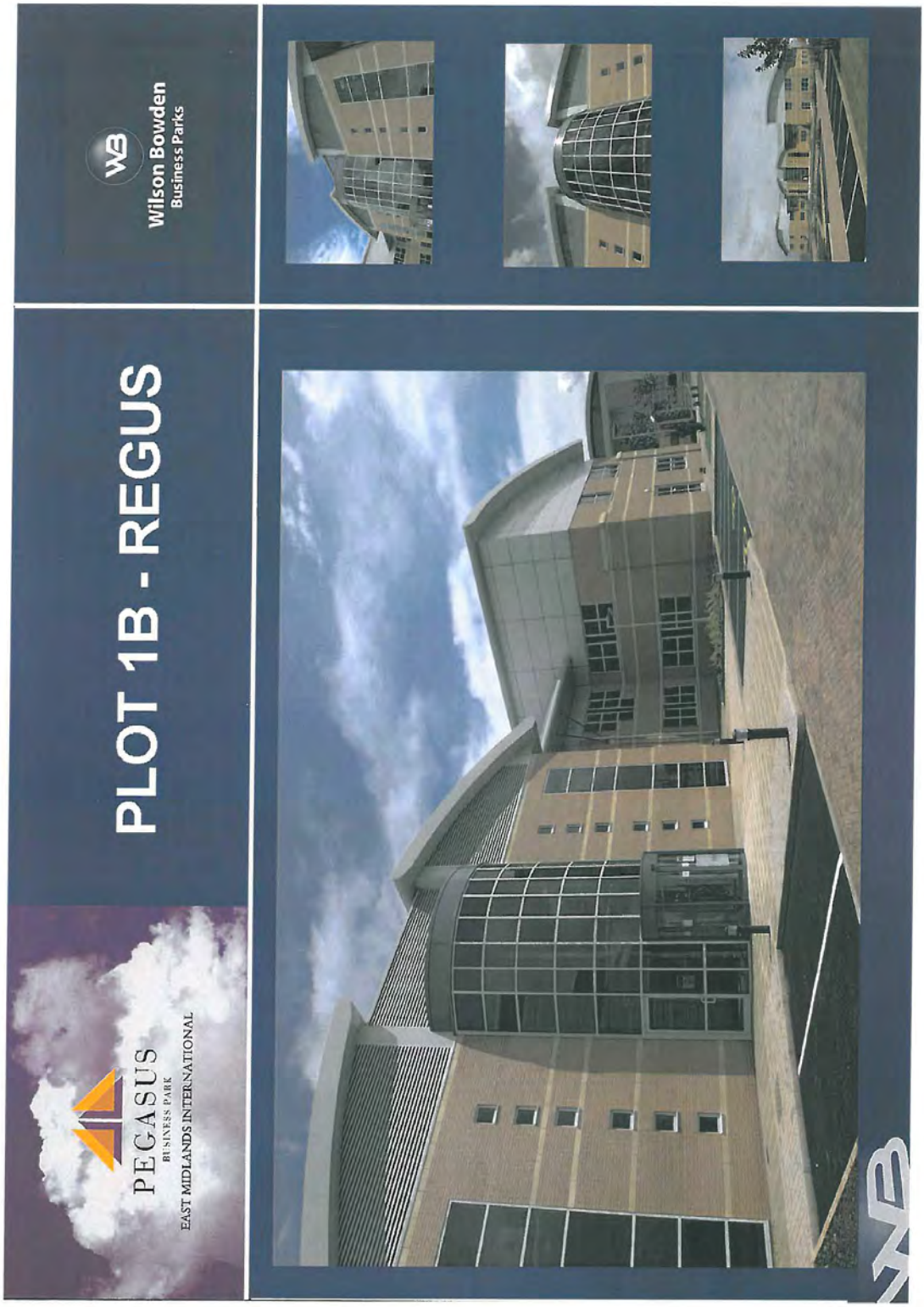
FPDsavills

Wilson Bowden Developments

FHP PROPERTY CONSULTANTS

CURRENT MASTERPLAN
Wilson Bowden
Business Parks
PEGASUS
BUSINESS PARK
EAST MIDLANDS INTERNATIONAL
Already chosen by:
1 POWERGEN
2 Regus
3 ups
4 Express
5 Unit 4a
6 Coming soon 5 Star Hotel
7 PRICEWATERHOUSECOOPERS
To Junction 24, M1
Junction 23A
Granada Services and Hotel
To the Airport Retail Facilities
Airport Main Entrance


PEGASUS
BUSINESS PARK
EAST MIDLANDS INTERNATIONAL
PLOT 1A
First floor - Babcock Rosyth Defence Ltd
Ground floor - Immigration Office
Wilson Bowden
Business Parks



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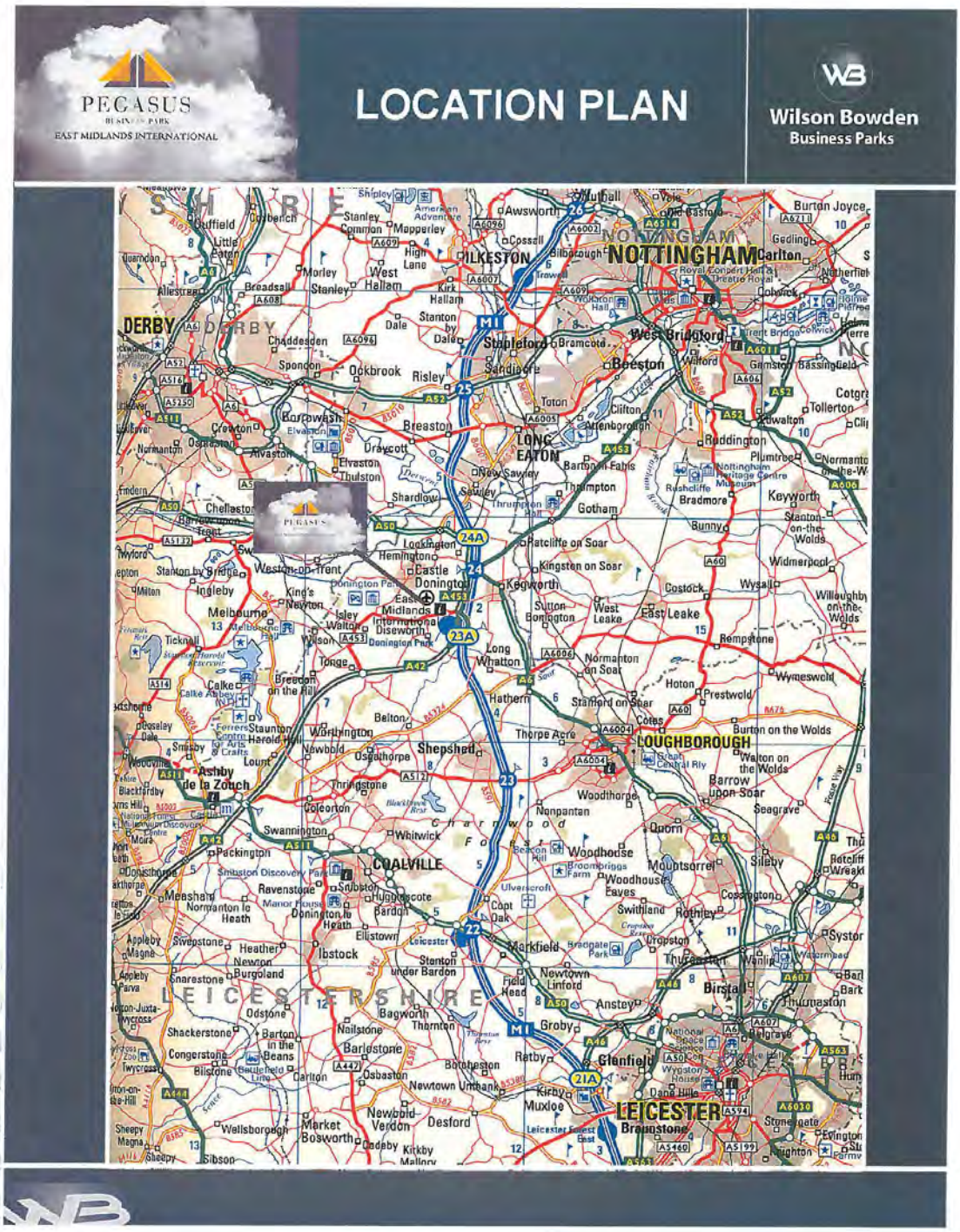
PEGASUS
BUSINESS PARK
EAST MIDLANDS INTERNATIONAL
LOCATION PLAN
Wilson Bowden
Business Parks
NOTTINGHAM
DERBY
LOUGHBOROUGH
COALVILLE
LEICESTER
LONG EATON
Beeston
West Bridgford
Stapleford
Ilkeston
Castle Donington
Kegworth
Shepshed
Ashby de la Zouch
Melbourne
Swannington
Packington
Ravenstone
Ibstock
Markfield
Groby
Glenfield
Birstall
Thurmaston
Anstey
Mountsorrel
Sileby
Barrow upon Soar
Quorn
Woodhouse
Woodthorpe
Nanpantan
Thorpe Acre
Hathern
Long Whatton
Kegworth
Ratcliffe on Soar
Kingston on Soar
Sutton Bonington
Normanton on Soar
Stanford on Soar
Costock
Wymeswold
Prestwold
Hoton
Rempstone
Burton on the Wolds
Walton on the Wolds
Seagrave
Cotes
Bradmore
Gotham
Thrumpton
Bunny
Keyworth
Ruddington
Clifton
Wilford
Gamston
Bassingfield
Toton
Bramcote
Sandiacre
Risley
Ockbrook
Spondon
Chaddesden
Breaston
Draycott
Shardlow
Elvaston
Thulston
Borrowash
Ilkeston
Cossall
Awsworth
Mapperley
Stanley Common
Kirk Hallam
Stanton by Dale
Dale
Morley
West Hallam
Stanley
Broadsall
Allestree
Quarndon
Duffield
Little Eaton
Burton Joyce
Gedling
Carlton
Netherfield
Colwick
Lockington
Hemington
Castle Donington
Kegworth
Sutton Bonington
West Leake
East Leake
Costock
Wysall
Widmerpool
Willoughby on the Wolds
Rempstone
Hoton
Prestwold
Cotes
Burton on the Wolds
Walton on the Wolds
Barrow upon Soar
Seagrave
Quorn
Woodhouse
Woodthorpe
Nanpantan
Thorpe Acre
Hathern
Long Whatton
Kegworth
Ratcliffe on Soar
Kingston on Soar
Sutton Bonington
Normanton on Soar
Stanford on Soar
Costock
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Prestwold
Hoton
Rempstone
Burton on the Wolds
Walton on the Wolds
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Bunny
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Colwick

PEGASUS
BUSINESS PARK
EAST MIDLANDS INTERNATIONAL

TENANCY SCHEDULE
Units 1A, 1B & 2A
Pegasus Business Park

Wilson Bowden
Business Parks

Unit	Tenant	Size	Initial Rent p.a.	Initial Rent per sq.ft.	Lease Terms
1A Ground Floor	The Secretary of State for the Environment, Transport Local Government and the regions.	10,350 ft² 961.5 m²	£152,662	£14.75	15 year lease effective FRI. 5-yearly upward only rent reviews.
1A First Floor	Babcock Rosyth Defence Ltd	10,468 ft² 972.4 m²	£146,552	£14.00	15 year lease effective FRI. 5 yearly upward only rent reviews.
Unit 1B	Regus Business Centres (UK) Ltd	23,912 ft² 2,221.4 m²	£359,397	£15.03 (*1)	25 year lease incorporating tenant break clause at the end of 15 years 6 months drawn on FRI terms with 5 yearly, upward only rent reviews. At review the open market rental value is uplifted by 10.11% to reflect rentalisation of a capital contribution to the Regus fit out.
Unit 2a	P.W. & Co (*2)	40,000 ft² 3,716 m²	£580,000 (*4)	£14.50 (*5)	15 year lease, FRI with 5 yearly upward only rent reviews incorporating a tenant-only break clause at the end of the 10th year triggered by 12 months notice and a 12-month rent penalty. Minimum (Rental growth at the first review with initial rent indexed by 2% p.a. compounded)
		84,730 ft² 5,871.3 m²	**£1,238,611 (*6)**		

NOTES

1. The rental of £15.03 includes an uplift.

2. P.W & Co. are an unlimited company wholly owned by the Partnership of P. W & Co. The building is to be the East Midlands regional office of PWC.

3. P.W & Co. have the benefit of an option to extend from 3,716 m² (40,000 ft²) to 5,574 m² (60,000 ft²). The option is for 6 months following exchange of The Agreement for Lease.

4. The figure of £580,000 p.a. is the anticipated annual rental which will be calculated by applying £14.50 per ft² to the agreed Net Internal Floor Area prior to the issue of the Certificate of Practical Completion.

5. The initial rental is subject to minimum rental growth at the first review.

6. The figure of £1,238,611 is the gross rental payable. The buildings are to be sold subject to a 150-year ground lease with 10% ground rent payable. The net initial rent is therefore £1,114,750.

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BUILDINGS 1A, 1B and 2A PEGASUS BUSINESS PARK
JUNCTION 23A, M1 LEICESTERSHIRE

DISCLAIMER

FPDSavills Commercial Limited and Fisher Hargreaves Proctor themselves and for the Vendors of the property whose Agents they are give notice that:

- Particulars are set out as a general outline only for the guidance of intending purchasers and do not constitute, nor constitute part of, an offer or contract;
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- No responsibility can be accepted for any expenses incurred by intending purchasers in inspecting properties which have been sold or withdrawn.
- FPDSavills Commercial Limited and Fisher Hargreaves Proctor have not made any investigations into the existence or otherwise of any issues concerning pollution and potential land, air or water contamination. The purchaser is responsible for making his own enquiries in this regard.
- *FPDSavills Commercial Limited and Fisher Hargreaves Proctor have not measured the property and have relied on those areas supplied by the landlord.*

September 2001

Fisher Hargreaves Proctor 0115 950 7577

FPDsavills

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Wilson Bowden Developments

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Appendix III

Marketing Brochure for Pegasus Business Park from 2000

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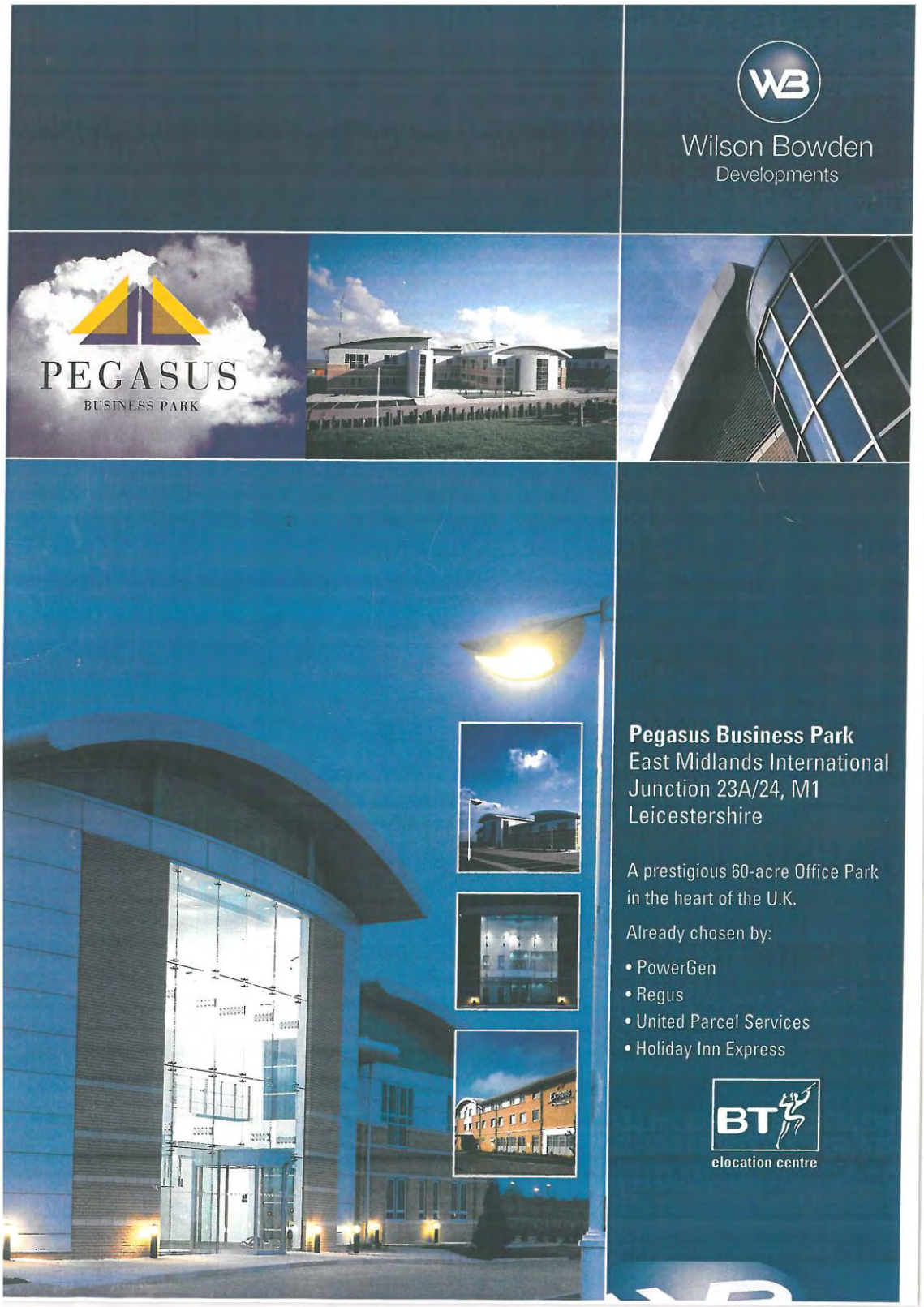

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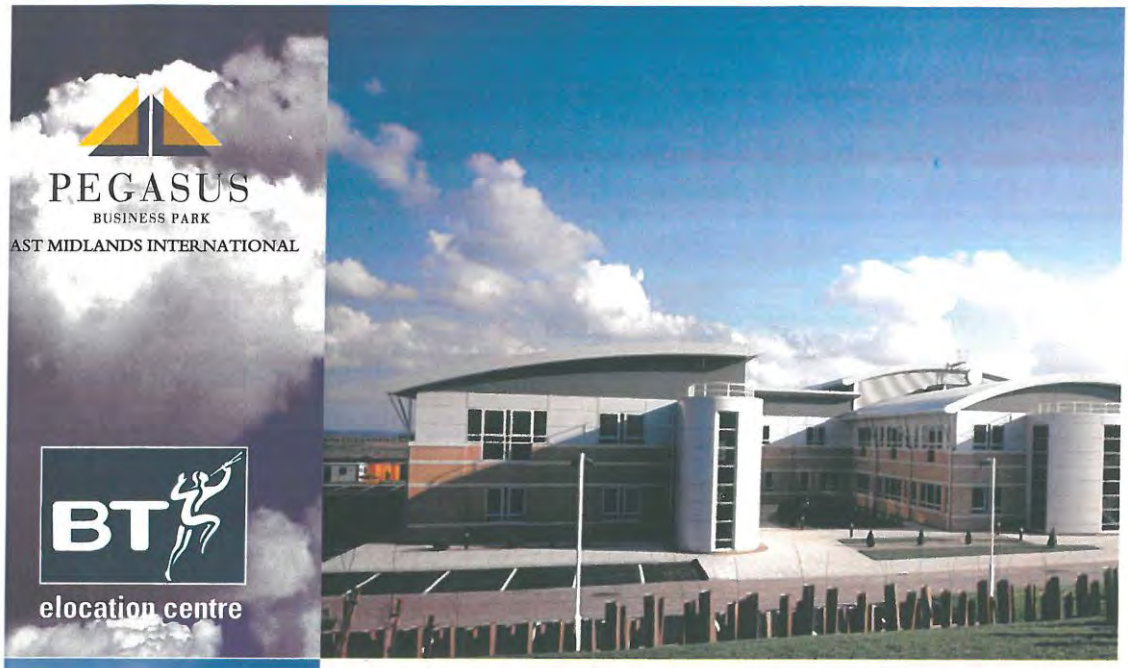

At the Heart of the United Kingdom

The Vision

Pegasus was conceived to meet the demand for a Regional Business Park at the heart of the U.K. and central to the East Midlands.

Since on-site construction commenced in April 1999, the Park has established itself as a proven location being chosen by major office and hotel users with an active ongoing rolling development programme.

Communications

The Park offers unrivalled infrastructure by road, rail, air and e-commerce.

The M1, A42(M) and A50(T) all converge on Pegasus. The new Midland Parkway Mainline Station is under construction at Kegworth, 2.5 miles from the site and regular bus services link to Nottingham, Derby, Leicester and Loughborough. The park is also adjacent to East Midlands Airport.

Pegasus is a BT e-location with the Park being provided with access to the highest level of bandwidth, which can carry voice and data communications utilising the very latest technology.

Complementary Facilities

Retail and leisure facilities add to the vitality of the Park with two major hotel groups choosing Pegasus, which compliment the existing retail and leisure facilities. Three further health and fitness clubs are located within 2.5 miles of the site.

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By Road

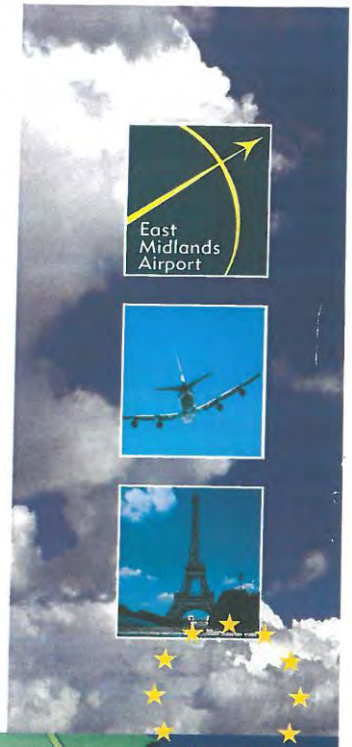
	time	distance (miles)
Birmingham	43 mins	38
Bristol	1 hr 58 mins	127
Derby	23 mins	17
Leeds	1 hr 17 mins	81
Leicester	26 mins	20
Liverpool	2 hrs	95
London	1 hr 57 mins	117
Manchester	1 hr 44 mins	80
Nottingham	20 mins	13
Sheffield	52 mins	53

By Air

	time
Aberdeen	1 hr 25 mins
Amsterdam	1 hr
Belfast	1 hr 10 mins
Brussels	1 hr 30 mins
Dublin	1 hr
Edinburgh	55 mins
Guernsey	1 hr 15 mins
Jersey	1 hr
Paris	1hr 10 mins

80% (approximately)* of the UK's population is within 2 hours drive.

**source: Experian*



"Pegasus provides us with a strategic location in relation to our customer base, combined with access to excellent communications"

John Whale
Head of Property,
4,087.6m² (44,000 ft²)
PowerGen

POWERGEN

FHP PROPERTY CONSULTANTS

A Masterplanned Regional Business Park

Masterplanning of the buildings, infrastructure and landscaping has produced a high quality environment.

Set in over 60 acres, Pegasus will ultimately provide up to 60,387 m² (650,000 ft²) of efficient and flexible accommodation being developed on a rolling development programme or bespoke to meet specific requirements. Each building is designed to be complimentary yet individual with generous on-site car parking available. The standard specification includes raised floors and comfort cooling with full air-conditioning available if required.

Schematic and financial proposals can be provided for units ranging in size from 929 m² (10,000 ft²) upwards.

Buildings, Environment and Quality

Chosen by East Midlands Airport as their joint development partner, Wilson Bowden Properties' proven track record has resulted in a cohesive, masterplanned office environment which will further evolve through designing specific office buildings and undertaking a rolling programme of speculative development. The quality of Pegasus is endorsed by the early success of the scheme.

Holiday Inn Express
150 bed hotel.

United Parcel Services
1,579 m² (17,000 ft²)

PEGASUS
BUSINESS PARK
EAST MIDLANDS INTERNATIONAL

"As the UK's largest operator of business centres, the new centre at Pegasus Business Park is part of our strategic expansion plans for the East Midlands and the final stage of our plans to have a business centre at all of the UK's regional airports. Our centres prove attractive to both new start-ups and large multinationals alike and I'm sure this new centre will prove equally attractive by providing a wide range of businesses instant access to the East Midlands marketplace."

Mark Dixon
Regus
2,208 m² (23,778 ft²)

Regus

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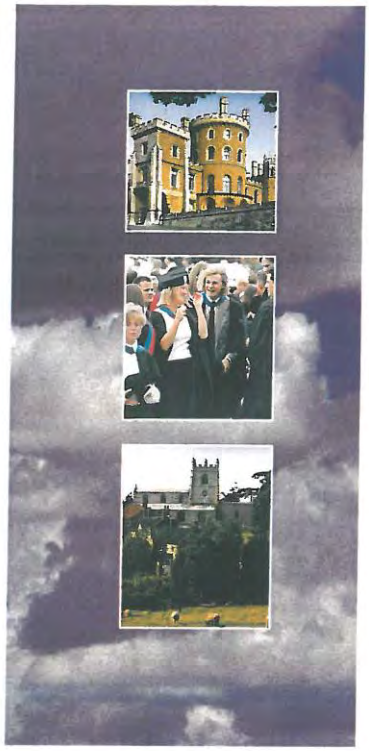
PROPERTY CONSULTANTS

People and Lifestyle

Pegasus Business Park is central to the East Midlands within the heart of the UK, an area which offers unrivalled communications, a highly skilled workforce and an excellent quality of life.

The proximity of the Peak District and The Vale of Belvoir complement the vibrance of the principal towns and cities with a full range of shopping, leisure and cultural facilities close at hand.

A comprehensive choice of competitively priced housing and schools are to be found within the area. In terms of higher education, the East Midlands has seven universities, which inter-relate with the commercial and social infrastructure of the Region.



Major Employers within the East Midlands include:

- Boots
- Woolworths
- Powergen
- Egg
- Capital One
- Alliance and Leicester
- Astra Zeneca
- Fisher Scientific
- Pedigree Masterfoods
- Pepsico
- Rolls Royce

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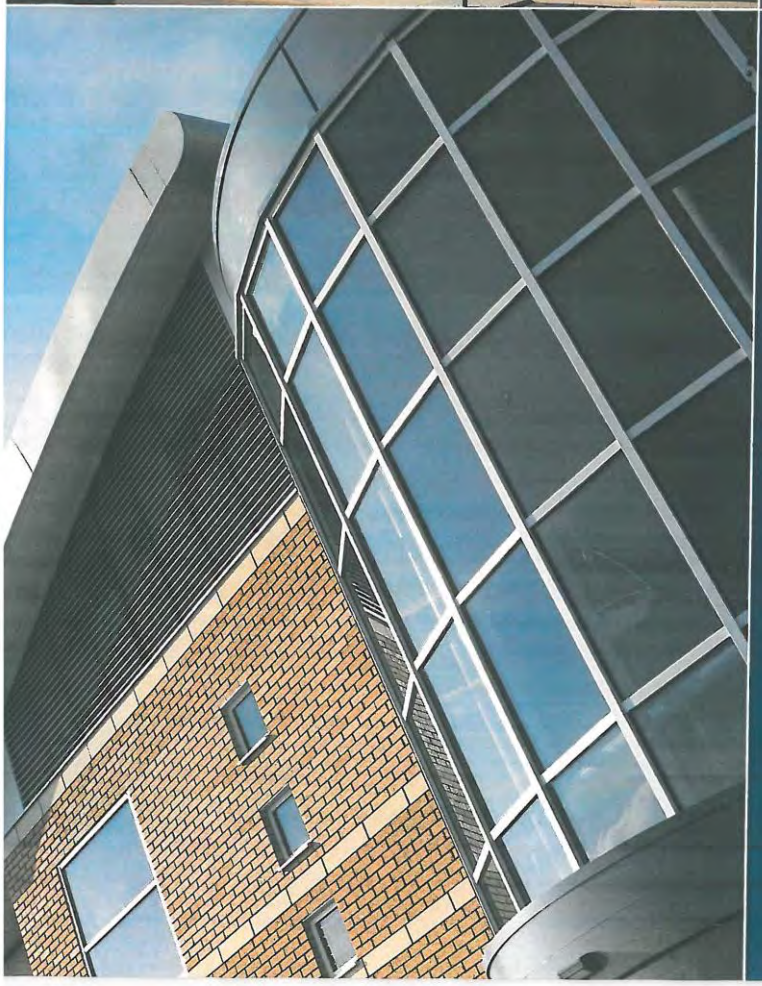
Wilson Bowden
Developments

PEGASUS
BUSINESS PARK



Building 1A
Pegasus Business Park
East Midlands International
1,937.43 m² (20,855 ft²)
with 88 car spaces

A highly prominent, two-storey, comfort cooled office building at the entrance of the new 60-acre regional office park adjacent to East Midlands Airport at Junction 23A/24, M1, Leicestershire

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PEGASUS
BUSINESS PARK
EAST MIDLANDS INTERNATIONAL

Building Unit 1A

Situated at the entrance of Pegasus, Building Unit 1A is the first speculative office building within the Park.

The building provides approximately **1,937.43 m² (20,855 ft²)** net office space together with 88 on-site car spaces.

On-Site Facilities

On and off-site retail and leisure facilities add to the vitality of the Park. There are three health and fitness centres within one mile, extensive hotel and conference facilities and established public transport links to Nottingham, Derby, Leicester and Loughborough.

Specification

- Feature double height reception
- Comfort cooled environment
- Full access raised floors
- Full carpeting
- Suspended ceiling with category-II lighting
- 8 person passenger lift
- Double glazed sound attenuated windows
- 88 on-site car spaces

At the heart of the UK

Terms

The premises are available on lease terms by negotiation, drawn on full repairing and insuring terms and incorporating 5-yearly rent reviews.

V.A.T

V.A.T will apply.

Wilson Bowden Developments
Forest Business Park, Bardon Hill
Leicestershire, LE67 1UB
Tel 01530 276276 • Fax 01530 814810

In partnership with
East Midlands Airport

Sole agents
Fisher Hargreaves Proctor
10 Oxford Street, Nottingham NG1 5BG
0115 950 7577
John Proctor

FPDsavills
0121 633 3733
0171 499 8644
Birmingham: Nick Williams

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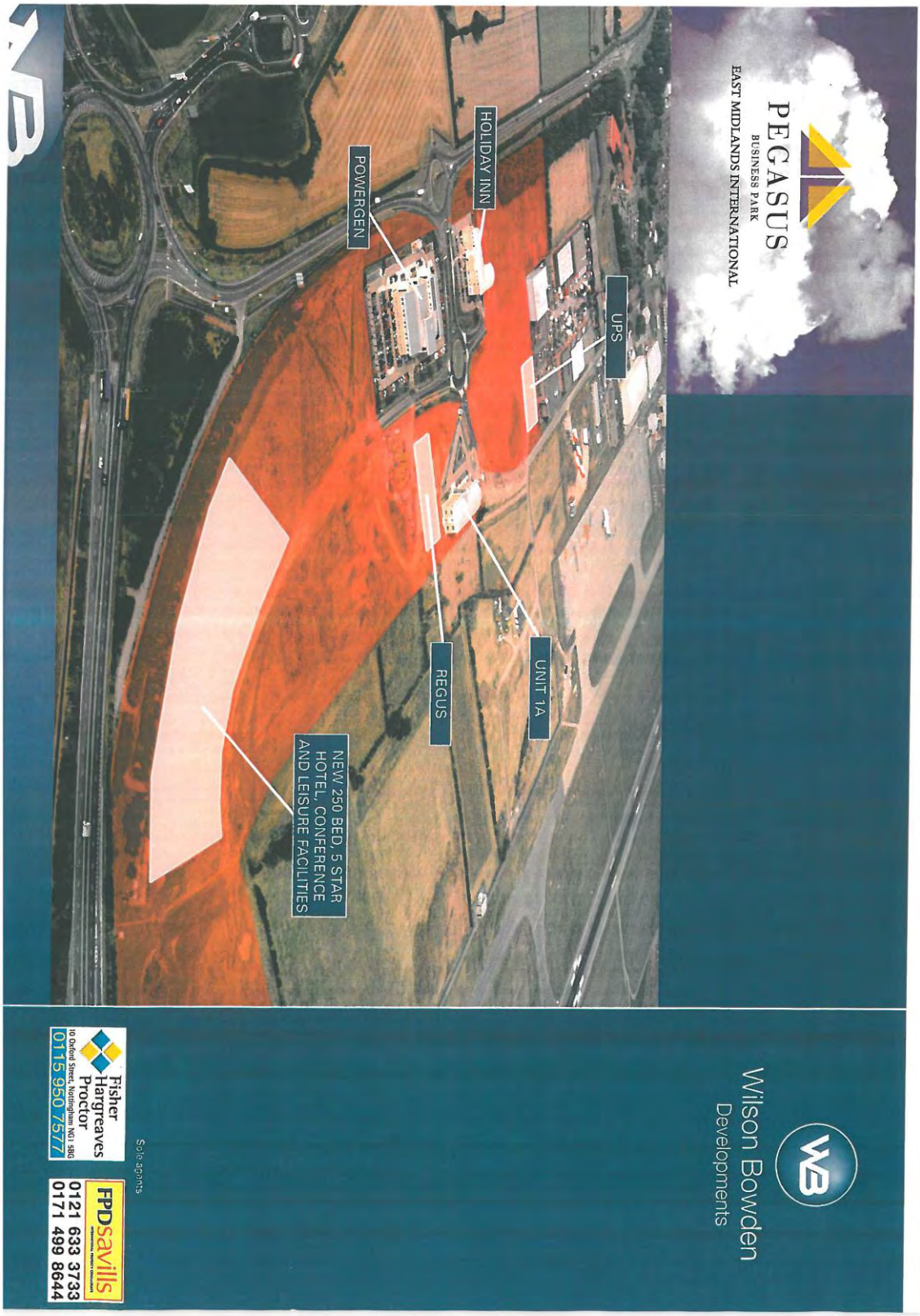
PEGASUS
BUSINESS PARK
EAST MIDLANDS INTERNATIONAL
Wilson Bowden
Developments
Already chosen by:
1
2
Regus
3
ups
4
Express
5
Unit 1a
6
Coming soon
5 Star Hotel
To the Airport
Retail Facilities
Airport Main Entrance
To Junction 24, M1
Granada Services
and Hotel
Junction 23A



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PROPERTY CONSULTANTS

Appendix IV

Centennial House Details

FHP PROPERTY CONSULTANTS

Offices | Derby, DE74 2SA

Offices

To Let

19m² (200ft²) to 186m² (2,000ft²)

Flexible offices with excellent parking.

Centennial House
Beverley Road
East Midlands Airport
DE74 2SA

- Two miles to Junction 23a M1 Motorway
- Flexible lease terms
- Good access to public transport

Visit our website www.fhp.co.uk

01332 343222

Fisher Hargreaves Proctor | 8 Riverside Court Pride Park Derby DE24 8JN

FHP PROPERTY CONSULTANTS

FHP PROPERTY CONSULTANTS

Office | Derby, DE74 2SA

Offices

+ The Location

Centennial House forms part of East Midlands Airport. East Midlands Airport is centrally located between Nottingham, Derby and Leicester approximately two miles from Junction 23a of the M1 Motorway. In addition the area affords excellent access to the A50 trunk road which in turn links the M1 and M6 Motorways.

+ The Property

Centennial House is a multi let office building arranged over ground and first floor. The offices provide a range of cellular and open plan accommodation and the specification benefits from:-

- Lift
- Communal WC
- Kitchen facilities
- Painted plaster walls
- Category II lighting
- Perimeter trunking
- Carpets
- Car park to the rear

Fisher Hargreaves Proctor | www.fhp.co.uk
8 Riverside Court Pride Park Derby DE24 8JN

+ Accommodation

Office	M²	Ft²	Rent pa
1	65	700	£8,400
2	46	500	£6,000
4	63	681	£8,172
9	135	1,456	£14,560
11	39	420	£5,040
12	68	735	£8,820
13	77	829	£9,948
16	19	200	£2,600
17	19	200	£2,600
18	186	2,000	£20,000

(this information is given for guidance purposes only)

+ Lease Terms

The offices are available to lease by way of a new flexible full repairing and insuring leases. Rental details are available upon request from the agent.

+ Service Charge

A service charge will be levied to cover the maintenance, utilities and upkeep of the communal areas at Centennial House. Further details of the service charge are available upon request from the agents.

+ VAT

Each party is to be responsible for their own legal costs incurred with this transaction.

+Planning

We await confirmation from the local planning authority but assume the premises are suitable for B1a (office) use.

(This information is given for guidance purpose only and perspective tenants are advised to verify this information with Northwest Leicestershire Local Authority on 01530 454545).

+ Service Charge

Each party is to be responsible for their own legal costs incurred with this transaction.

+ Business Rates

The offices are separately assessed for business rates purposes and further details are available upon request from the agents.

(This information is given for guidance purposes only and perspective tenants are advised to verify this information with Northwest Leicestershire Local Authority on 01530 454545).

+ Interested

For further information or to make arrangements to view please contact:

George Dunnicliff
FHP Derby
T: 01332 343222
E: george@fhp.co.uk

FHP www.fhp.co.uk 01332 343 222

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Appendix V

Three Sets of Osprey House Details

FHP PROPERTY CONSULTANTS

2,345 m² (25,250 sq ft) - Grade A Offices

PEGASUS BUSINESS PARK, EAST MIDLANDS AIRPORT, LEICESTERSHIRE, DE74 2UZ

NOW COMPLETE

To Let

OspreyHouse

OspreyHouse

Location

Pegasus Business Park is part of the East Midlands Airport. It enjoys separate access off the A453 before you reach the airport coming from the M1 Motorway.

Pegasus Business Park is situated around half a mile from Junction 23a of the M1, with Junction 24 and 24a, the A42 and A50 all being within 2 miles. The building is at the heart of the East Midlands being virtually equidistant from the cities of Nottingham, Leicester and Derby.

Pegasus has fantastic road connections, is situated next to an international airport and also has the benefit of an excellent bus service with buses every 30 minutes from Derby, Nottingham and Loughborough stopping at Pegasus Business Park only a short walk from Osprey House.

Description

Osprey House is a stunning three storey Headquarters Building which offers grade A office space in an outstanding location with excellent car parking.

Companies such as PricewaterhouseCoopers, Babcock International, Regus and E.ON have all been attracted to Pegasus with its range of on and off site retail and leisure facilities.

The specification includes:

- Full air conditioning
- Fully accessible raised floors
- Broadband enabled location
- Suspended ceiling with LG3 lighting
- 8 person passenger lift
- 104 car parking spaces

FHP PROPERTY CONSULTANTS

OspreyHouse

Floor Areas

We have measured the building and calculate that the net internal floor area is as follows.

Ground floor	805 sq m	8,650 sq ft
First floor	770 sq m	8,300 sq ft
Second floor	770 sq m	8,300 sq ft
Total	2,345 sq m	25,250 sq ft
104 car parking spaces		

Indicative Upper Floor Plan

Ground Floor Plan

Rateable Value

The building will be assessed for rating purposes upon occupation. An estimate of business rates payable can be obtained from the agents.

Estate Charge

A small estate charge is applied on Pegasus Business Park as a whole to cover landscaping, road clearance and security issues. Details are available from the agents.

VAT

VAT will be payable on the rent and service charge.

Disposal Terms

The property is available as a whole or in part on the basis of a fully repairing and insuring lease with 5 yearly rent reviews. For quoting terms please contact the agents.

Viewing and Further Details

Plans, elevations and specification are available from the agents:

OspreyHouse

Fisher Hargreaves Proctor
10 Oxford Street
Nottingham
NG1 5BG

Contact: Edward Hine
Tel: 0115 841 1134
Email: edwardh@fhp.co.uk
Web: www.fhp.co.uk

Lambert Smith Hampton
17-21 Hounds Gate
Nottingham
NG1 7DR

Contact: Philip Quiggin
Tel: 0115 976 6603
Email: pquiggin@lsh.co.uk
Web: www.lsh.co.uk

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FHP PROPERTY CONSULTANTS

OspreyHouse

EAST MIDLANDS PARKWAY STATION NOW OPEN

PEGASUS BUSINESS PARK, EAST MIDLANDS AIRPORT, LEICESTERSHIRE, DE74 2UZ

780m² - 2,345m² (8,392 - 25,244 sq ft) - Grade A Offices

TO LET

OspreyHouse

Location

Pegasus Business Park is part of the East Midlands Airport. It enjoys separate access off the A453 before you reach the airport coming from the M1 Motorway.

Pegasus Business Park is situated around half a mile from Junction 23a of the M1, with Junction 24 and 24a, the A42 and A50 all being within 2 miles. The building is at the heart of the East Midlands being virtually equidistant from the cities of Nottingham, Leicester and Derby.

Pegasus has fantastic road connections, is situated next to an international airport and also has the benefit of an excellent bus service with buses every 30 minutes from Derby, Nottingham and Loughborough stopping at Pegasus Business Park only a short walk from Osprey House.

The recently completed East Midlands Parkway rail station now offers high frequency connections to London, Derby, Leicester and Nottingham, with a shuttle service to the Osprey House site every 10-15 minutes.

Description

Osprey House is a stunning three storey Headquarters Building which offers grade A office space in an outstanding location with excellent car parking.

Companies such as PricewaterhouseCoopers, Babcock International, Regus and E.ON have all been attracted to Pegasus with its range of on and off site retail and leisure facilities.

The specification includes:

- Full air conditioning
- Fully accessible raised floors
- Broadband enabled location
- Suspended ceiling with LG3 lighting
- 8 person passenger lift
- 104 car parking spaces (overspill spaces available)

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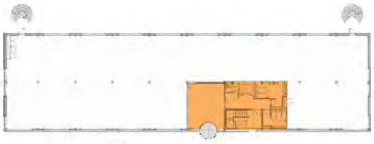
OspreyHouse

Floor Areas

We have measured the building and calculate that the net internal floor area is as follows.

Ground floor	780 sq m	8,392 sq ft
First floor	783 sq m	8,426 sq ft
Second floor	783 sq m	8,426 sq ft
Total	2,345 sq m	25,244 sq ft
104 car parking spaces (overspill spaces available)		

Indicative Upper Floor Plan



Ground Floor Plan

Rateable Value

The building will be assessed for rating purposes upon occupation. An estimate of business rates payable can be obtained from the agents.

Estate Charge

A small estate charge is applied on Pegasus Business Park as a whole to cover landscaping, road clearance and security issues. Details are available from the agents.

VAT

VAT will be payable on the rent and service charge.

Disposal Terms

The property is available as a whole or in part on the basis of a fully repairing and insuring lease with 5 yearly rent reviews. For quoting terms please contact the agents.

Viewing and Further Details

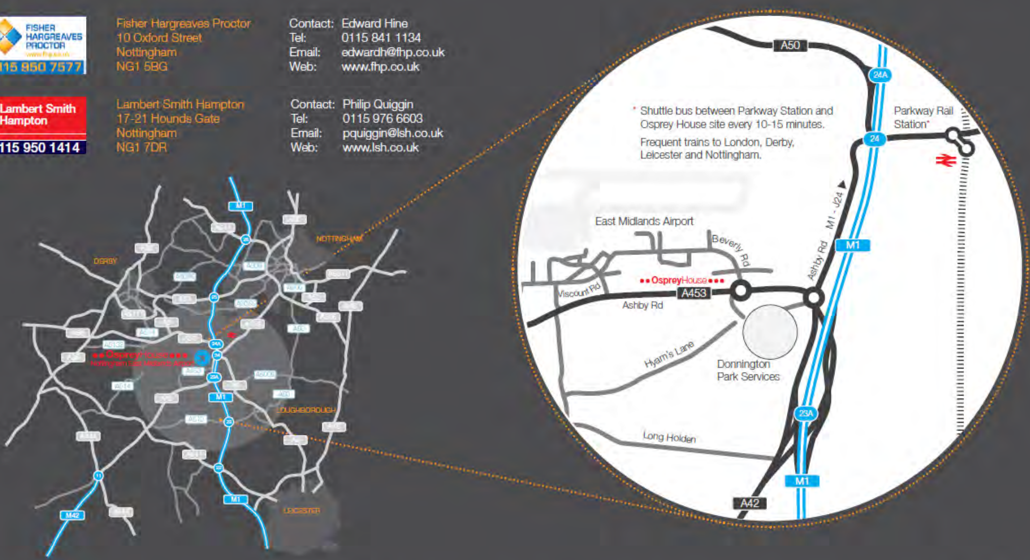
Plans, elevations and specification are available from the agents:

Fisher Hargreaves Proctor, 0115 950 7577
Fisher Hargreaves Proctor
10 Oxford Street
Nottingham
NG1 5BG

Contact: Edward Hine
Tel: 0115 841 1134
Email: edwardh@fhp.co.uk
Web: www.fhp.co.uk

Lambert Smith Hampton, 0115 950 1414
Lambert Smith Hampton
17-21 Hounds Gate
Nottingham
NG1 7DR

Contact: Philip Quiggin
Tel: 0115 976 6603
Email: pquiggin@lsh.co.uk
Web: www.lsh.co.uk



PROPERTY MISDESCRIPTIONS ACT 1991 ... All statements contained within this brochure have been provided in good faith and are understood to be correct. Accuracy in respect of all statements cannot be guaranteed as we rely on information provided and they do not form part of any contract or warranty and accordingly: 1) Dimensions, distances and floor areas are approximate and given for guidance purposes only. Potential purchasers should satisfy themselves as to the validity of the guide figures given. 2) Information on tenure or vacancies is provided in good faith and prospective purchasers should have this information verified by their solicitors prior to purchase. 3) Information on rating assessments, availability of services and Town and Country planning matters have been obtained by an oral enquiry to the appropriate planning authority. Fisher Hargreaves Proctor do not warrant that there are no connection charges inherent in the availability of services to the unit. Prospective purchasers should obtain written confirmation prior to entering into any contract for purchase or lease. 4) Detailed tests have not been undertaken on services, central heating installations, plumbing installations, electrical installations etc. and purchasers/lessees should undertake independent tests as to the condition of all services and mechanical engineering installations. 5) All guide price and rental figures are quoted exclusive of VAT unless expressly stated to the contrary. FHP 10/05

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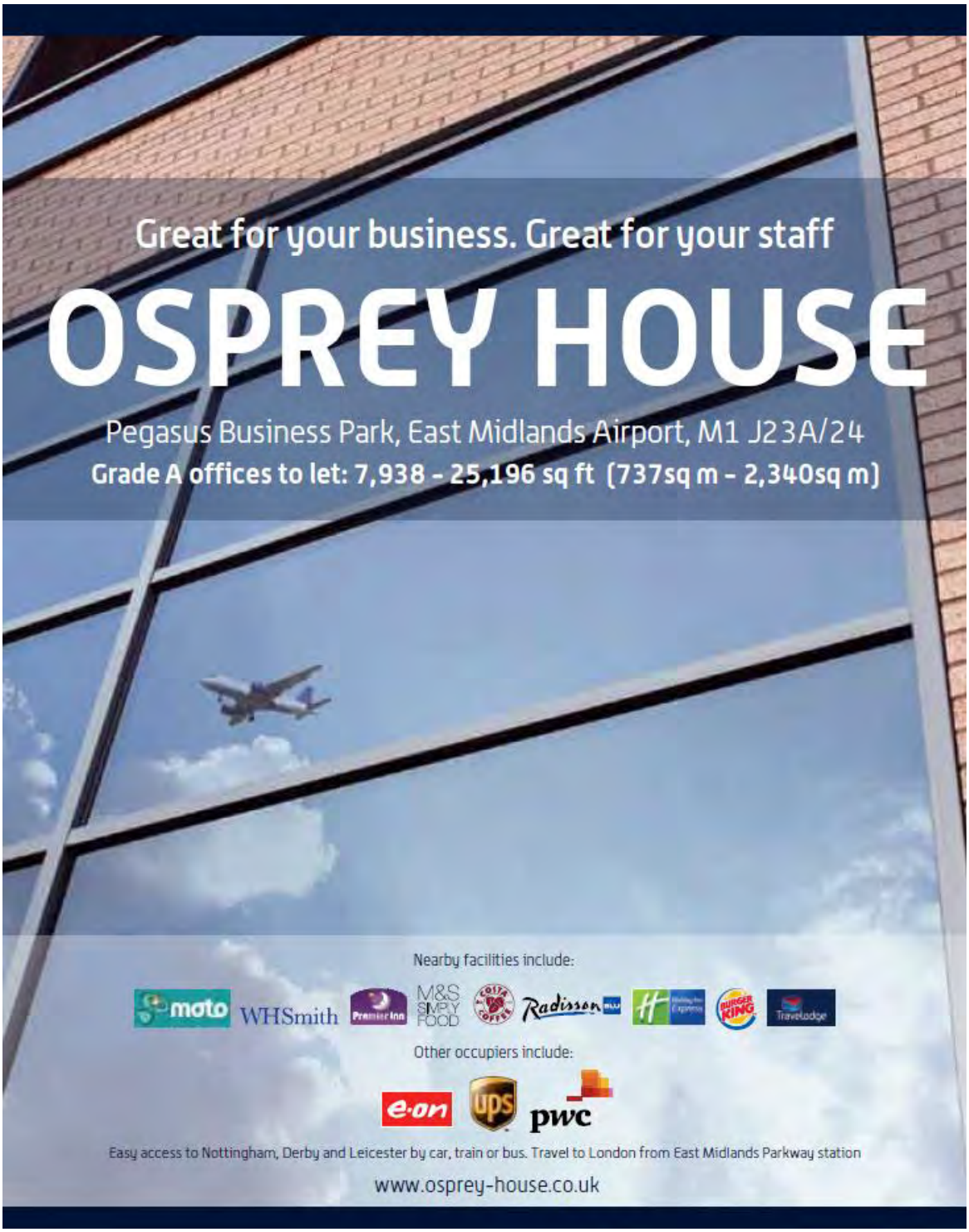

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OSPREY HOUSE

An outstanding location
for your business

Pegasus Business Park is part of East Midlands Airport, making Osprey House one of the best located office buildings in the Midlands. It offers almost instant access to the M1 at J23A, and the A42. The A50 at J24A is within 5 minutes drive and East Midlands Parkway station just 10 minutes drive away. These unparalleled transport connections have already attracted a number of big names to this outstanding location.

Easy access to Nottingham, Derby & Leicester

Destination	Time	Distance*
Nottingham	28 mins	14 miles
Derby	22 mins	15 miles
Leicester	32 mins	19 miles
Birmingham	45 mins	40 miles
Coventry	50 mins	42 miles
Stoke	57 mins	47 miles

In good company

east midlands airport
Nottingham • Leicester • Derby

OSPREY HOUSE

The ideal new building
for your future

Osprey House provides 25,196 sq ft of Grade A open plan offices, over three floors, in an exceptional location. The flexible floor plates offer an environmental control system and excellent natural light – your staff will be effective, comfortable and happy in this new, stunning building.

Stunning three storey Grade A office space

Designed and located to meet the present and future needs of your business, the specification at Osprey House includes:

- Ground floor reception
- Comfort cooling/heating
- Open plan offices ready to receive tenant fit out
- Male, female and disabled WC facilities
- Eight person passenger lift
- Fully accessible raised floors
- Superb natural light
- Suspended ceiling with inset LG3 lighting
- 87 dedicated car parking spaces
- Additional car parking available

Accommodation	sq m	sq ft
Ground Floor Reception	39.2	422
Ground Floor Offices	737.4	7,938
First Floor Offices	781.7	8,415
Second Floor Offices	782.3	8,421
Total	2,340.6	25,196

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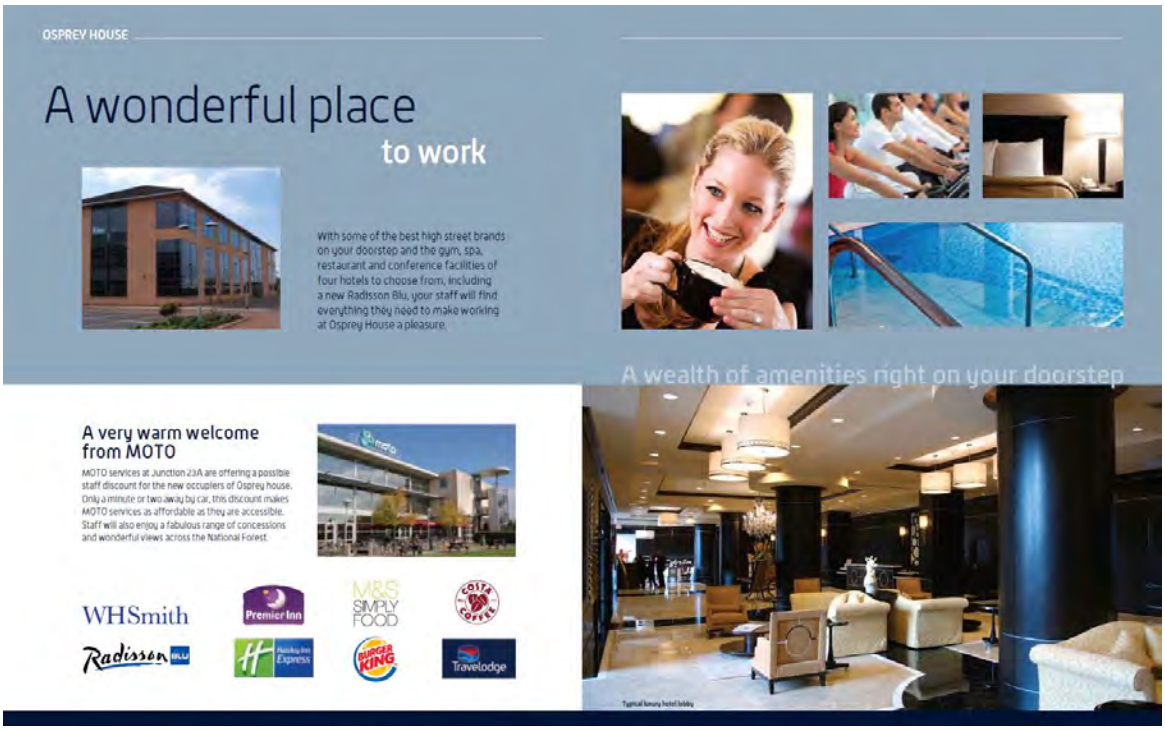
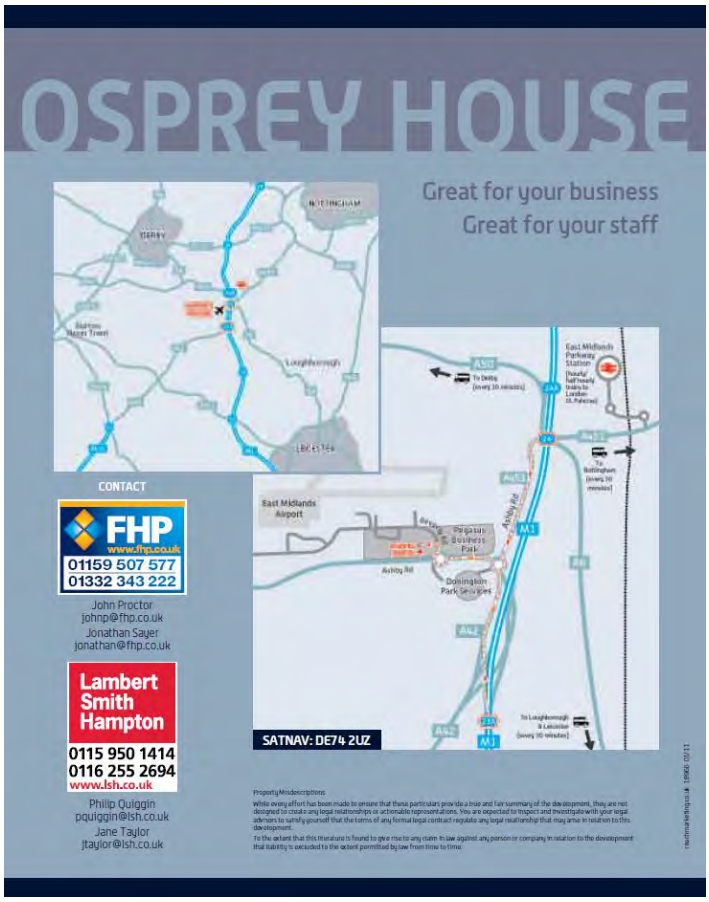

OSPREY HOUSE
A wonderful place
to work
With some of the best high street brands on your doorstep and the gym, spa, restaurant and conference facilities of four hotels to choose from, including a new Radisson Blu, your staff will find everything they need to make working at Osprey House a pleasure.
A wealth of amenities right on your doorstep
A very warm welcome from MOTO
MOTO services at Junction 23A are offering a possible staff discount for the new occupiers of Osprey house. Only a minute or two away by car, this discount makes MOTO services as affordable as they are accessible. Staff will also enjoy a fabulous range of concessions and wonderful views across the National Forest.
WHSmith
Premier Inn
M&S SIMPLY FOOD
COSTA COFFEE
Radisson BLU
Express
BURGER KING
Travelodge


OSPREY HOUSE
Great for your business
Great for your staff
CONTACT
FHP
www.fhp.co.uk
01159 507 577
01332 343 222
John Proctor
johnp@fhp.co.uk
Jonathan Sayer
jonathan@fhp.co.uk
Lambert Smith Hampton
0115 950 1414
0116 255 2694
www.lsh.co.uk
Philip Quiggin
pquiggin@lsh.co.uk
Jane Taylor
jtaylor@lsh.co.uk
East Midlands Airport
SATNAV: DE74 2UZ

Appendix VI

Pembroke House Details

Office Property

Lambert Smith Hampton
0115 950 1414
17/21 HOUNDS GATE NOTTINGHAM NG1 7DR

Grade A Offices

To Let

1st Floor, Pembroke House, Pegasus Business Park, Castle Donington, Derbyshire DE74 2TU

- 486 - 971 sq m (5,225 - 10,450 sq ft)
- Premier Business Park location
- Easy access to Nottingham, Derby & Leicester
- Grade A Specification

www.lsh.co.uk

FHP PROPERTY CONSULTANTS

1st Floor, Pembroke House, Pegasus Business Park, Castle Donington, Derbyshire DE74 2TU

Location

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Pembroke House forms part of Pegasus Business Park which is located immediately adjacent to East Midlands Airport near Castle Donington.

Pegasus Business Park benefits from excellent road communication links with Junction 23A of the M1, approximately 1 mile away. Other major arterial routes in the immediate vicinity include the A50, A453, A42 and A6 providing direct links to all the major centres across the Midlands.

Pegasus Business Park is a well established office location with a number of major companies having a presence on site, including PricewaterhouseCoopers and E.On.

Description

The premises comprise the entire first floor of a two storey construction, with brick elevations and curved panel roofs. The building incorporates double glazed windows, passenger lift and a two-storey glazed reception. Internally the suite is constructed to a Grade A specification.

The premises benefit from the following facilities/specifications:

- Air Conditioning
- Raised access floors
- Passenger Lift
- Suspended ceiling with inset CAT II Lighting
- Extensive parking

Accommodation

The accommodation has been fitted out to a high standard by the current tenant. The offices are predominantly open plan together with a number of full-height glazed partition offices, meeting rooms, reception and break out areas.

Net Internal Floor Area	Sq M	Sq Ft
Total NIA	971	10,450

VAT

All prices, premiums and rents etc. are quoted exclusive of VAT at the prevailing rate.

Legal Costs

Each party to be responsible for their own legal costs incurred in any transaction.

Business Rates

The property is currently assessed for rating purposes with a 2010 Rateable Value of £138,000. Please contact the agents for an outline of the rates payable.

Service Charge

A small estate charge is applied on Pegasus Business Park as a whole to cover landscaping, road clearance and security issues. In addition a service charge is levied to cover the costs of maintaining the building, shared with the ground floor tenant. More information is available upon application to the agents.

Terms

The premises are held on a FRI lease to expire 17th September 2016. The first floor office is available as a whole or in parts, by way of assignment or sublease(s) at a rent based on £14.00 per sq ft per annum exclusive.

Viewing and Further Information

Viewing strictly by prior appointment with the joint agents:

Jane Taylor
Lambert Smith Hampton
Tel: 0116 255 2694
jtaylor@lsh.co.uk

Phil Quiggin
Lambert Smith Hampton
Tel: 0115 950 1414
pquiggin@lsh.co.uk

Jan 2011

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(v) Except in respect of death or personal injury caused by the negligence of LSH or its employees or agents, LSH will not be liable whether in negligence or otherwise howsoever, for any loss arising from the use of these particulars or any information provided.

Lambert Smith Hampton
0116 255 2694
24-26 MONTPOST STREET LEICESTER LE1 7GR

Lambert Smith Hampton
0115 950 1414
17/21 HOUNDS GATE NOTTINGHAM NG1 7DR

FHP PROPERTY CONSULTANTS

Appendix VII

Original and Up To Date Marketing Particulars of LSH for Unit 423

FHP PROPERTY CONSULTANTS

Lambert Smith Hampton

0115 950 1414
www.lsh.co.uk

To Let

Office Property

High Quality HQ Office Building

BMI Baby HQ, Argosy Road, Pegasus Business Park, Castle Donnington, Derbys, DE74 2SA

- 2,375 Sq M (25,561 Sq Ft)
- Premier Business Park location
- Easy access to Nottingham, Derby & Leicester
- High quality spec & vastly superior parking ratio

Lambert Smith Hampton
17/21 Hounds Gate, Nottingham NG1 7DR **T** +44 (0)115 950 1414

FHP PROPERTY CONSULTANTS

BMI Baby HQ, Argosy Road, Pegasus Business Park, Castle Donnington, Derbys, DE74 2SA

Location

Situated at Pegasus Business Park, which is located immediately adjacent to East Midlands Airport near Castle Donnington, benefiting from excellent road links with Junction 23A of the M1 approximately 1 mile away. In additon, East Midlands Parkway Railway Station is 4 miles away.

Pegasus Business Park is a well established office location with a number of major companies on-site including Pricewaterhouse Coopers and E.On.

Description

The premises comprise a two-storey construction, with brick elevations and pitched tiled roof. The building incorporates double-glazed windows, lift and reception facilities.

The premises benefit from the following facilities/specification:

- Air Conditioning
- Raised access floors
- Passenger Lift
- Suspended ceiling with insert CAT II lighting
- 201 car parking spaces

Accommodation

The accommodation has been fitted out to a high standard by the current tenant. The offices are predominantly open plan together with a number of partitioned offices, meeting rooms, training rooms and canteen.

Net Internal Floor Area	Sq Ft	Sq M
Ground Floor	12,820	1,191
First Floor	12,740	1,184
Total Net Internal Area	25,561	2,375

VAT

All prices, premiums and rents etc. are quoted exclusive of VAT at the prevailing rate.

Business Rates

The property is currently assessed for rating purposes with a 2010 Rateable Value of £320,000. Please contact the Agents for an outline of the rates payable.

Terms

The premises are held on a FRI lease to expire July 2018, subject to a tenant's option to break in July 2013. The property is available by way of assignment or sublease at the passing rent of £320,000 per annum exclusive. Alternatively, consideration will be given to a new lease on terms to be agreed.

Service Charge

A small estate charge is applied to cover landscaping, road clearance and security issues. More information is available upon application to the agents.

Planning

The use of the premises shall be restricted to offices and any use of the building shall be airport related, unless otherwise agreed in writing with the Local Planning Authority.

Viewing and Further Information

Viewing strictly by prior appointment with the sole agent:

Phil Quiggin
Lambert Smith Hampton
0115 9766603
07803 835138
pquiggin@lsh.co.uk

Jenny Clarke
Lambert Smith Hampton
0115 9766610
07720 084760
jclarke@lsh.co.uk

Mar 2012

Lambert Smith Hampton

0115 950 1414
www.lsh.co.uk

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(ii) Any description, dimension, distance or area given or any reference made to condition, working order or availability of services or facilities, fixtures or fittings, any guarantee or warrantee or statutory or any other permission, approval or reference to suitability for use or occupation, photograph, plan, drawing, aspect or financial or investment information or tenancy and title details or any other information set out in these particulars or otherwise provided shall not be relied on as statements or representations of fact or at all and any prospective buyer or tenant must satisfy themselves by inspection or otherwise as to the accuracy of all information or suitability of the property.
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FHP PROPERTY CONSULTANTS

Office Property

Lambert Smith Hampton
0115 950 1414
17/21 HOUNDS GATE NOTTINGHAM NG1 7DR

High Quality HQ Office Building

To Let

BMI Baby HQ, Argosy Road, Pegasus Business Park, Castle Donington, Derbyshire DE74 2SA

- 2,375 sq m (25,561 sq ft)
- Premier Business Park location
- Easy access to Nottingham, Derby & Leicester
- High quality spec & vastly superior parking ratio
- Short or long term lease options

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FHP PROPERTY CONSULTANTS

BMI Baby HQ, Argosy Road, Pegasus Business Park, Castle Donington, Derbyshire DE74 2SA

Location

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The subject property forms part of Pegasus Business Park which is located immediately adjacent to East Midlands Airport near Castle Donington.

Pegasus Business Park benefits from excellent road communication links with Junction 23A of the M1, approximately 1 mile away. In addition Nottingham Parkway rail station is situated adjacent to Ratcliffe-on-Soar power station, approximately 4 miles away, and offering connecting trains to Derby, Nottingham, London and beyond.

Pegasus Business Park is a well established office location with a number of major companies having a presence on site, including PricewaterhouseCoopers and E.On.

Description

The premises comprise a two storey construction, with brick elevations and pitched tiled roof. The building incorporates double glazed windows, passenger lift and reception facilities. Internally the accommodation is constructed to a Grade A specification, albeit now requiring some cosmetic refurbishment.

The premises benefit from the following facilities/specification:

- Air Conditioning
- Raised access floors
- Passenger Lift
- Suspended ceiling with inset CAT II Lighting
- 201 parking spaces (almost 8 spaces per 1,000 sq ft)

Accommodation

The accommodation has been fitted out to a high standard by the current tenant. The offices are predominantly open plan together with a number of partitioned offices, meeting rooms, training rooms and canteen.

Net Internal Floor Area	Sq M	Sq Ft
Ground Floor	1,191	12,820
First Floor	1,184	12,740
Total Net Internal Area	2,375	25,561

VAT

All prices, premiums and rents etc. are quoted exclusive of VAT at the prevailing rate.

Business Rates

The property is currently assessed for rating purposes with a 2010 Rateable Value of £320,000. Please contact the agents for an outline of the rates payable.

Service Charge

A small estate charge is applied to cover landscaping, road clearance and security issues. More information is available upon application to the agents.

Terms

The premises are held on a FRI lease to expire July 2018, subject to a tenant's option to break in July 2013. The property is available by way of assignment or sublease at the passing rent of £320,000 per annum exclusive.

Alternatively considertaion will be given to a new lease on terms to be agreed.

Planning

The use of the premises shall be restricted to offices and any use of the building shall be airport related, unless otherwise agreed in writing with the Local Planning Authority.

Viewing and Further Information

Viewing strictly by prior appointment with the sole agent:

Jane Taylor
Lambert Smith Hampton
Tel: 0116 255 2694
jtaylor@lsh.co.uk

Phil Quiggin
Lambert Smith Hampton
Tel: 0115 950 1414
pquiggin@lsh.co.uk

Jan 2011

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(iii) No employee of LSH has any authority to make or give any representation or warranty arising from these particulars or otherwise or enter into any contract whatsoever in relation to the property in respect of any prospective purchase or letting including in respect of any re-sale potential or value or at all.
(iv) Price or rent may be subject to VAT and any prospective buyer or tenant must satisfy themselves concerning the correct VAT position.
(v) Except in respect of death or personal injury caused by the negligence of LSH or its employees or agents, LSH will not be liable, whether in negligence or otherwise howsoever, for any loss arising from the use of these particulars or any information provided in respect of the property save to the extent that any statement or information has been made or given fraudulently by LSH.
(vi) In the case of new development or refurbishment prospective buyers or tenants should not rely on any artists' impressions or architects' drawings or specification or scope of works or amenities, infrastructure or services or information concerning views, character or appearance and timing concerning availability or occupation and prospective buyers or tenants must take legal advice to ensure that any expectations they may have are provided for direct with the seller or landlord and LSH shall have no liability whatsoever concerning any variation or discrepancy in connection with such matters.

Lambert Smith Hampton
0115 950 1414
17/21 HOUNDS GATE NOTTINGHAM NG1 7DR

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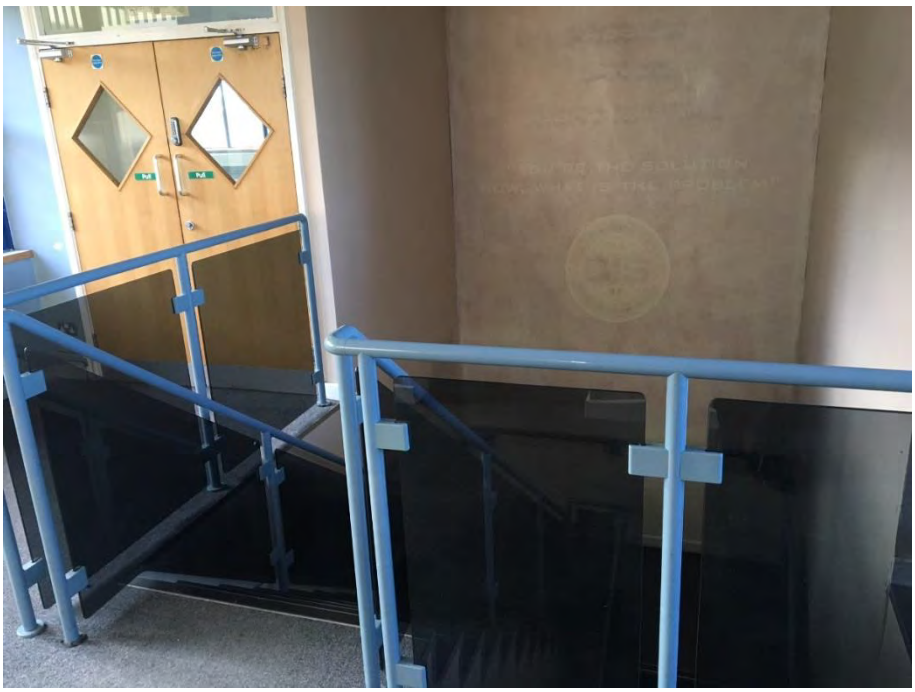
Appendix II



Fire
exit

10

Appendix III

DONINGTON COURT
UNIT 2A DONINGTON COURT | PEGASUS BUSINESS PARK
CASTLE DONINGTON | DE74 2UZ

savills

M1
23a
Radisson
Regus
WESTERN POWER DISTRIBUTION
SECRETARY OF STATE
east midlands airport
DONINGTON COURT
Premier Inn
nationalgrid
PKF Cooper Parry
DHL
Royal Mail

Investment Summary

- **Strategically located** within the UK with **access directly from the M1 motorway** and within close proximity of the A42 and A50 Dual Carriageways
- **Next to East Midlands International Airport**, one of the UK's most strategically important airports
- **Prime Business Park environment** with high profile branding opportunity
- With close proximity of **SEGRO Logistics Park**, East Midlands, Gateway and **Rail Freight Interchange**
- High Specification purpose built office building extending to **43,847 sq ft** (NIA) (4,073.60 sq m)
- Excellent parking ratio of **6.75 spaces per 1,000 sq ft**
- Passing net rent of **£355,135** per annum
- Potential gross rent **£624,782** per annum (net £561,904 per annum)
- Let in part to PriceWaterhouseCoopers Services Limited and HSBC Bank plc
- Low capital value **£170** per sq ft
- Long leasehold
- Seeking offers in excess of **£7,265,000 (Seven Million, Two Hundred & Sixty Five Thousand Pounds)**, subject to contract providing a net initial yield of **7.25%**, assuming purchasers' costs at **6.66%**
- A rental guarantee equivalent to one year, **£229,744 per annum** and the corresponding rental equivalent to the residue rent free granted to HSBC Bank plc, will be deducted from the purchase price

Donington Court | Unit 2A Donington Court
Pegasus Business Park Castle Donington | DE74 2UZ

Location

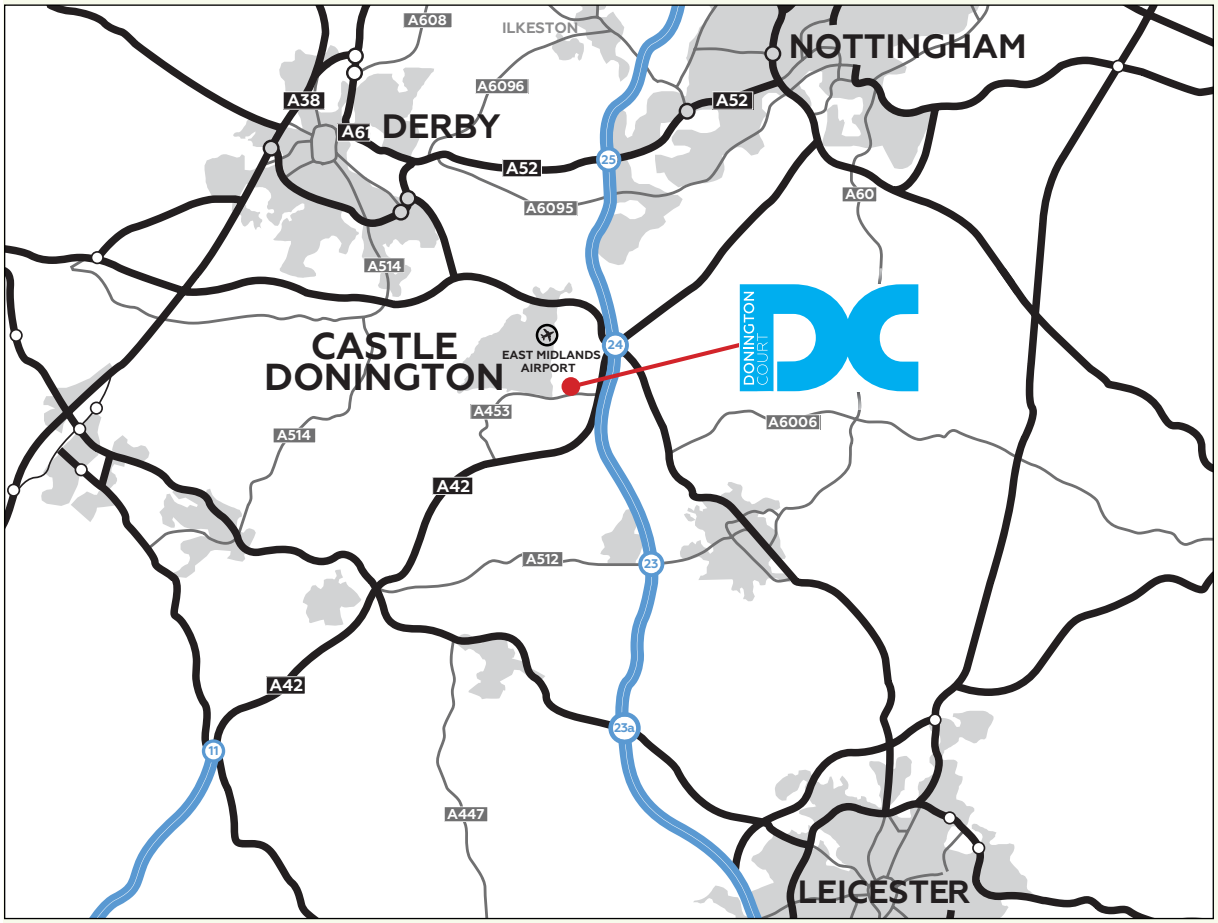
Donington Court is located on Pegasus Business Park, within the boundary of East Midlands International Airport, one of the UK's most strategically important airports outside London.

East Midlands International Airport accommodates 4.3 million passengers each year offering routes to over 80 leisure and business destinations. The Airport is the second busiest cargo airport in the UK (after Heathrow) and handles over 310,000 tonnes of air freight every year. It is the UK hub for DHL and UPS and acts in support of operations for TNT and Royal Mail as well as a number of distribution companies that have bases in the area. The world-famous Donington Park motor racing circuit is also near by.

Demographics

The East Midlands has an excellent track record for attracting flourishing world class companies in the transport, healthcare, professional services, food and drink and environmental sectors. The area offers a competitive environment supported by world leading research and development capabilities, a highly skilled workforce and it also benefits from being at the centre of the UK transport network.

> EAST MIDLANDS AIRPORT IS SITUATED ADJACENT TO JUNCTION 23A OF THE M1 MOTORWAY BENEFITING FROM IMMEDIATE ACCESS TO THE NATIONAL MOTORWAY NETWORK AND A DIRECT ROUTE TO LONDON



Connectivity

In addition to air travel, East Midlands Airport is situated adjacent to Junction 23A of the M1 Motorway benefiting from immediate access to the national motorway network and a direct route to London (2 hour drive time) and Leeds (1.5 hour drive time). The Airport also benefits from direct access to Birmingham via the A42 (40 miles to the south west). The A50 dual carriageway, situated directly to the north of the Airport, provides direct access to the M6 Motorway.

East Midlands parkway station is a short 10 minute taxi ride away from the property providing frequent direct trains to London St Pancras International Station in under 1 hour and 30 minutes.

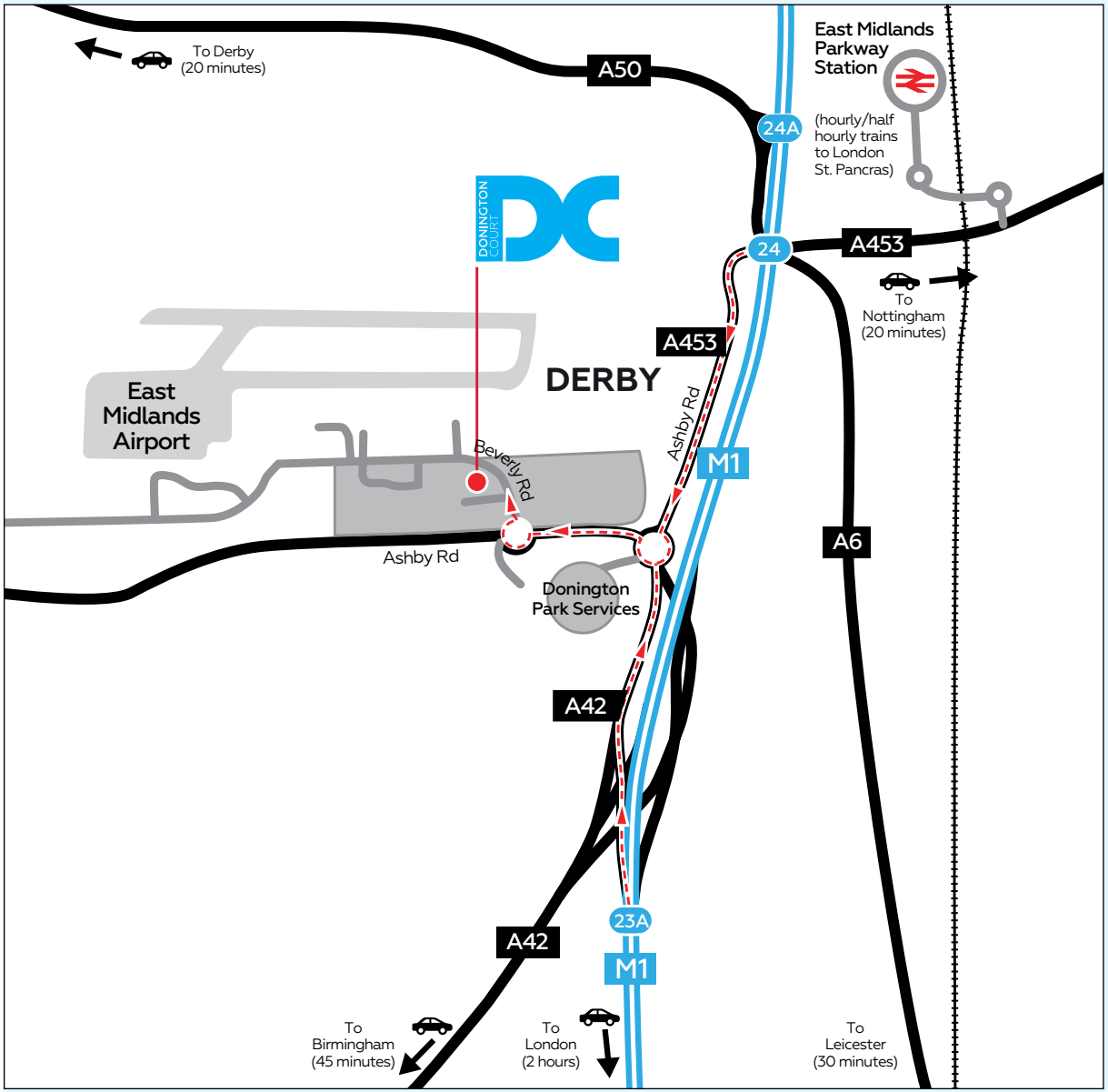
Logistics

The property is within close proximity of SEGRO Logistics Park East Midlands Gateway (SLPEMG) which is a 700 acre development with planning consent for up to 6,000,000 sq ft of logistics accommodation. The development incorporates a 50 acre Strategic Rail Freight Interchange (SRFI) which will include a rail freight terminal, capable of handling up to sixteen 775m rail freight trains per day, container storage and HGV parking.

Extensive infrastructure works are currently underway. These works include improvements to Junction 24 and 24A of the M1 including the introduction of a smart motorway system by Highways England, safer access to the A50 at Lockington and Hemington and the new Kegworth Bypass.

Situation

Donington Court occupies a prominent position within Pegasus Business Park on one of the principle airport boundary roads leading to the passenger terminal and numerous cargo facilities. Surrounding office occupiers include HSBC, Regus, Nikon, PKF Cooper-Parry, National Grid, PWC, UPS and Home Office and there also are several hotels nearby including Premier Inn, Holiday Inn Express, Radisson Blu and Thistle.

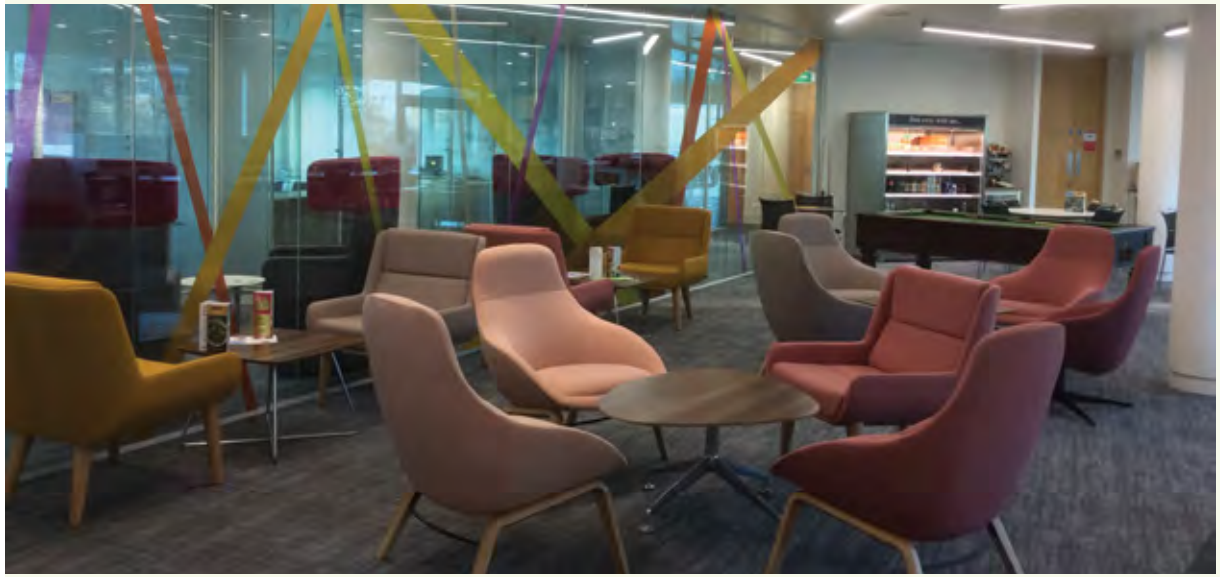


Description

Donnington Court was constructed in 2002 to provide high specification Grade A headquarters offices primarily arranged over ground, first and second floor.

The building provides the following amenities:

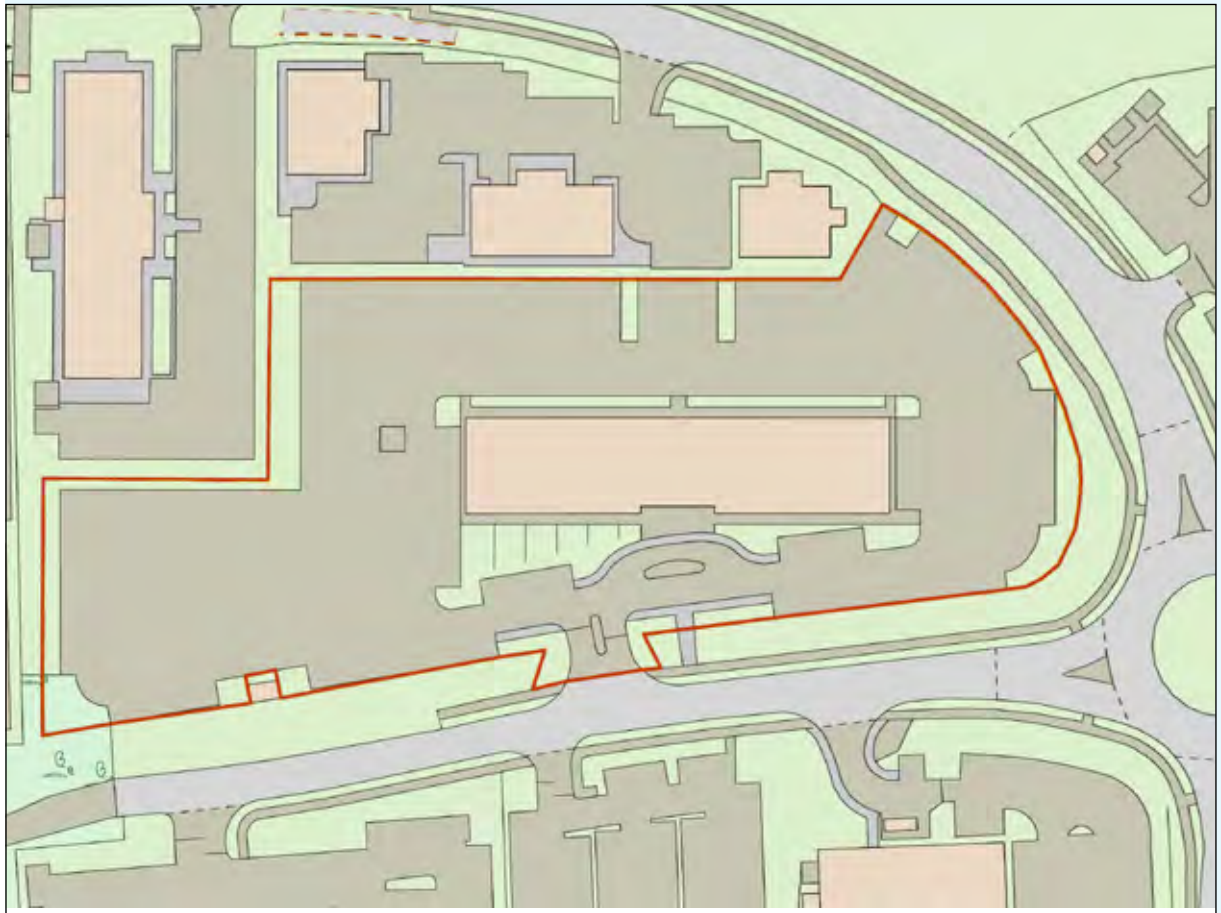
- Air conditioning
- Fully accessed raised floors.
- Suspended ceilings with recessed integral lighting
- Feature double height reception
- Excellent parking ratio with 265 secure parking spaces and more potentially available (6.75 spaces per 1,000 sq ft)
- Fully refurbished and with the benefit of an attractive Concierge Reception
- Passenger lift(s)
- Dedicated kitchen and WC facilities
- DDA compliant
- 24 hour access and CCTV monitoring



Accommodation

Net Internal Area	Size (Sq Ft)	Size (Sq M)
Ground Floor	13,520	1,256.1
First Floor	13,245	1,230.5
Second Floor	13,558	1,259.6
Roof	3,524	327.4
Total	**43,847**	**4,073.6**

The property has been measured in accordance with the RICS Code of Measuring Practice, published in 2007 (6th Edition). We have not measured the property nor have we calculated the floor areas in accordance with IPMS 3 – Offices. The site extends to approximately 3.209 acres (1.299 hectares).



NOTE:- Reproduced from the Ordnance Survey Map with the permission of the Controller of H.M. Stationery Office. © Crown copyright licence number 100024244 Savills (UK) Limited. NOTE:- Published for the purposes of identification only and although believed to be correct accuracy is not guaranteed.

Tenure

The property is held on a long leasehold from East Midlands International Airport Limited for a term of 150 years from 26 November 2002, subject to a head rent equivalent to 10% of rents received and £400 ground rent.

After deduction of the head rent and ground rent, the net rent received is £355,135 per annum.

The property is let on two full repairing and insuring leases, in part, as follows:

Ground Floor Left Wing (6,469 sq ft) let to PriceWaterhouseCoopers Services Limited – 10 years with effect from 26 November 2017, subject to rent review in the 5th year of the term, 26 November 2022, and tenant break clause on 26 November 2022, at a rental of £98,465 per annum, reflecting £15.22 per sq ft.

First Floor Left and Right Wings (13,245 sq ft) let to PriceWaterhouseCoopers Services Limited – 10 years with effect from 26 November 2017, subject to rent review in the 5th year of the term, 26 November 2022 and tenant break clause on 26 November 2022, at a rental of £201,535 per annum, reflecting £15.22 per sq ft.

Second Floor West Wing (6,232 sq ft) let to HSBC Bank plc – 10 years with effect from 6 April 2018, subject to rent review in the 5th year of the term and tenant break clause on 6 April 2023 at a rental of £95,038 per annum, reflecting £15.25 per sq ft.

Vacant space

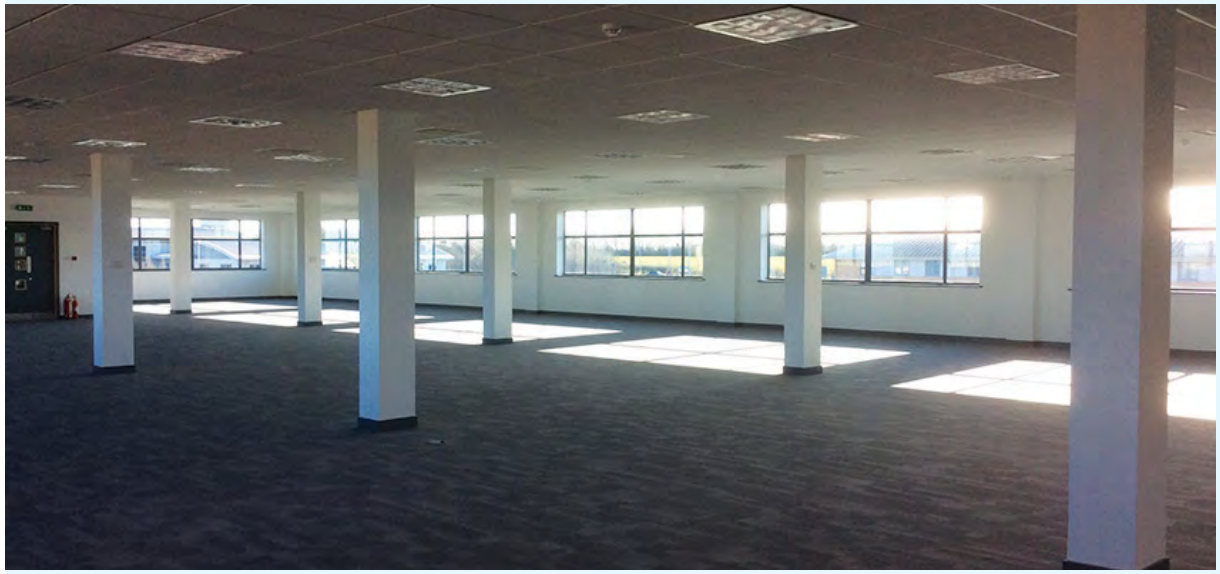
Reflecting the above tenancies, two suites remain vacant and are currently being marketed as follows:

Ground Floor Right Wing (Office B) 5,976 sq ft (555.19 sq m)

Second Floor Right Wing (Office B) 7,326 sq ft (680.60 sq m)

In addition to the above, there is ancillary storage in the roof void extending to 3,524 sq ft (327.4 sq m).

Based on the above tenancies we are of the opinion that an ERV of £15.25 per sq ft would be applicable on the remaining two suites and 50% of the main space rate of £7.63 per sq ft on ancillary storage providing an additional gross rental of £229,744 per annum.



Covenants

PriceWaterhouseCoopers Services Limited
D&B Rating of 4A1 – represents minimum risk of business failure score

	Fiscal Non consolidated GBP 30 Jun 2016 (000's)	Fiscal Non consolidated GBP 30 Jun 2015 (000's)	Fiscal Non consolidated GBP 30 Jun 2014 (000's)
Sales Turnover	1,832,831	1,708,763	1,534,890
Profit / (Loss) Before Taxes	102,337	93,223	59,600
Tangible Net Worth	16,374	71,519	29,027
Net Current Assets (Liabilities)	(161,798)	(110,152)	(157,900)

HSBC Bank plc
D&B Rating of 5A1 – represents minimum risk of business failure score

	Fiscal Consolidated GBP 31 Dec 2016 (000's)	Fiscal Consolidated GBP 31 Dec 2015 (000's)	Fiscal Consolidated GBP 31 Dec 2014 (000's)
Sales Turnover	20,041,000	18,630,000	18,313,000
Profit / (Loss) Before Taxes	874,000	2,971,000	1,953,000
Tangible Net Worth	34,195,000	30,486,000	28,784,000
Net Current Assets (Liabilities)	65,577,000	42,025,000	38,543,000

EPC

The property has an Energy Performance Rating of:

D81
C71.

VAT

The property is elected for VAT. We would anticipate the transaction being treated as a Transfer of a Going Concern (TOGC), however prospective purchasers should make their own enquiries.

Proposal

We are seeking offers in excess of **£7,265,000 (Seven Million, Two Hundred & Sixty Five Thousand Pounds)**, subject to contract providing a net initial yield of **7.25%**, assuming purchaser's costs at **6.66%**.

A rental guarantee equivalent to one year, **£229,744 per annum** and the corresponding rental equivalent to the residue rent free granted to HSBC Bank plc, will be deducted from the purchase price.

Donington Court | Unit 2A Donington Court
Pegasus Business Park Castle Donington | DE74 2UZ

Savills Nottingham

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+44 (0) 115 934 8000
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Christine Thorn
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E: cthorn@savills.com

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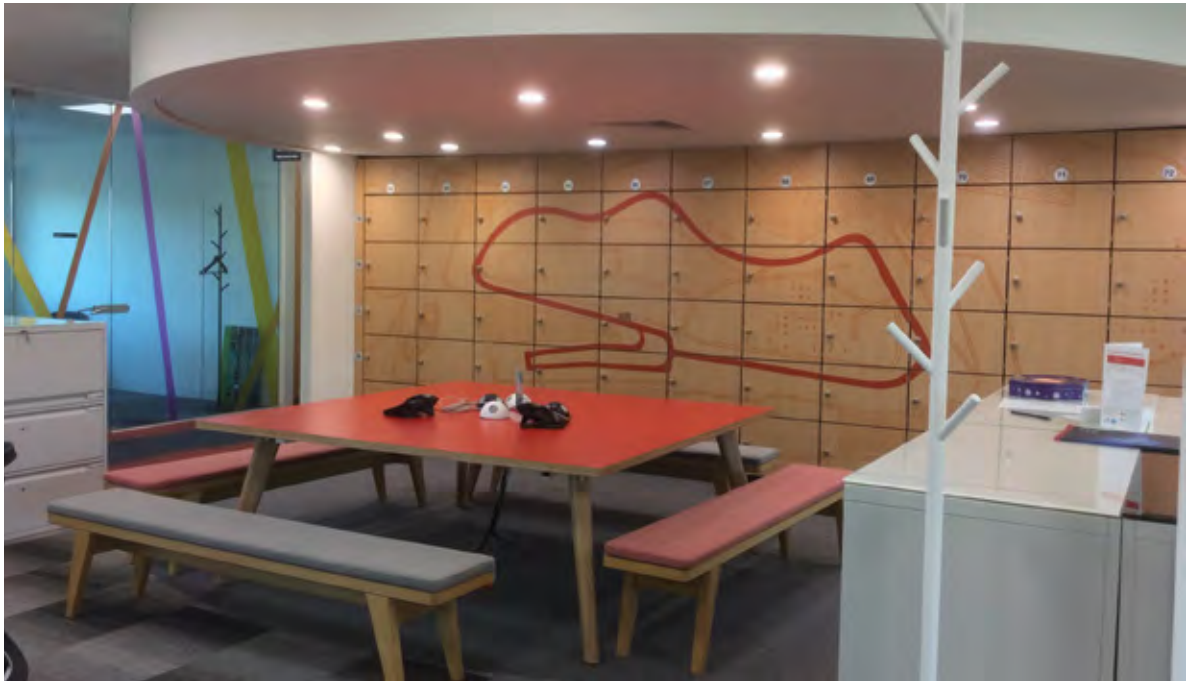
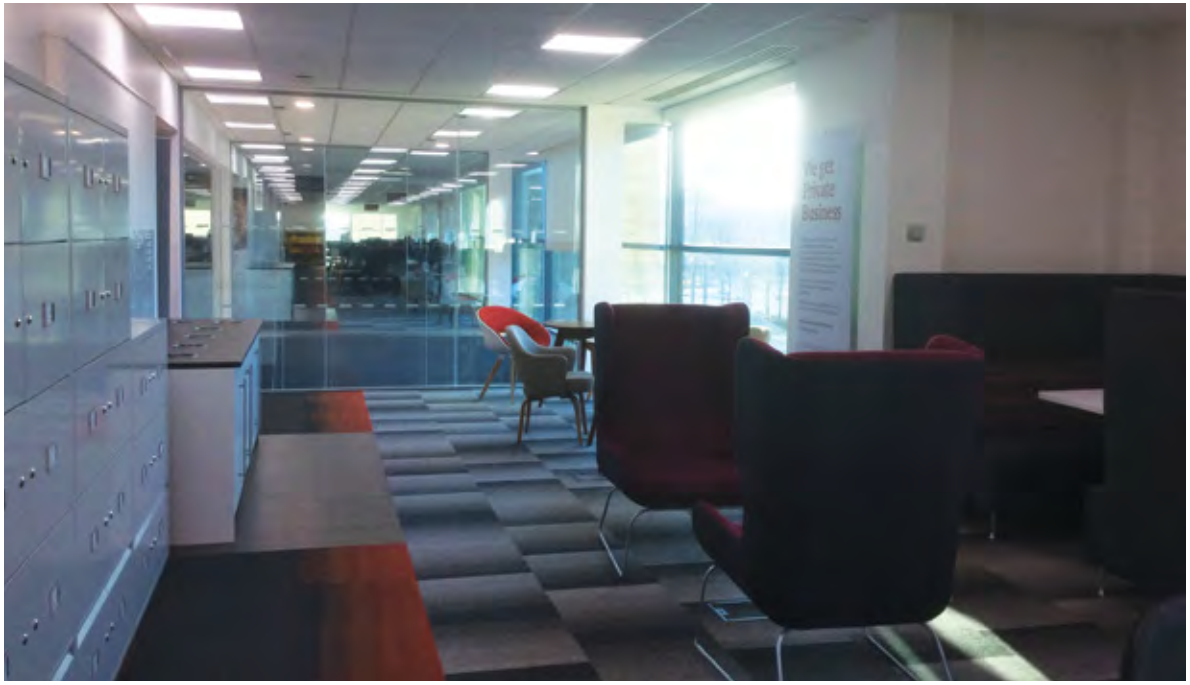
2. Any areas, measurement or distances are approximate. The text, images and plans are for guidance purposes only and are not necessarily comprehensive. It should be assumed that the property has all necessary planning, building regulation or other consents and Savills have not tested any services, equipment or facilities. Purchasers must satisfy themselves by inspection or otherwise. February 2018.





TO LET

UNIT 2A DONINGTON COURT , PEGASUS BUSINESS PARK, CASTLE DONINGTON , DE74 2UZ

SUMMARY

- Strategically located within the UK with access directly from the M1 motorway and within close proximity of the A42 and A50 Dual Carriageways
- Next to East Midlands International Airport, one of the UK's most strategically important airports
- Prime Business Park environment with high profile branding opportunity
- High specification Grade A offices , forming part of a Headquarters office building , available as a whole or individual suites of 6,040 sq ft (561.17 sq m) and 13,672 sq ft (1,270.19 sq m)
- Excellent parking ratio with 111 secure parking spaces and more potentially available
- Fully refurbished and with the benefit of an attractive Concierge Reception

savills

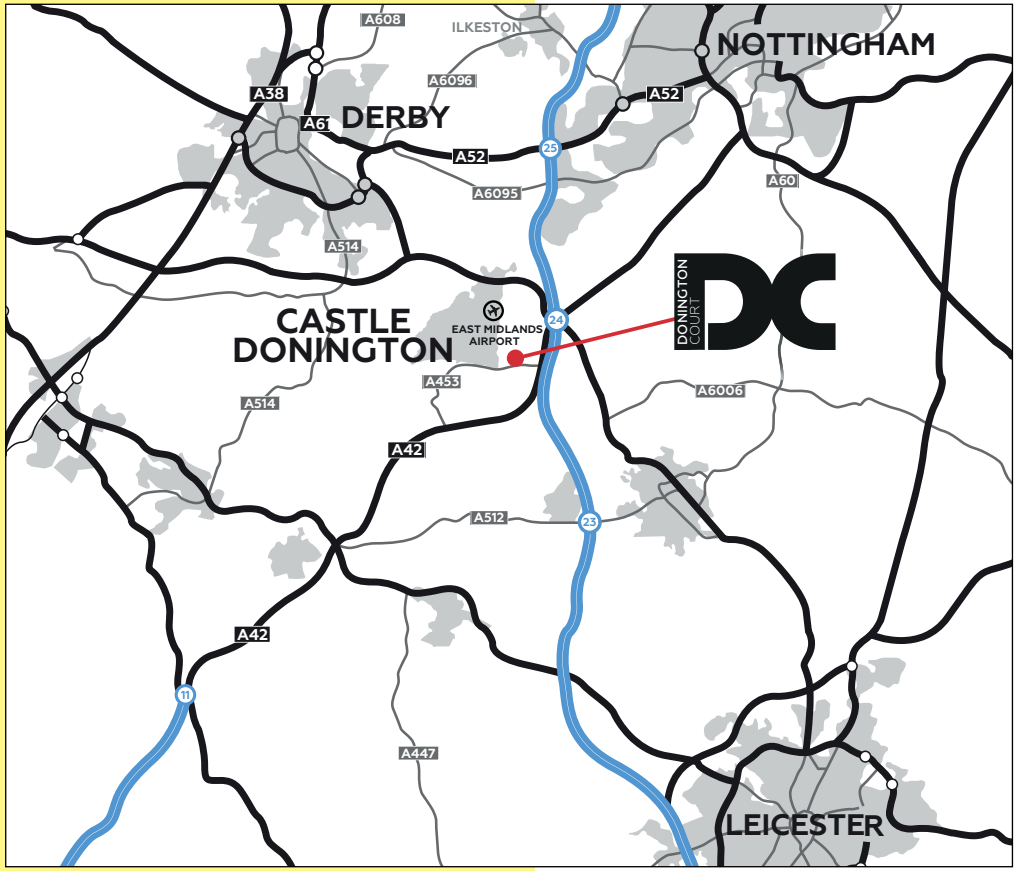
LOCATION

Donington Court is located on Pegasus Business Park, within the boundary of East Midlands International Airport, one of the UK's most strategically important airports outside London.

East Midlands International Airport accommodates 4.3 million passengers each year offering routes to over 80 leisure and business destinations. The Airport is the second busiest cargo airport in the UK (after Heathrow) and handles over 310,000 tonnes of air freight every year. It is the UK hub for DHL and UPS and acts in support of operations for TNT and Royal Mail as well as a number of distribution companies that have bases in the area. The world-famous Donington Park motor racing circuit is also near by.

DEMOGRAPHICS

The East Midlands has an excellent track record for attracting flourishing world class companies in the transport, healthcare, professional services, food and drink and environmental sectors. The area offers a competitive environment supported by world leading research and development capabilities, a highly skilled workforce and it also benefits from being at the centre of the UK transport network.



M1
23a
Radisson
Regus
WESTERN POWER DISTRIBUTION
SECRETARY OF STATE
east midlands airport
DONINGTON COURT
DC
Premier Inn
nationalgrid
PKF Cooper Parry
DHL
Royal Mail

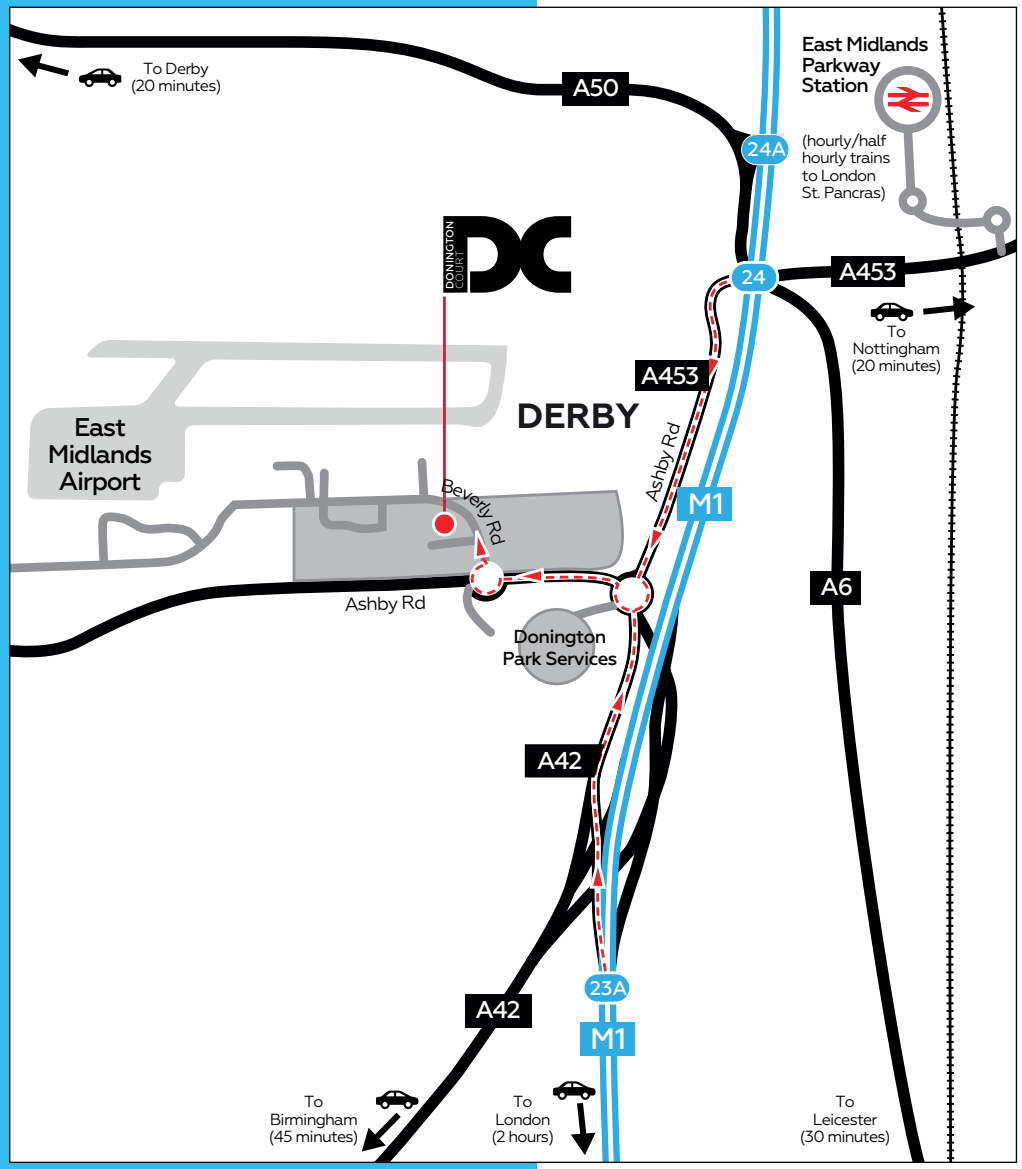
CONNECTIVITY

In addition to air travel, East Midlands Airport is situated adjacent to Junction 23A of the M1 Motorway benefiting from immediate access to the national motorway network and a direct route to London (2 hour drive time) and Leeds (1.5 hour drive time). The Airport also benefits from direct access to Birmingham via the A42 (40 miles to the south west). The A50 dual carriageway, situated directly to the north of the Airport, provides direct access to the M6 Motorway.

East Midlands parkway station is a short 10 minute taxi ride away from the property providing frequent direct trains to London St Pancras International Station in under 1 hour and 30 minutes.

SITUATION

Donington Court occupies a prominent position within Pegasus Business Park on one of the principle airport boundary roads leading to the passenger terminal and numerous cargo facilities. Surrounding office occupiers include Regus, Nikon, PKF Cooper-Parry, National Grid, PWC, UPS and Home Office and there also are several hotels nearby including Premier Inn, Holiday Inn Express, Radisson Blu, and Thistle.



EAST MIDLANDS INTERNATIONAL AIRPORT ACCOMMODATES 4.3 MILLION PASSENGERS EACH YEAR OFFERING ROUTES TO OVER 80 LEISURE AND BUSINESS DESTINATIONS

DESCRIPTION

Donington Court was constructed in 2002 to provide high specification Grade A Headquarters offices arranged over the ground amenities:

- Air conditioning
- Fully accessed raised floors.
- Suspended ceilings with recessed integral lighting
- Feature double height reception
- Excellent parking ratio with 111 secure parking spaces and more potentially available
- Fully refurbished and with the benefit of an attractive Concierge Reception
- Passenger lift(s)
- Dedicated kitchen and WC facilities
- DDA compliant
- 24 hour access and CCTV monitoring

"THE AREA OFFERS A COMPETITIVE ENVIRONMENT SUPPORTED BY WORLD LEADING RESEARCH AND DEVELOPMENT CAPABILITIES"

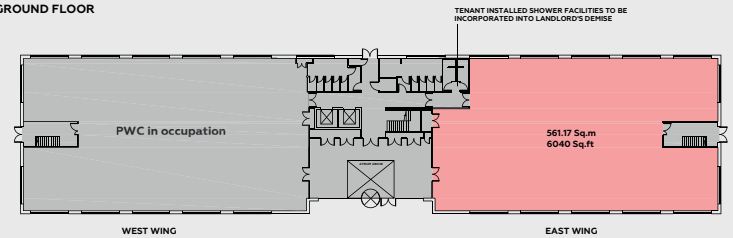
strategy&
pwc
Everyone plays a part
Advice into action

ACCOMMODATION

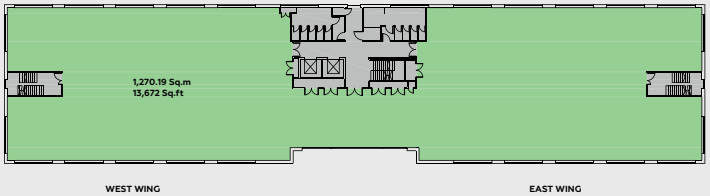
Net Internal Area	Size (Sq Ft)	Size (Sq M)
Ground Floor	6,040	561.17
Second Floor	13,672	1,270.19
Total	**19,712**	**1,831.36**

The second floor can be sub-divided.

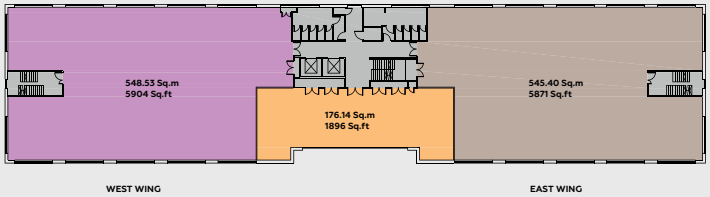
GROUND FLOOR



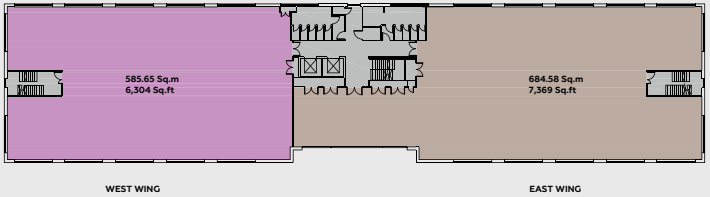
SECOND FLOOR - OPTION A



SECOND FLOOR - OPTION B



SECOND FLOOR - OPTION C



"EAST MIDLANDS AIRPORT IS SITUATED ADJACENT TO JUNCTION 23A OF THE M1 MOTORWAY BENEFITING FROM IMMEDIATE ACCESS TO THE NATIONAL MOTORWAY NETWORK AND A DIRECT ROUTE TO LONDON"

BUSINESS RATES

The current rating assessment is for the whole building and an appeal is due to be submitted splitting the ground and second floors.

For guidance purposes the current assessment adopts a base rate Rateable Value of £125 per sq m, namely £5.56 per sq ft payable.

TERMS

The property is offered on flexible new full repairing and insuring terms.

RENT

£16.50 per sq ft exclusive.

VAT

VAT will be applicable to this transaction.

LEGAL COSTS

Each party will be responsible for their own legal costs involved in this transaction.

"THE PROPERTY OCCUPIES A PROMINENT POSITION WITHIN DONINGTON COURT ON ONE OF THE PRINCIPLE AIRPORT BOUNDARY ROADS LEADING TO THE PASSENGER TERMINAL"

SAVILLS NOTTINGHAM

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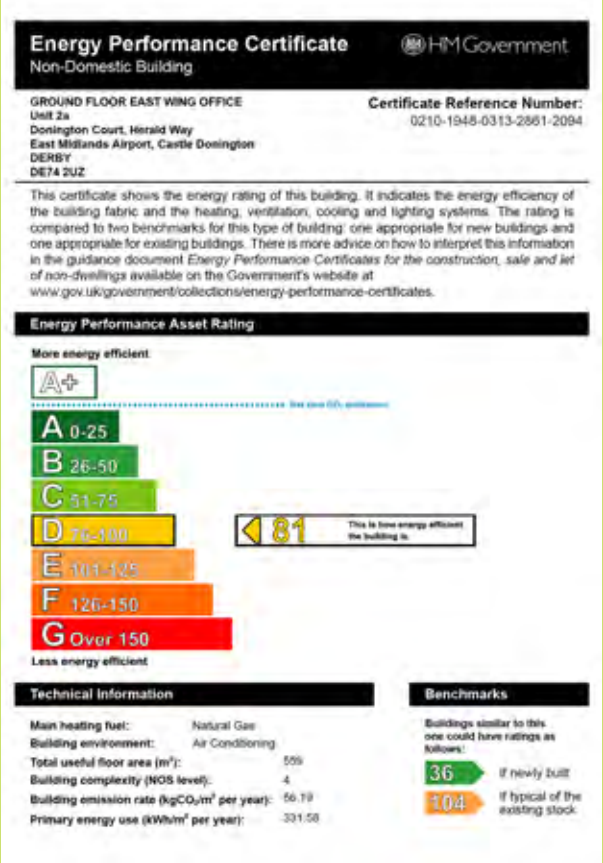
EPCs



Energy Performance Certificate
Non-Domestic Building
HM Government

GROUND FLOOR EAST WING OFFICE
Unit 2a
Donington Court, Herald Way
East Midlands Airport, Castle Donington
DERBY
DE74 2UZ

Certificate Reference Number:
0210-1948-0313-2861-2094

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government's website at www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Asset Rating

More energy efficient
A+
A 0-25
B 26-50
C 51-75
D 76-100
E 101-125
F 126-150
G Over 150
Less energy efficient

81 This is how energy efficient the building is.

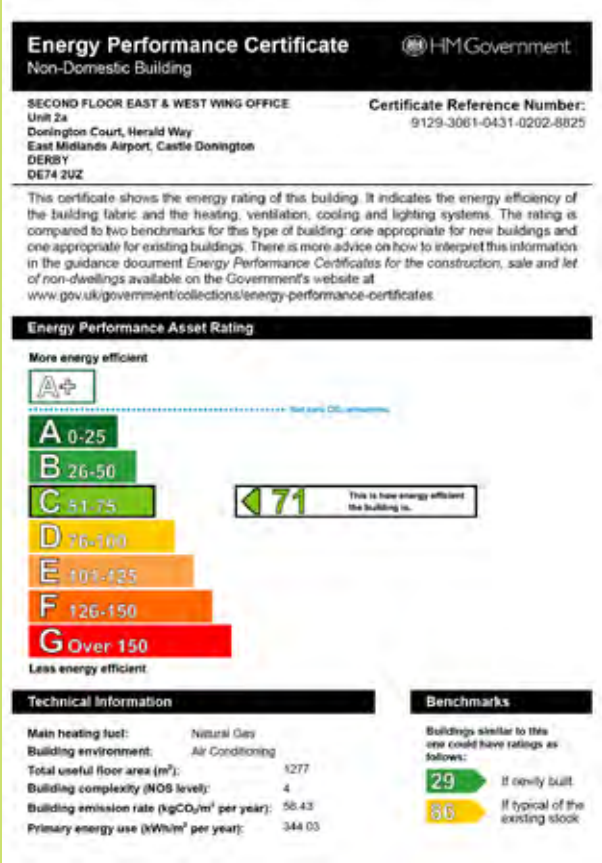
Technical Information

Main heating fuel:	Natural Gas
Building environment:	Air Conditioning
Total useful floor area (m²):	559
Building complexity (NOS level):	4
Building emission rate (kgCO₂/m² per year):	56.19
Primary energy use (kWh/m² per year):	331.58

Benchmarks

Buildings similar to this one could have ratings as follows:

36 If newly built
104 If typical of the existing stock



Energy Performance Certificate
Non-Domestic Building
HM Government

SECOND FLOOR EAST & WEST WING OFFICE
Unit 2a
Donington Court, Herald Way
East Midlands Airport, Castle Donington
DERBY
DE74 2UZ

Certificate Reference Number:
9129-3061-0431-0202-8825

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government's website at www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Asset Rating

More energy efficient
A+
A 0-25
B 26-50
C 51-75
D 76-100
E 101-125
F 126-150
G Over 150
Less energy efficient

71 This is how energy efficient the building is.

Technical Information

Main heating fuel:	Natural Gas
Building environment:	Air Conditioning
Total useful floor area (m²):	1277
Building complexity (NOS level):	4
Building emission rate (kgCO₂/m² per year):	56.43
Primary energy use (kWh/m² per year):	344.03

Benchmarks

Buildings similar to this one could have ratings as follows:

29 If newly built
66 If typical of the existing stock

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savills

York Aviation

Appendix B

York Aviation LLP
Primary House
Spring Gardens
Macclesfield
Cheshire SK10 2DX
Tel: 01625 614051
Fax: 01625 426159
E-mail: louise.congdon@yorkaviation.co.uk
www.yorkaviation.co.uk

Sally Dixon,
Azimuth Associates,
17 Island Wall,
Whitstable,
Kent CT5 1EP.
19th October 2017

Dear Ms Dixon,

Manston Airport

I am in receipt of your letter of 18th October, to which you requested a response by 20th October. I will deal with the points that you raise.

i. James Brass correctly stated, in October 2016, that, as our work for the FTA was in the public domain, we would have no difficulty with you properly citing it in your work, nor his letter, and that we stood over the conclusions of that work. However, we did not expect that it would be used as a primary consultation document and placed on RSP's website as such, giving the impression that we were working for RSP. This was the reason for the concern that I have expressed.

ii. In relation to the so-called TfL paper on Freight Connectivity, I am unsure what hard copy version was provided to you by TfL but it is quite clear from the Freedom of Information disclosure made by TfL that the note referred to in your proposed DCO application documentation was that prepared by ourselves and to which I refer. The FOI disclosure is at:
https://tfl.gov.uk/corporate/transparency/freedom-of-information/foi-request-detail?referenceId=FOI-0891-1718
You will see that the note is identical to that which you quote and is clearly marked with our logo.

iii. The reports upon which we have expressed concern are indeed Volumes I, II and III as placed on RSP's website. I cannot comment on TfL's views on these reports but at no time did they consult with ourselves in relation to these reports and their reliance on our earlier work.

iv. We have had no communication with Ros McIntyre and cannot comment on any views expressed.

v. In relation to your interpretation of our earlier work, the position remains as set out in my previous letter. This will be set out more fully in our report which you will be able to review in due course.

vi. Whilst our report is not yet finalised, we have, of course, discussed the matters with Pinsent Masons and they reflected our views in their letter to PINS.

vii. Pinsent Masons did not demand that your reports are withdrawn, rather the paragraph quoted states that our report will be part of the evidence to be submitted in the event that RSP's proposal is not withdrawn from the DCO process.

In the light of the formality of the process in which we are engaged, I would suggest that future correspondence should be routed through the correct channels, via PINS as appropriate.

Yours faithfully,

[redacted]

Managing Partner

AZIMUTH
ASSOCIATES

Ms L. Congdon,
York Aviation,
Primary House, Spring Gardens,
Macclesfield, Cheshire SK10 2DX

18th October 2017

Dear Louise,

Manston Airport - Pinsent Masons letter to the Planning Inspectorate

Thank you for your letter dated 17th October. In response to the points you raise I would like to draw your attention to the following:

a) Your statement that the reports written on behalf of RSP did not have your clearance

The York Aviation report I cite is in the public domain and therefore, I believe, does not require your clearance. For clarity, this is:

> York Aviation (2015), *Implications for the Air Freight Sector of Different Airport Capacity Options*. Available from http://content.tfl.gov.uk/air-freight-implications-from-new-capacity.pdf

However, I would remind you that both Tony Freudmann and I spoke to your colleague, James Brass, on the 10th October 2016, specifically to discuss your 2015 report. We subsequently received a letter dated 13th October 2016 confirming that you continued to stand by your report. It was made clear during our discussions that I would be citing your work and you raised no objections at that time. Indeed, Tony Freudmann, in his email to you dated 13th October said, "*Can I ask if you would have a problem with this going into the public domain?*" The reply from James Brass on the same date was, "*No problem from my perspective. It only says what we would say publicly anyway*." I regard that as sufficient clearance, as well as confirmation that it is in the public domain.

In your letter dated 17th October 2017, you make reference to the "earlier" work for Transport for London. **I am unclear as to what this refers and would be grateful for your clarification**. During a heated discussion at a meeting of the Combined Churches of Herne Bay on Monday evening, Ms Ros McIntyre of No Night Flights referred to your involvement in the hard copy report provided to me by Transport for London. Indeed, she was most insistent and I am able to provide the venue's recording of what she alleges. However, there is absolutely no mention of York Aviation contained within the report provided to me by TfL and I was specifically told by them that TfL had produced the report in-house.

For your reference, the TfL report is entitled 'Note on Freight Connectivity' and commences with the sentence:

"This note explains the approach taken to estimating the number of pure freighter air transport movements at the London airports in 2050 under three different scenarios of capacity growth:

- *Maximum use of existing capacity;*
- *2+2+2 - additional runways at each of Gatwick and Stansted;*

Sally Dixon
MBA PhD MRAeS
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07973 523 898
sally@azimuthassociates.co.uk
www.azimuthassociates.co.uk
17 Island Wall Whitstable Kent CT5 1EP

AZIMUTH
ASSOCIATES

- *New 4 runway hub*."

On the 23rd February 2017 I sent a copy of volumes I, II and III of my work to Transport for London and they have made no complaint. **I would be grateful for your clarification that we are discussing the same report.** Ros McIntyre also insisted that **York Aviaton now believe that Stansted has ample capacity for freighters and I would be grateful for your confirmation or rebuttal of her statement** (recording and/or transcript of this is also available at your request).

b) Your claim of selective and incomplete quotations used in my reports

I absolutely refute this allegation **and would ask you to provide specific examples**. My understanding of your 2015 report and your subsequent clarifications is that there will be a substantial shortage of capacity for air freighters in the South East by 2050. This is the point I make, backed up by your report as well as a number of others. I do not use your report for any other purpose. Conclusions about Manston Airport are drawn from my research.

I note from your letter of the 17th October that you are currently working on a report that will form part of Stone Hill Park's evidence to PINS in due course. Since the report is as yet unfinished, **I would be interested to know your position in regard to why Pinsent Masons have drawn the preemptive conclusions detailed in their letter to the Planning Inspectorate dated 11th October 2017**. Indeed, it is surprising that Pinsent Masons have demanded that this evidence is withdrawn from the RSP proposals forthwith without having received the findings from your report or waiting for you to clarify the exact nature of the alleged incorrect citation. For clarity, the Pinsent Masons letter states at 1.8.6 that:

> "*It is worth noting that PSP's aviation consultant, Dr Sally Dixon of Azimuth Associates, has incorrectly cited York Aviation's work in support of its proposals, which York Aviation will be dealing with as part of SHP's evidence to deal with the RSP proposals in the event that they are not withdrawn forthwith*."

I do hope you understand why I am persisting with this matter. A number of agencies have identified that the UK will increasingly suffer economically from a lack of airport capacity in the South East. I believe, based on my research, that the re-opening of Manston Airport could provide much-needed relief, particularly for freighters. Manston Airport is situated in an area of considerable deprivation and the jobs that could result from the airport operation outlined by RSP would do much to address this long-term problem. At a personal level, my reputation is being questioned in a public arena. Your allegations may have serious professional ramifications, which is why I cannot allow them to go unchallenged.

Due to the seriousness of this matter, I would ask that you respond as soon as possible and certainly before Friday 20th October 2017.

Yours sincerely,

Sally Dixon

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York Aviation

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www.yorkaviation.co.uk

Sally Dixon,
Azimuth Associates,
17 Island Wall,
Whitstable,
Kent CT5 1EP.

17th October 2017

Dear Ms Dixon,

Manston Airport

I am in receipt of your letter of 16th October, to which you requested a response within 2 days. I will deal with the points that you raise.

We were alerted by Pinsent Masons in early September this year to the reliance being placed by yourself, on behalf of RSP, on both our report for the Freight Transport Association (FTA) and also earlier work for Transport for London. Although there had been earlier correspondence (October 2016) regarding our 2015 work for FTA, where we confirmed that we considered it to be *"a robust and sensible analysis of the potential future development of the air cargo market in London ……if additional runway capacity is not provided within the London system"*, we were very surprised to find that:

a) the reports were being presented as primary evidence by RSP in its consultation documentation this summer without any clearance by or notification to ourselves; and

b) that there were repeated instances in your reports where the views expressed in our reports had been selectively and incompletely quoted, without proper context, with conclusions drawn from our work which go beyond those that could reasonably be made when the reports are read and understood in totality.

This view is reflected in Pinsent Masons' letter to the Planning Inspectorate.

When James Brass responded to you in 6th October, he made clear that we now had a conflict of interest in relation to Manston but, nonetheless, he provided you with guidance as to the applicability of our 2004 work for ACI EUROPE. In the circumstances of our engagement by Stonehill Park, it would have been inappropriate at that point to raise the specific areas of concern in relation to the use of our past work.

In terms of your accusation that we have supplied a copy of our report to 'Manston Pickle', I can assure you that we have had no communication with that organisation, nor any knowledge of the report to which they refer, unless it is one of those posted on RSP's website.

As noted in the Pinsent Masons' letter to PINS, we are working on a report which will form part of Stonehill Park's evidence to PINS in due course.

Yours faithfully,

[redacted]

Louise Congdon
Managing Partner

AZIMUTH
ASSOCIATES

Ms L. Congdon,
York Aviation,
Primary House,
Spring Gardens,
Macclesfield,
Cheshire SK10 2DX

16th October 2017

Dear Louise,

Manston Airport - Pinsent Masons letter to the Planning Inspectorate

I have recently read the letter from Pinsent Masons on behalf of Stone Hill Park, your client, to the Planning Inspectorate dated 11th October. I am writing to you with reference to paragraph 1.8.6 of their letter, which states that I have incorrectly cited your work.

On the 3rd of October I had occasion to contact your colleague, James Brass, on a different matter. He replied to me on the 6th October but made no mention of my alleged incorrect citation of your work.

More recently it appears that you have provided a copy of your report concerning Manston to a small group of protestors working under the banner of No Night Flights and operating a Facebook page with the name "Manston Pickle". Their posting on the 12th of October says:

> *And did you see the little jibe in the media report in which this appeared (see below) that RSP has misrepresented a report by York Aviation? Who says so? York Aviation says so. Now, we already knew this 'cos a little bird sent the York Aviation report to contacts of ours recently. And, as misrepresentations go, we think it's pretty bare-faced.*

I am disappointed that you did not contact me immediately, out of professional courtesy, when you concluded that there had been an error in my understanding of your work. I can assure you that I had no intention of any such discourtesy and, if you would provide me with the details of the error as you see it, I will make any adjustments that are necessary.

Since the way you have handled this situation is potentially damaging to my career, I am currently taking advice from Counsel on how to proceed. I look forward to hearing from you at your earliest possible convenience and in any event within the next two days.

Yours sincerely,

Sally Dixon

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Tony Freudmann
RiverOak Investment Corp.,
LLC One Atlantic Street,
Suite 703 Stamford,
CT 06901 U.S.A.

13 October 2016

Dear Tony

Freight Demand in the London Area and Manston Airport

Following our conversation the other day regarding the recent report produced by AviaSolutions on the Commercial Viability of Manston Airport, I promised to write to you in relation to our current views on the work undertaken by York Aviation for the Freight Transport Association and Transport for London and entitled *"Implications for the Air Freight Sector of Different Airport Capacity Options"* and published in January 2015. I can confirm that we continue to stand by the content of this report and believe it to be a robust and sensible analysis of the potential future development of the air cargo market in London. This includes our analysis of the growth in the demand for air freight moving forward and the potential constraints facing the market if additional runway capacity is not provided within the London system.

Best regards

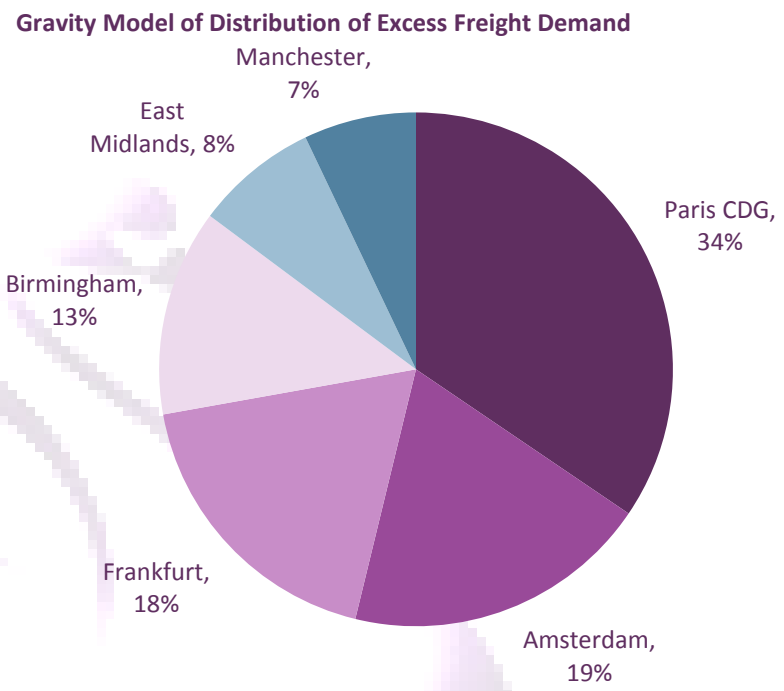
[redacted]

James Brass
Partner

Gravity Model of Distribution of Excess Demand

Appendix C

- In considering how excess air freight demand from the London system might be served by trucking to other airports in the UK and on the continent, we have developed a basic gravity model to estimate the distribution.
- The model includes three UK airports: the national freight hub at East Midlands and the two primary regional long haul passenger gateways at Manchester and Birmingham. It also includes the three main European hub airports, which all have a significant freight presence now and are likely to grow both bellyhold and freighter capacity in to the future.
- The attraction factor within this model is forecast workload units (a workload unit is one passenger or 100kg of freight) at each airport in 2050 based on the Airports Commission traffic forecasts in its Interim Report. Passenger numbers have been adjusted to reflect the proportion of long haul passengers. Freight is assumed to grow from current levels through to 2050 in line with passenger numbers.
- The distance decay factor within the model is the road haulage cost of transporting a truck load of freight to the relevant airport from London. Freight rates have been derived from data provided by the Freight Transport Association. Distances have been derived from the fastest road route to the destination airport from Google Maps.
- This demonstrates that we would anticipate that a significant proportion of the excess demand will be trucked overseas to the major continental hub airports to take advantage of their extensive long haul networks.
- UK regional airports, despite being substantially closer to London in most cases, cannot match the level of attractiveness offered by the continental hubs and their wider global networks. Consequently, other UK airports are only expected to handle around 28% of any excess demand.



Appendix D

OAG ANALYSER
VERSION: 2.0.1. Data load date: 24 Feb 2019

SEARCH ATTRIBUTES/PARAMETERS:
Report Type: Schedules Power Table
Dimensions: [Carrier Name, Dep Airport Name, Arr Airport Name, Local Dep Time, Local Arr Time, Local Days Of
Metrics: [Frequency, FreightTons (Total)]
Type of Operation: Published carrier, Operating Flights
Carrier Category: All
Include alliance affiliates: false
To/From: Airport(s) Included[FRA]
Flight Type: All
Service type: A,F,M,Q
Include Surface: false
Non-stop: true
Equipment Group: A,H,J,JN,JW,P,RJ,T,
Period: Month 01Feb2019 to 29Feb2020
TimeSeries: true

MONTHLY DATED AT 2 2019
REPORT DATED AT: Feb 28-2019. TIME: 11:07 (GMT)

Carrier Na	Dep Airpor	Arr Airport	Local Dep	Local Arr T	Local Days	Frequency	FreightTon	Time series
Air China	Frankfurt I	Tianjin	1930	0650	4 6	8	800.0	201912
Air China	Zhengzhou	Frankfurt I	1030	1505	5	5	500.0	201903
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	4	560.0	201903
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	4	560.0	201904
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	4	560.0	201907
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	4	560.0	201910
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5	5	700.0	201903
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5	4	560.0	201909
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	5	700.0	201903
AirBridgeC	Frankfurt I	Milan Mal	1440	1620	1	4	440.0	201910
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	5	4	440.0	201912
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	2	4	560.0	202001
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6	5	700.0	201906
AirBridgeC	Frankfurt I	Moscow Sl	1230	1750	4	5	700.0	201910
AirBridgeC	Frankfurt I	Moscow Sl	1650	2210	6	4	440.0	201904
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	5	4	440.0	201906
AirBridgeC	Frankfurt I	Moscow Sl	1910	0030	3	4	560.0	201908
AirBridgeC	Frankfurt I	Moscow Sl	2050	0210	5	4	560.0	201912
AirBridgeC	Frankfurt I	Moscow Sl	2050	0210	5	4	560.0	202002
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2	4	560.0	201908
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	4	560.0	201902
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	4	560.0	201909
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5	4	560.0	201904
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3	4	560.0	201902

AirBridgeC	Moscow D	Frankfurt I	1135	1305	3	5	700.0	202001
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6	5	700.0	201906
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1	4	440.0	202001
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1	5	550.0	201907
AirBridgeC	Moscow Sh	Frankfurt I	0630	0805	1	1	110.0	201902
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4	5	700.0	202001
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5	4	440.0	201912
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6	4	440.0	201907
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3 5	9	900.0	201903
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3 5	9	900.0	201910
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7	4	400.0	201911
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	8	800.0	201912
British Airv	Frankfurt I	London He	2020	2100	6	4	215.6	201910
British Airv	Frankfurt I	Madrid Ad	1725	2005	3	5	269.5	202001
British Airv	Frankfurt I	Nottinghar	2000	2035	7	4	215.6	202002
British Airv	London He	Frankfurt I	1700	1925	6	4	215.6	201905
British Airv	London Lu	Frankfurt I	1040	1315	34	9	485.1	201907
British Airv	London Lu	Frankfurt I	1040	1315	34	10	539.0	201910
British Airv	London Lu	Frankfurt I	1440	1720	7	4	215.6	202001
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	9	405.0	201903
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	8	360.0	201906
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	8	360.0	201912
British Airv	Madrid Ad	Frankfurt I	1715	1945	3	5	269.5	201910
Cargologic	Chicago O'	Frankfurt I	1400	0535	5	4	440.0	201902
Cargologic	Chicago O'	Frankfurt I	1400	0535	5	4	440.0	202002
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3	5	550.0	201907
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3	5	550.0	201910
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5	4	440.0	201902
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1	4	440.0	201910
Cargologic	Houston G	Frankfurt I	1245	0515	7	4	440.0	202002
Cargologic	Houston G	Frankfurt I	1245	0515	4	4	440.0	201907
Air China	Frankfurt I	Tianjin	1930	0650	4 6	8	800.0	201904
Air China	Frankfurt I	Tianjin	1930	0650	4 6	8	800.0	201907
Air China	Zhengzhou	Frankfurt I	1030	1505	5	5	500.0	201911
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	5	700.0	202002
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	4	560.0	201902
AirBridgeC	Frankfurt I	London Sta	1925	1905	6	4	560.0	201902
AirBridgeC	Frankfurt I	London Sta	1925	1905	6	5	700.0	201908
AirBridgeC	Frankfurt I	Milan Mal	1440	1620	1	4	440.0	201902
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	5	4	440.0	201907
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	2	4	560.0	201903
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6	4	560.0	202001
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5	5	550.0	201905
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3	4	560.0	201906
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	5	700.0	201904
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	4	560.0	201904
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2	5	700.0	201904

AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5	5	700.0	201903
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5	4	560.0	201904
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6	5	700.0	201911
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1	5	550.0	201909
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1	4	440.0	201905
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1	4	440.0	201908
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6	4	440.0	201912
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Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4 7	14	1,400.0	201910
British Airv	Frankfurt I	London He	2020	2100	6	4	215.6	201909
British Airv	Frankfurt I	London He	2020	2100	6	4	215.6	201912
British Airv	Frankfurt I	London Lu	0750	0820	34	10	539.0	201910
British Airv	Frankfurt I	Nottinghar	2000	2035	7	4	215.6	201908
British Airv	London He	Frankfurt I	1700	1925	6	4	215.6	201907
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Cargologic	Frankfurt I	London Sta	1535	1610	6	5	550.0	201903
Cathay Pac	Amsterdar	Frankfurt I	1205	1315	5	5	700.0	201908
Cathay Pac	Delhi	Frankfurt I	0215	0640	4	1	140.0	201902
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5	5	700.0	201911
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	5	540.0	202002
Cathay Pac	Frankfurt I	Milan Malp	0920	1035	1	4	432.0	201908
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Cathay Pac	Frankfurt I	Mumbai	1540	0420	5	5	540.0	201903
China Sout	Frankfurt I	Guangzhou	1440	0815	7	5	500.0	201912
China Sout	Frankfurt I	Guangzhou	1500	0815	1	4	400.0	201906
China Sout	Frankfurt I	Guangzhou	1520	0740	5	5	500.0	201908
China Sout	Frankfurt I	Guangzhou	1520	0740	5	5	500.0	201911
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AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	4	560.0	202002
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	4	560.0	201904
AirBridgeC	Frankfurt I	London Sta	1925	1905	6	5	700.0	201911
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2	5	700.0	201904
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5	4	440.0	201910

AirBridgeC	Frankfurt I	Moscow Sl	1910	0030	3	5	700.0	201907
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British Airv	Madrid Ad	Frankfurt I	1715	1945	3	5	269.5	202001
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5	5	550.0	201908
Cargologic	Frankfurt I	Chicago O'	0815	1100	5	4	440.0	201906
Cargologic	Frankfurt I	Chicago O'	0815	1100	1	4	440.0	201906
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6	5	550.0	201911
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5	4	440.0	201906
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Cargologic	Houston G	Frankfurt I	1245	0515	4	4	440.0	201906
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Cathay Pac	Amsterdar	Frankfurt I	1205	1315	5	4	560.0	201907
Cathay Pac	Delhi	Frankfurt I	0215	0640	4	4	560.0	201909
Cathay Pac	Delhi	Frankfurt I	0230	0740	1	5	540.0	201907
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5	4	560.0	201912
Cathay Pac	Frankfurt I	Dubai Al M	1630	0140	6	4	528.0	201903
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4	5	700.0	202001
China Sout	Frankfurt I	Guangzhou	1355	0815	2 4 6	12	1,200.0	201902
China Sout	London Sta	Frankfurt I	0835	1035	2	4	400.0	202002
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201907
Emirates	Dubai Al M	Frankfurt I	0140	0530	7	4	412.0	201902
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Emirates	Frankfurt I	Dubai Al M	0930	1735	7	4	412.0	201907
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	4	412.0	201902

Emirates	Frankfurt I	Dubai Al M	1940	0445	4	4	412.0	201911
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Emirates	Maastricht	Frankfurt I	1040	1155	6	4	412.0	201912
Air China	Zhengzhou	Frankfurt I	1215	1650	3	4	400.0	201904
Air China	Zhengzhou	Frankfurt I	1215	1650	3	5	500.0	202001
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1	4	560.0	201906
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1	5	700.0	201909
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1	5	700.0	201912
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6	4	560.0	201903
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1	5	550.0	201907
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3	5	700.0	201905
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2	4	560.0	201911
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	4	560.0	201905
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	4	560.0	202002
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	4	560.0	201909
AirBridgeC	Houston G	Frankfurt I	1610	0800	7	5	700.0	201906
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	4	560.0	201912
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2	4	560.0	201909
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1	4	560.0	201911
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AirBridgeC	Moscow D	Frankfurt I	1610	1740	6	4	560.0	201903
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5	4	440.0	201906
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6	4	440.0	201904
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5	4	440.0	201904
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5	4	440.0	201907
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2 4 7	14	1,400.0	201910
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4 7	14	1,400.0	201912
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7	4	400.0	201904
British Airv	Frankfurt I	London He	2020	2100	6	4	215.6	201904
British Airv	Frankfurt I	London Lu	0750	0820	34	8	431.2	201911
British Airv	Frankfurt I	Madrid Ad	1725	2005	3	4	215.6	201908
British Airv	Frankfurt I	Nottinghar	2000	2035	7	5	269.5	201903
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5	5	550.0	202001
Cargologic	Chicago O'	Frankfurt I	1400	0535	5	4	440.0	201912
Cargologic	Chicago O'	Frankfurt I	1400	0535	1	4	440.0	201903
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2	4	440.0	201908
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6	4	440.0	201907
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3	4	440.0	201911
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3	5	550.0	202001
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1	5	550.0	201907
Cargologic	Frankfurt I	London Sta	1535	1610	6	4	440.0	201905
Cargologic	Frankfurt I	London Sta	1535	1610	6	5	550.0	201911
Cargologic	Frankfurt I	London Sta	1535	1610	6	4	440.0	202001
Cathay Pac	Delhi	Frankfurt I	0215	0640	4	4	560.0	201907
Cathay Pac	Delhi	Frankfurt I	0215	0645	4	3	324.0	201903
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	1	108.0	201903
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	5	540.0	201912

Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5	5	700.0	201911
Cathay Pac	Frankfurt I	Amsterdar	1845	2005	6	4	432.0	201909
Cathay Pac	Frankfurt I	Dubai Al M	1745	0205	5	4	560.0	201904
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1	4	432.0	201903
Cathay Pac	Frankfurt I	Paris Charl	1145	1305	4	4	432.0	201904
Cathay Pac	Mumbai	Frankfurt I	1130	1645	6	4	432.0	201910
China Sout	Frankfurt I	Guangzhou	1355	0815	2 4 6	12	1,200.0	201903
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	14	1,400.0	201903
China Sout	Guangzhou	Frankfurt I	0100	0600	7	4	400.0	202001
China Sout	London Sta	Frankfurt I	0835	1055	4 6	8	800.0	201904
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201903
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	201910
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	4	560.0	201905
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	4	560.0	202002
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	5	700.0	201908
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	5	700.0	201904
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5	4	560.0	201912
AirBridgeC	Frankfurt I	London Sta	1925	1905	6	4	560.0	201912
AirBridgeC	Frankfurt I	Milan Malp	1440	1620	1	4	440.0	202002
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2	5	700.0	201912
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2	4	560.0	202002
AirBridgeC	Frankfurt I	Moscow Sh	1230	1750	4	4	560.0	201903
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6	5	550.0	201908
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1	4	440.0	201911
AirBridgeC	Frankfurt I	Moscow Sh	1935	0055	7	3	390.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	2050	0210	5	4	560.0	201903
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2	2	280.0	201902
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	4	560.0	201903
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	4	560.0	201906
AirBridgeC	Houston G	Frankfurt I	1610	0800	7	4	560.0	201905
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	5	700.0	201910
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5	4	560.0	201910
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3	4	560.0	201912
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6	4	440.0	202001
British Airv	Frankfurt I	London He	2020	2100	6	5	269.5	201906
British Airv	Frankfurt I	London Lu	0750	0820	34	8	431.2	201906
British Airv	Frankfurt I	Madrid Ad	1725	2005	3	4	215.6	201906
British Airv	Frankfurt I	Madrid Ad	1725	2005	3	4	215.6	201909
British Airv	Frankfurt I	Nottinghar	2000	2035	7	4	215.6	201907
British Airv	London He	Frankfurt I	1700	1925	6	4	215.6	202001
British Airv	London Lu	Frankfurt I	1040	1315	34	8	431.2	201906
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5	4	440.0	201904
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2	4	440.0	202002
Cargologic	Frankfurt I	Chicago O'	0815	1100	5	5	550.0	201908
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6	4	440.0	201912
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3	4	440.0	201912
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1	4	440.0	201906

Cargologic	Houston G	Frankfurt I	1245	0515	7	4	440.0	201911
Cargologic	Houston G	Frankfurt I	1245	0515	7	4	440.0	202001
Cargologic	London Sta	Frankfurt I	1250	1525	3	4	440.0	201906
Cargologic	London Sta	Frankfurt I	1250	1525	3	4	440.0	201909
Cargologic	London Sta	Frankfurt I	1250	1525	3	4	440.0	202002
Cathay Pac	Delhi	Frankfurt I	0215	0640	4	5	700.0	202001
Cathay Pac	Delhi	Frankfurt I	0230	0740	1	4	432.0	201906
Cathay Pac	Delhi	Frankfurt I	0230	0740	1	5	540.0	201909
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	4	432.0	201905
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5	4	560.0	201910
Cathay Pac	Frankfurt I	Amsterdar	1845	2005	6	5	540.0	201906
Cathay Pac	Frankfurt I	Dubai Al M	1920	0430	6	1	140.0	201902
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	5	540.0	201903
Cathay Pac	Frankfurt I	Milan Malp	0920	1035	1	5	540.0	201909
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1	5	540.0	201909
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1	5	540.0	201912
Cathay Pac	Mumbai	Frankfurt I	0935	1420	6	5	540.0	201903
China Sout	Frankfurt I	Guangzhou	1520	0740	5	4	400.0	201909
China Sout	Guangzhou	Frankfurt I	0555	1220	1	5	500.0	201904
China Sout	Guangzhou	Frankfurt I	0555	1220	1	5	500.0	201907
China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	201910
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	5	700.0	201904
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	5	700.0	201906
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2	5	700.0	201907
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6	4	560.0	201912
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6	5	700.0	202002
AirBridgeC	Frankfurt I	Moscow Sh	1230	1750	4	5	700.0	202001
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3	4	560.0	201904
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2	5	700.0	201904
AirBridgeC	Houston G	Frankfurt I	1610	0800	7	4	560.0	201910
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	5	700.0	201905
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	4	560.0	201911
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	5	700.0	202001
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2	4	560.0	201908
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5	5	700.0	201905
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5	5	700.0	201911
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6	5	700.0	202002
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1	5	550.0	201904
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1	4	440.0	202001
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4	4	560.0	201904
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4	4	560.0	201907
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4 7	13	1,300.0	201908
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7	4	400.0	201905
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	9	900.0	201911
British Airv	Frankfurt I	Madrid Ad	1725	2005	3	5	269.5	201907
British Airv	London He	Frankfurt I	1700	1925	6	5	269.5	201903
British Airv	London He	Frankfurt I	1700	1925	6	4	215.6	201909

British Airv	London Lu	Frankfurt I	1040	1315	34	10	539.0	202001
British Airv	London Lu	Frankfurt I	1440	1720	7	4	215.6	202002
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	10	450.0	201905
British Airv	Madrid Ad	Frankfurt I	1715	1945	3	4	215.6	201911
Cargologic	Chicago O'	Frankfurt I	1400	0535	5	5	550.0	201903
Cargologic	Chicago O'	Frankfurt I	1400	0535	1	4	440.0	201906
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5	5	550.0	201911
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2	5	550.0	201904
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2	5	550.0	201907
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2	5	550.0	201910
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3	4	440.0	201906
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3	5	550.0	201910
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1	4	440.0	201911
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1	4	440.0	202001
Cargologic	Frankfurt I	London Sta	1535	1610	6	4	440.0	201904
Cargologic	London Sta	Frankfurt I	1250	1525	3	4	440.0	201911
Cargologic	London Sta	Frankfurt I	1250	1525	3	5	550.0	202001
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5	4	560.0	201902
Cathay Pac	Frankfurt I	Amsterdar	1145	1305	4	4	432.0	201910
Cathay Pac	Frankfurt I	Dubai Al M	1620	0130	6	1	140.0	201903
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	5	540.0	201908
Cathay Pac	Frankfurt I	Milan Malp	0920	1035	1	4	432.0	201904
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4	3	420.0	201902
Cathay Pac	Mumbai	Frankfurt I	1130	1645	6	5	540.0	201906
Cathay Pac	Mumbai	Frankfurt I	1240	1725	6	5	540.0	202002
China Sout	Frankfurt I	Guangzhou	1440	0815	7	4	400.0	201905
China Sout	Frankfurt I	Guangzhou	1440	0815	7	4	400.0	201911
China Sout	Frankfurt I	Guangzhou	1520	0740	5	4	400.0	201904
China Sout	Guangzhou	Frankfurt I	0100	0600	7	4	400.0	201905
China Sout	Guangzhou	Frankfurt I	0100	0600	7	5	500.0	201912
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1	4	560.0	201910
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5	4	560.0	201907
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	4	560.0	201907
AirBridgeC	Frankfurt I	Milan Malp	1440	1620	1	5	550.0	201904
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3	5	700.0	202001
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6	4	560.0	201905
AirBridgeC	Frankfurt I	Moscow Sh	1230	1750	4	4	560.0	201904
AirBridgeC	Frankfurt I	Moscow Sh	1230	1750	4	4	560.0	201911
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6	5	550.0	201903
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5	4	440.0	201904
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1	4	440.0	201903
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1	5	550.0	201909
AirBridgeC	Frankfurt I	Moscow Sh	2050	0210	5	5	700.0	201908
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2	5	700.0	201907
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	4	560.0	201906
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	4	560.0	201905
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	4	560.0	202001

AirBridgeC	Houston G	Frankfurt I	1610	0800	7	4	560.0	201907
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2	4	560.0	201911
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2	4	560.0	201905
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1	5	700.0	201907
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1	4	560.0	201910
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1	5	550.0	201904
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4	5	700.0	201910
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5	5	550.0	201911
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5	5	550.0	202001
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2 4 7	13	1,300.0	201906
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2 4 7	12	1,200.0	202002
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4 7	13	1,300.0	202001
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	10	1,000.0	201905
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	9	900.0	201908
British Airv	Frankfurt I	London He	2020	2100	6	5	269.5	201911
British Airv	Frankfurt I	London Lu	0750	0820	34	9	485.1	201907
British Airv	Frankfurt I	Nottinghar	2000	2035	7	4	215.6	201905
British Airv	London Lu	Frankfurt I	1440	1720	7	5	269.5	201906
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	8	360.0	201902
British Airv	Madrid Ad	Frankfurt I	1715	1945	3	4	215.6	201908
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5	4	440.0	201902
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5	4	440.0	201909
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5	4	440.0	201912
Cargologic	Chicago O'	Frankfurt I	1400	0535	1	5	550.0	201912
Cargologic	Frankfurt I	Chicago O'	0815	1100	1	4	440.0	202002
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1	4	440.0	201908
Cargologic	Houston G	Frankfurt I	1245	0515	7	5	550.0	201903
Cargologic	Houston G	Frankfurt I	1245	0515	4	4	440.0	202002
Cathay Pac	Delhi	Frankfurt I	0230	0740	1	3	324.0	201904
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5	5	700.0	201905
Cathay Pac	Frankfurt I	Amsterdar	1145	1305	4	4	432.0	201907
Cathay Pac	Frankfurt I	Amsterdar	1145	1320	4	1	108.0	201906
Cathay Pac	Frankfurt I	Amsterdar	1845	2005	6	5	540.0	201908
Cathay Pac	Frankfurt I	Dubai Al M	1745	0205	5	5	700.0	201908
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	5	540.0	201911
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	4	432.0	202001
Cathay Pac	Frankfurt I	Milan Mal	1230	1355	1	5	540.0	201904
China Carg	Frankfurt I	Shanghai P	1710	1120	1 4	8	800.0	201903
Air China	Zhengzhou	Frankfurt I	1030	1505	5	4	400.0	201904
Air China	Zhengzhou	Frankfurt I	1215	1650	3	4	400.0	201906
Air China	Zhengzhou	Frankfurt I	1215	1650	3	4	400.0	201909
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	4	560.0	201908
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	4	560.0	201902
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	4	560.0	201908
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5	4	560.0	201904
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	5	700.0	202001
AirBridgeC	Frankfurt I	London Sta	1925	1905	6	4	560.0	201905

AirBridgeC	Frankfurt I	Milan Mal	1440	1620	1		4	440.0	201908
AirBridgeC	Frankfurt I	Milan Mal	1505	1645	3		5	700.0	201907
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6		5	700.0	201911
AirBridgeC	Frankfurt I	Moscow Sl	1230	1750	4		5	700.0	201905
AirBridgeC	Frankfurt I	Moscow Sl	1650	2210	6		4	440.0	201909
AirBridgeC	Frankfurt I	Moscow Sl	1650	2210	6		5	550.0	202002
AirBridgeC	Frankfurt I	Moscow Sl	2050	0210	5		4	560.0	201910
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2		4	560.0	201903
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2		4	560.0	201909
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		5	700.0	201907
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5		4	560.0	201906
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5		4	560.0	202002
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		4	560.0	201906
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		5	700.0	201909
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		5	700.0	201912
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		4	560.0	202002
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3		5	700.0	201910
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6		4	560.0	202001
AirBridgeC	Moscow Sl	Frankfurt I	0825	1000	4		4	560.0	201903
AirBridgeC	Moscow Sl	Frankfurt I	0825	1000	4		4	560.0	201906
AirBridgeC	Moscow Sl	Frankfurt I	1120	1255	5		4	440.0	201904
AirBridgeC	Moscow Sl	Frankfurt I	1220	1355	6		4	440.0	201905
AirBridgeC	Moscow Sl	Frankfurt I	1255	1430	5		4	560.0	201902
AirBridgeC	Moscow Sl	Frankfurt I	1255	1430	5		4	440.0	201912
Asiana Airl	London Sta	Frankfurt I	1610	1830	2	4 7	13	1,300.0	201904
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3	5	8	800.0	201904
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3	5	9	900.0	201907
British Airv	Frankfurt I	London He	2020	2100	6		5	269.5	202002
British Airv	Frankfurt I	Nottinghar	2000	2035	7		4	215.6	201911
British Airv	London He	Frankfurt I	1700	1925	6		4	215.6	201910
British Airv	Madrid Ad	Frankfurt I	1715	1945	3		4	215.6	201912
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		5	550.0	201903
Cargologic	Chicago O'	Frankfurt I	1400	0535	5		4	440.0	201904
Cargologic	Chicago O'	Frankfurt I	1400	0535	5		4	440.0	201907
Cargologic	Chicago O'	Frankfurt I	1400	0535	1		4	440.0	201908
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		5	550.0	201905
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		4	440.0	201912
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2		4	440.0	201903
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2		4	440.0	201906
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		4	440.0	201908
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		4	440.0	201905
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5		4	440.0	201907
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1		4	440.0	201902
Cathay Pac	Delhi	Frankfurt I	0230	0740	1		4	432.0	201905
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7		4	432.0	201911
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5		4	560.0	201909
Cathay Pac	Frankfurt I	Dubai Al M	1745	0205	5		4	560.0	201909

Air China	Zhengzhou	Frankfurt I	1030	1505	5		5	500.0	202001
Air China	Zhengzhou	Frankfurt I	1215	1650	3		4	400.0	201903
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6		4	560.0	201912
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1		5	700.0	201907
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1		4	560.0	201905
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1		4	560.0	202001
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5		5	700.0	201911
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5		5	700.0	202001
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6		5	700.0	201908
AirBridgeC	Frankfurt I	Moscow Sh	1230	1750	4		4	560.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6		4	440.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5		5	550.0	202001
AirBridgeC	Frankfurt I	Moscow Sh	2050	0210	5		4	560.0	201907
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2		4	560.0	201906
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2		5	700.0	201904
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2		5	700.0	201907
AirBridgeC	Houston G	Frankfurt I	1610	0800	7		4	560.0	201911
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		4	560.0	201909
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		4	560.0	202002
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		4	560.0	201906
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6		5	700.0	201908
AirBridgeC	Moscow Sh	Frankfurt I	0400	0520	5		1	110.0	201902
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1		4	440.0	201903
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1		4	440.0	201906
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5		4	440.0	202002
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3	5	10	1,000.0	201905
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7		5	500.0	201909
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7		5	500.0	201912
British Airv	Frankfurt I	London He	2020	2100	6		4	215.6	201902
British Airv	Frankfurt I	London Lu	0750	0820	34		8	431.2	201903
British Airv	London Lu	Frankfurt I	1440	1720	7		5	269.5	201903
British Airv	London Lu	Frankfurt I	1440	1720	7		4	215.6	201910
British Airv	Madrid Ad	Frankfurt I	1620	1855	45		9	405.0	201911
British Airv	Madrid Ad	Frankfurt I	1715	1945	3		4	215.6	202002
Cargologic	Frankfurt I	Chicago O'	0815	1100	5		4	440.0	201904
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1		5	550.0	201912
Cargologic	London Sta	Frankfurt I	1250	1525	3		5	550.0	201910
Cathay Pac	Amsterdan	Frankfurt I	1200	1310	5		5	540.0	201903
Cathay Pac	Delhi	Frankfurt I	0215	0640	4		4	560.0	201912
Cathay Pac	Delhi	Frankfurt I	0230	0740	1		4	432.0	201908
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5		5	700.0	202001
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6		4	432.0	201905
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6		4	432.0	201912
Cathay Pac	Frankfurt I	Milan Malp	0920	1035	1		4	432.0	201905
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1		4	432.0	201908
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1		4	432.0	201911
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4		4	560.0	201906

Cathay Pac	Mumbai	Frankfurt I	0935	1420	6		2	216.0	201902
Cathay Pac	Mumbai	Frankfurt I	1130	1645	6		4	432.0	201905
China Sout	Frankfurt I	Guangzhou	0900	0245	7		5	500.0	201909
China Sout	Frankfurt I	Guangzhou	0900	0245	7		5	500.0	201912
China Sout	Frankfurt I	Guangzhou	1440	0815	7		5	500.0	201909
China Sout	Frankfurt I	Guangzhou	1520	0740	5		5	500.0	201905
China Sout	Frankfurt I	Guangzhou	1520	0740	5		5	500.0	202001
China Sout	Guangzhou	Frankfurt I	0555	1240	5		5	500.0	201908
China Sout	Guangzhou	Frankfurt I	0555	1240	5		5	500.0	201911
Air China	Zhengzhou	Frankfurt I	1030	1505	5		4	400.0	201907
Air China	Zhengzhou	Frankfurt I	1215	1650	3		5	500.0	201905
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2		5	700.0	201912
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1		4	560.0	201905
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1		4	560.0	201911
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5		4	560.0	201902
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5		4	560.0	202002
AirBridgeC	Frankfurt I	Krasnoyars	1920	0910	7		4	440.0	201902
AirBridgeC	Frankfurt I	Milan Malp	1440	1620	1		5	550.0	201912
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5		4	440.0	202002
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3		4	560.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3		4	560.0	201909
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3		4	560.0	201912
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2		4	560.0	201905
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2		4	560.0	201908
AirBridgeC	Houston G	Frankfurt I	1610	0800	7		4	560.0	201908
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5		5	700.0	201903
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6		4	560.0	201910
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1		4	440.0	201903
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1		5	550.0	201909
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4		4	560.0	201909
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6		5	550.0	201911
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5		5	550.0	201903
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5		4	440.0	201906
AirBridgeC	Moscow Sh	Frankfurt I	1530	1705	7		4	560.0	201903
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3 5		8	800.0	201906
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3 5		8	800.0	201912
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2 4	7	13	1,300.0	201904
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4	7	13	1,300.0	201903
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7		4	400.0	201907
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7		4	400.0	201910
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5		8	800.0	201906
British Airv	Frankfurt I	London Lu	0750	0820	34		8	431.2	201909
British Airv	Frankfurt I	London Lu	0750	0820	34		8	431.2	201912
British Airv	London Lu	Frankfurt I	1040	1315	34		8	431.2	201903
British Airv	Madrid Ad	Frankfurt I	1620	1855	45		9	405.0	201910
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		4	440.0	201907
Cargologic	Chicago O'	Frankfurt I	1400	0535	1		5	550.0	201904

Cargologic	Chicago O'	Frankfurt I	1400	0535	1		5	550.0	201907
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2		4	440.0	201909
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		4	440.0	201911
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		5	550.0	202001
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		5	550.0	201904
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3		5	550.0	201905
Cargologic	Frankfurt I	London Sta	1535	1610	6		4	440.0	201909
Cargologic	London Sta	Frankfurt I	1250	1525	3		4	440.0	201903
Cargologic	London Sta	Frankfurt I	1250	1525	3		4	440.0	201912
Cathay Pac	Amsterdan	Frankfurt I	1205	1315	5		5	700.0	201905
Cathay Pac	Frankfurt I	Amsterdan	0900	1025	5		4	560.0	201907
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6		4	432.0	201909
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1		4	432.0	202002
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4		4	560.0	201903
Cathay Pac	Mumbai	Frankfurt I	1240	1725	6		4	432.0	202001
China Sout	Frankfurt I	Guangzhou	0900	0245	7		4	400.0	201905
China Sout	Frankfurt I	Guangzhou	1520	0740	5		4	400.0	201912
China Sout	Frankfurt I	Guangzhou	1520	0740	5		4	400.0	202002
Air China	Frankfurt I	Tianjin	1930	0650	4	6	9	900.0	201903
Air China	Zhengzhou	Frankfurt I	1215	1650	3		4	400.0	201902
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6		4	560.0	201905
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1		4	560.0	201902
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1		4	560.0	202001
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1		5	700.0	201907
AirBridgeC	Frankfurt I	London Sta	1925	1905	6		5	700.0	202002
AirBridgeC	Frankfurt I	Milan Malp	1440	1620	1		4	440.0	201906
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5		5	550.0	202001
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6		4	560.0	201910
AirBridgeC	Frankfurt I	Moscow Sh	1230	1750	4		4	560.0	202002
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6		5	550.0	201911
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5		4	440.0	201909
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1		5	550.0	201904
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5		4	560.0	201907
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		5	700.0	201910
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3		4	560.0	201906
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3		4	560.0	201909
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3		4	560.0	202002
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6		4	560.0	201904
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1		5	550.0	201912
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1		4	440.0	202002
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5		4	440.0	201907
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6		5	550.0	201908
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2	4 7	12	1,200.0	201911
Asiana Airl	London Sta	Frankfurt I	1610	1830	2	4 7	13	1,300.0	201906
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3	5	9	900.0	201903
British Airv	Frankfurt I	London Lu	0750	0820	34		8	431.2	202002
British Airv	Frankfurt I	Nottinghar	2000	2035	7		4	215.6	201910

British Airv	London He	Frankfurt I	1700	1925	6	5	269.5	201911
British Airv	London Lu	Frankfurt I	1040	1315	34	8	431.2	201909
British Airv	London Lu	Frankfurt I	1440	1720	7	4	215.6	201907
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	8	360.0	201907
British Airv	Madrid Ad	Frankfurt I	1715	1945	3	4	215.6	201909
Cargologic	Chicago O'	Frankfurt I	1400	0535	5	5	550.0	202001
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5	4	440.0	201909
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2	5	550.0	201912
Cargologic	Frankfurt I	Chicago O'	0815	1100	5	5	550.0	201911
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6	5	550.0	201906
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5	5	550.0	201905
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3	4	440.0	202002
Cargologic	Frankfurt I	London Sta	1535	1610	6	4	440.0	201912
Cargologic	Houston G	Frankfurt I	1245	0515	4	4	440.0	201911
Cargologic	Houston G	Frankfurt I	1245	0515	4	5	550.0	202001
Cathay Pac	Delhi	Frankfurt I	0215	0640	4	4	560.0	201911
Cathay Pac	Delhi	Frankfurt I	0535	1005	1	4	432.0	201902
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5	4	560.0	201907
Cathay Pac	Dubai Al M	Frankfurt I	0300	0705	7	4	496.0	201902
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	4	432.0	201908
Cathay Pac	Frankfurt I	Dubai Al M	1745	0205	5	4	560.0	201906
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	5	540.0	201906
Cathay Pac	Frankfurt I	Milan Mal	0905	1025	7	4	528.0	201903
Cathay Pac	Frankfurt I	Milan Mal	0920	1035	1	4	432.0	201906
Cathay Pac	Frankfurt I	Milan Mal	1230	1355	1	4	432.0	201906
Cathay Pac	Frankfurt I	Mumbai	1540	0420	5	4	432.0	201902
Cathay Pac	Mumbai	Frankfurt I	1240	1725	6	5	540.0	201911
Air China	Zhengzhou	Frankfurt I	1215	1650	3	4	400.0	201912
Air China	Zhengzhou	Frankfurt I	1215	1650	3	4	400.0	202002
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	4	560.0	201909
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5	5	700.0	201908
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	5	700.0	201908
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	5	4	440.0	201904
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	2	5	700.0	201910
AirBridgeC	Frankfurt I	Milan Mal	1505	1645	3	4	560.0	201904
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	1	4	440.0	201902
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	1	4	440.0	201908
AirBridgeC	Frankfurt I	Moscow Sl	2050	0210	5	4	560.0	201904
AirBridgeC	Houston G	Frankfurt I	1610	0800	7	4	560.0	201904
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2	5	700.0	201910
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5	4	560.0	201912
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2	5	700.0	201912
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5	4	560.0	201907
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5	4	560.0	201910
AirBridgeC	Moscow Sl	Frankfurt I	1220	1355	6	5	550.0	202002
AirBridgeC	Moscow Sl	Frankfurt I	1530	1705	7	3	390.0	201902
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3 5	9	900.0	201908

Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3	5	9	900.0	201911
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7		5	500.0	201906
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7		4	400.0	202002
British Airv	Frankfurt I	Madrid Ad	1725	2005	3		4	215.6	201903
British Airv	Frankfurt I	Madrid Ad	1725	2005	3		5	269.5	201910
British Airv	Frankfurt I	Nottinghar	2000	2035	7		4	215.6	202001
British Airv	London He	Frankfurt I	1700	1925	6		4	215.6	201904
British Airv	London Lu	Frankfurt I	1040	1315	34		10	539.0	201905
British Airv	London Lu	Frankfurt I	1040	1315	34		8	431.2	201912
British Airv	Madrid Ad	Frankfurt I	1620	1855	45		8	360.0	201904
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		4	440.0	201910
Cargologic	Chicago O'	Frankfurt I	1400	0535	1		4	440.0	201902
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		4	440.0	201902
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		4	440.0	201902
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		5	550.0	201905
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		4	440.0	201902
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		4	440.0	201902
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1		4	440.0	201905
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1		4	440.0	202002
Cargologic	Frankfurt I	London Sta	1535	1610	6		4	440.0	201910
Cargologic	Houston G	Frankfurt I	1245	0515	7		4	440.0	201904
Cargologic	Houston G	Frankfurt I	1245	0515	7		4	440.0	201907
Cargologic	Houston G	Frankfurt I	1245	0515	4		4	440.0	201902
Cargologic	Houston G	Frankfurt I	1245	0515	4		5	550.0	201905
Cargologic	London Sta	Frankfurt I	1250	1525	3		5	550.0	201907
Cathay Pac	Delhi	Frankfurt I	0215	0640	4		5	700.0	201905
Cathay Pac	Delhi	Frankfurt I	0215	0640	4		4	560.0	202002
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5		5	700.0	201908
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5		4	560.0	201906
Cathay Pac	Frankfurt I	Amsterdar	1145	1305	4		3	324.0	201906
Cathay Pac	Frankfurt I	Amsterdar	1145	1305	4		4	432.0	201909
Cathay Pac	Frankfurt I	Amsterdar	1845	2005	6		4	432.0	201907
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4		4	560.0	201909
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4		4	560.0	202002
China Sout	Frankfurt I	Guangzhou	0900	0245	7		5	500.0	201903
China Sout	Frankfurt I	Guangzhou	0900	0245	7		5	500.0	201906
Air China	Frankfurt I	Tianjin	1930	0650	4	6	9	900.0	201910
Air China	Zhengzhou	Frankfurt I	1030	1505	5		4	400.0	201910
Air China	Zhengzhou	Frankfurt I	1215	1650	3		4	400.0	201908
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2		4	560.0	201902
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6		5	700.0	201911
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1		4	560.0	201908
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5		4	560.0	201909
AirBridgeC	Frankfurt I	London Sta	1925	1905	6		5	700.0	201903
AirBridgeC	Frankfurt I	London Sta	1925	1905	6		4	560.0	201909
AirBridgeC	Frankfurt I	Milan Mal	1440	1620	1		4	440.0	201903
AirBridgeC	Frankfurt I	Milan Mal	1440	1620	1		5	550.0	201909

AirBridgeC	Frankfurt I	Milan Mal	1455	1635	5		5	550.0	201908
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	2		4	560.0	201906
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	2		4	560.0	201909
AirBridgeC	Frankfurt I	Milan Mal	1505	1645	3		4	560.0	201903
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6		4	560.0	201907
AirBridgeC	Frankfurt I	Moscow Sl	1230	1750	4		4	560.0	201906
AirBridgeC	Frankfurt I	Moscow Sl	1230	1750	4		4	560.0	201909
AirBridgeC	Frankfurt I	Moscow Sl	1230	1750	4		4	560.0	201912
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	5		4	440.0	201912
AirBridgeC	Frankfurt I	Moscow Sl	1910	0030	3		4	560.0	202002
AirBridgeC	Frankfurt I	Moscow Sl	2050	0210	5		4	560.0	201906
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2		5	700.0	201912
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2		4	560.0	201911
AirBridgeC	Houston G	Frankfurt I	1710	1000	4		4	560.0	201903
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		4	560.0	201903
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		4	560.0	201906
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		4	560.0	201903
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		4	560.0	201902
AirBridgeC	Moscow Sl	Frankfurt I	0555	0730	1		4	440.0	201905
AirBridgeC	Moscow Sl	Frankfurt I	0605	0740	1		4	440.0	201906
AirBridgeC	Moscow Sl	Frankfurt I	0825	1000	4		4	560.0	201912
AirBridgeC	Moscow Sl	Frankfurt I	0825	1000	4		4	560.0	202002
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3	5	8	800.0	201909
Asiana Airl	London Sta	Frankfurt I	1610	1830	2	4 7	13	1,300.0	201909
British Airv	Frankfurt I	Madrid Ad	1725	2005	3		4	215.6	202002
British Airv	London Lu	Frankfurt I	1440	1720	7		4	215.6	201904
British Airv	Madrid Ad	Frankfurt I	1715	1945	3		4	215.6	201906
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		4	440.0	201906
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2		4	440.0	201902
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		4	440.0	201908
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		5	550.0	201907
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		5	550.0	201903
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		4	440.0	201909
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		5	550.0	202002
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5		5	550.0	202001
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3		4	440.0	201902
Cargologic	Houston G	Frankfurt I	1245	0515	7		4	440.0	201902
Cargologic	Houston G	Frankfurt I	1245	0515	7		4	440.0	201905
Cathay Pac	Delhi	Frankfurt I	0215	0640	4		5	700.0	201908
Cathay Pac	Frankfurt I	Amsterdar	1145	1305	4		5	540.0	201908
China Sout	Frankfurt I	Guangzhou	1500	0815	1		5	500.0	201909
China Sout	Frankfurt I	Shanghai P	1520	0650	2	5 7	13	1,300.0	201905
China Sout	Guangzhou	Frankfurt I	0100	0600	7		4	400.0	201910
China Sout	London Sta	Frankfurt I	0835	1055	4	6	10	1,000.0	201908
China Sout	London Sta	Frankfurt I	0835	1055	4	6	9	900.0	202001
Air China	Frankfurt I	Tianjin	1930	0650	4	6	9	900.0	201911
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2		4	560.0	201911

AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	4	560.0	202001
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1	5	700.0	201904
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	4	560.0	201911
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	5	700.0	201905
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	5	700.0	201911
AirBridgeC	Frankfurt I	Krasnoyars	0750	2040	5	1	110.0	201902
AirBridgeC	Frankfurt I	Milan Mal	1440	1620	1	4	440.0	201905
AirBridgeC	Frankfurt I	Milan Mal	1455	1635	5	4	440.0	201910
AirBridgeC	Frankfurt I	Milan Mal	1505	1645	3	5	700.0	201910
AirBridgeC	Frankfurt I	Moscow Sl	1230	1750	4	5	700.0	201908
AirBridgeC	Frankfurt I	Moscow Sl	1650	2210	6	4	440.0	201912
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	5	5	550.0	201908
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	5	5	550.0	201911
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	1	4	440.0	201905
AirBridgeC	Frankfurt I	Moscow Sl	1910	0030	3	4	560.0	201903
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	5	700.0	201907
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	5	700.0	201910
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	5	700.0	201910
AirBridgeC	Houston G	Frankfurt I	1610	0800	7	4	560.0	202001
AirBridgeC	Houston G	Frankfurt I	1710	1000	4	4	560.0	201907
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5	4	560.0	201909
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1	4	560.0	201903
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3	4	560.0	201903
AirBridgeC	Moscow Sl	Frankfurt I	1120	1255	5	5	550.0	201911
AirBridgeC	Moscow Sl	Frankfurt I	1120	1255	5	5	550.0	202001
AirBridgeC	Moscow Sl	Frankfurt I	1220	1355	6	4	440.0	201902
AirBridgeC	Moscow Sl	Frankfurt I	1255	1430	5	5	550.0	201905
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3 5	8	800.0	201902
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2 4 7	13	1,300.0	201905
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4 7	13	1,300.0	201907
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7	5	500.0	201903
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	9	900.0	201910
British Airv	Frankfurt I	Nottinghar	2000	2035	7	4	215.6	201904
British Airv	London Lu	Frankfurt I	1040	1315	34	8	431.2	201902
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	10	450.0	202001
British Airv	Madrid Ad	Frankfurt I	1715	1945	3	5	269.5	201905
Cargologic	Chicago O'	Frankfurt I	1400	0535	1	4	440.0	201905
Cargologic	Chicago O'	Frankfurt I	1400	0535	1	4	440.0	202001
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5	4	440.0	202002
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3	4	440.0	202002
Cargologic	Frankfurt I	Chicago O'	0815	1100	1	4	440.0	202001
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6	5	550.0	201908
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5	4	440.0	201910
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3	4	440.0	201903
Cargologic	Houston G	Frankfurt I	1245	0515	4	5	550.0	201908
Cathay Pac	Amsterdar	Frankfurt I	1205	1315	5	4	560.0	201904
Cathay Pac	Delhi	Frankfurt I	0535	1005	1	4	432.0	201903

Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	4	432.0	201904
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	4	432.0	202001
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5	4	560.0	202002
Cathay Pac	Frankfurt I	Amsterdar	1845	2005	6	4	432.0	201904
Cathay Pac	Frankfurt I	Amsterdar	1845	2005	6	4	432.0	201910
Cathay Pac	Frankfurt I	Dubai Al M	1630	0140	6	2	280.0	201902
Cathay Pac	Frankfurt I	Milan Malp	0905	1025	7	4	496.0	201902
Air China	Frankfurt I	Tianjin	1930	0650	4 6	9	900.0	201905
Air China	Frankfurt I	Tianjin	1930	0650	4 6	9	900.0	202001
Air China	Zhengzhou	Frankfurt I	1030	1505	5	4	400.0	201902
Air China	Zhengzhou	Frankfurt I	1215	1650	3	5	500.0	201907
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	5	700.0	201907
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6	5	700.0	201903
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	5	700.0	201909
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	5	700.0	201912
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5	4	560.0	201910
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5	4	560.0	201910
AirBridgeC	Frankfurt I	London Sta	1925	1905	6	4	560.0	201904
AirBridgeC	Frankfurt I	Milan Malp	1440	1620	1	4	440.0	202001
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5	5	550.0	201903
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5	4	440.0	201906
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3	4	560.0	201908
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6	4	560.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6	5	550.0	201906
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5	4	440.0	201907
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1	4	440.0	201906
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1	4	440.0	202002
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2	5	700.0	201910
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	4	560.0	201903
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2	4	560.0	201909
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	4	560.0	201908
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2	4	560.0	201911
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5	3	420.0	201902
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5	5	700.0	201908
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2	4	560.0	202001
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5	5	700.0	201908
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6	4	560.0	201905
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5	4	440.0	201902
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6	4	440.0	201909
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5	5	550.0	201908
AirBridgeC	Moscow Sh	Frankfurt I	1515	1650	7	4	440.0	201903
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4 7	12	1,200.0	201911
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7	4	400.0	201908
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	10	1,000.0	202001
British Airv	London Lu	Frankfurt I	1040	1315	34	9	485.1	201908
British Airv	London Lu	Frankfurt I	1440	1720	7	5	269.5	201909
British Airv	London Lu	Frankfurt I	1440	1720	7	5	269.5	201912

Cargologic	Chicago O'	Frankfurt I	1400	0535	5		4	440.0	201909
Cargologic	Chicago O'	Frankfurt I	1400	0535	1		5	550.0	201909
Cargologic	Chicago O'	Frankfurt I	1400	0535	1		4	440.0	202002
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		5	550.0	202001
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		4	440.0	201903
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		4	440.0	201909
Cargologic	Frankfurt I	Chicago O'	0815	1100	5		5	550.0	201903
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		4	440.0	202001
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5		5	550.0	201903
Cargologic	Frankfurt I	London Sta	1535	1610	6		4	440.0	201907
Cargologic	Houston G	Frankfurt I	1245	0515	4		4	440.0	201909
Cargologic	London Sta	Frankfurt I	1250	1525	3		4	440.0	201904
Cathay Pac	Delhi	Frankfurt I	0215	0640	4		4	560.0	201906
Cathay Pac	Frankfurt I	Milan Malp	1005	1120	7		1	140.0	201903
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1		5	540.0	201907
Cathay Pac	Frankfurt I	Paris Charl	1145	1305	4		5	540.0	201905
Cathay Pac	Mumbai	Frankfurt I	1130	1645	6		4	432.0	201909
Air China	Zhengzhou	Frankfurt I	1215	1650	3		4	400.0	201911
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5		4	560.0	202002
AirBridgeC	Frankfurt I	London Sta	1925	1905	6		4	560.0	201910
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5		4	470.0	201902
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2		4	560.0	201905
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2		4	560.0	201911
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3		4	560.0	201909
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3		4	560.0	202002
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6		4	440.0	201907
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5		5	550.0	201903
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3		4	560.0	201911
AirBridgeC	Frankfurt I	Moscow Sh	1910	0030	3		5	700.0	202001
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2		4	560.0	202001
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2		4	560.0	202002
AirBridgeC	Houston G	Frankfurt I	1610	0800	7		5	700.0	201909
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		5	700.0	201912
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5		5	700.0	201911
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		4	560.0	201911
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		4	560.0	202001
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5		4	560.0	201902
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3		5	700.0	201905
AirBridgeC	Moscow Sh	Frankfurt I	0500	0635	1		4	440.0	201902
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1		4	440.0	201908
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4		4	560.0	201911
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5		4	440.0	201910
Asiana Airl	London Sta	Frankfurt I	1610	1830	2	4 7	12	1,200.0	202002
British Airv	Frankfurt I	London Lu	0750	0820	34		10	539.0	201905
British Airv	Frankfurt I	London Lu	0750	0820	34		9	485.1	201908
British Airv	Frankfurt I	Madrid Ad	1725	2005	3		5	269.5	201905
British Airv	Frankfurt I	Nottinghar	2000	2035	7		5	269.5	201909

British Airv	London He	Frankfurt I	1700	1925	6		4	215.6	201902
British Airv	London He	Frankfurt I	1700	1925	6		4	215.6	201912
British Airv	London He	Frankfurt I	1700	1925	6		5	269.5	202002
British Airv	London Lu	Frankfurt I	1040	1315	34		8	431.2	201904
British Airv	London Lu	Frankfurt I	1440	1720	7		4	215.6	201905
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		5	550.0	201905
Cargologic	Chicago O'	Frankfurt I	1400	0535	1		4	440.0	201910
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		4	440.0	201907
Cargologic	Frankfurt I	Chicago O'	0815	1100	5		5	550.0	201905
Cargologic	Frankfurt I	Chicago O'	0815	1100	5		4	440.0	201912
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		4	440.0	201910
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		4	440.0	201910
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3		4	440.0	201908
Cargologic	Frankfurt I	London Sta	1535	1610	6		5	550.0	201908
Cargologic	Houston G	Frankfurt I	1245	0515	7		5	550.0	201909
Cargologic	London Sta	Frankfurt I	1250	1525	3		4	440.0	201908
Cathay Pac	Amsterdan	Frankfurt I	1205	1315	5		4	560.0	201906
Cathay Pac	Frankfurt I	Dubai Al M	1745	0205	5		4	560.0	201907
Cathay Pac	Mumbai	Frankfurt I	1130	1645	6		4	432.0	201904
Cathay Pac	Mumbai	Frankfurt I	1240	1725	6		2	216.0	201902
China Sout	Frankfurt I	Guangzhou	0900	0245	7		4	400.0	201904
China Sout	Frankfurt I	Guangzhou	1440	0815	7		4	400.0	201907
China Sout	Frankfurt I	Guangzhou	1500	0815	1		4	400.0	201905
China Sout	Frankfurt I	Guangzhou	1500	0815	1		4	400.0	201911
China Sout	Frankfurt I	Guangzhou	1520	0740	5		5	500.0	201903
China Sout	Guangzhou	Frankfurt I	0555	1220	1		4	400.0	201903
China Sout	Guangzhou	Frankfurt I	0555	1240	5		4	400.0	201909
Air China	Frankfurt I	Tianjin	1930	0650	4	6	9	900.0	202002
Air China	Zhengzhou	Frankfurt I	1030	1505	5		4	400.0	201909
Air China	Zhengzhou	Frankfurt I	1030	1505	5		4	400.0	201912
Air China	Zhengzhou	Frankfurt I	1030	1505	5		4	400.0	202002
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2		4	560.0	201906
AirBridgeC	Chicago O'	Frankfurt I	1635	0810	1		4	560.0	202002
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1		4	560.0	201910
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5		4	560.0	201906
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5		4	560.0	201906
AirBridgeC	Frankfurt I	London Sta	1925	1905	6		4	560.0	201907
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5		4	440.0	202002
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2		4	560.0	201908
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6		4	560.0	201909
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6		4	440.0	201910
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2		5	700.0	201912
AirBridgeC	Frankfurt I	Zaragoza A	0645	0900	2		5	700.0	201912
AirBridgeC	Houston G	Frankfurt I	1610	0800	7		5	700.0	201912
AirBridgeC	Houston G	Frankfurt I	1610	0800	7		4	560.0	202002
AirBridgeC	Houston G	Frankfurt I	1710	1000	4		4	560.0	201906
AirBridgeC	Leipzig/Ha	Frankfurt I	1720	1850	5		5	700.0	202001

AirBridgeC	Los Angele	Frankfurt I	2015	1640	2	5	700.0	201904
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5	4	560.0	202002
AirBridgeC	Moscow D	Frankfurt I	1135	1305	3	4	560.0	201908
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1	4	440.0	201911
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4	5	700.0	201908
AirBridgeC	Moscow Sh	Frankfurt I	1055	1230	7	4	440.0	201902
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5	5	550.0	201903
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5	4	440.0	201909
AirBridgeC	Moscow Sh	Frankfurt I	1220	1355	6	4	440.0	201910
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2 4 7	13	1,300.0	201903
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4 7	13	1,300.0	201905
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7	4	400.0	202001
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	8	800.0	201902
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5	8	800.0	201909
British Airv	Frankfurt I	London Lu	0750	0820	34	10	539.0	202001
British Airv	Frankfurt I	Nottinghar	2000	2035	7	5	269.5	201906
British Airv	London Lu	Frankfurt I	1440	1720	7	4	215.6	201902
British Airv	London Lu	Frankfurt I	1440	1720	7	4	215.6	201908
British Airv	Madrid Ad	Frankfurt I	1620	1855	45	8	360.0	202002
British Airv	Madrid Ad	Frankfurt I	1715	1945	3	4	215.6	201904
British Airv	Madrid Ad	Frankfurt I	1715	1945	3	5	269.5	201907
Cargologic	Frankfurt I	Chicago O'	0815	1100	5	4	440.0	202002
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5	4	440.0	201909
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5	4	440.0	201912
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5	4	440.0	202002
Cargologic	Frankfurt I	London Sta	1535	1610	6	4	440.0	201902
Cargologic	Houston G	Frankfurt I	1245	0515	7	5	550.0	201906
Cargologic	Houston G	Frankfurt I	1245	0515	7	5	550.0	201912
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5	5	700.0	201903
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	5	540.0	201909
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7	4	432.0	202002
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5	4	560.0	201904
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	4	432.0	201904
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	4	432.0	201907
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	4	432.0	201910
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4	4	560.0	201907
Air China	Frankfurt I	Tianjin	1930	0650	4 6	8	800.0	201902
Air China	Frankfurt I	Tianjin	1930	0650	4 6	10	1,000.0	201908
Air China	Zhengzhou	Frankfurt I	1030	1505	5	5	500.0	201905
Air China	Zhengzhou	Frankfurt I	1030	1505	5	5	500.0	201908
Air China	Zhengzhou	Frankfurt I	1215	1650	3	5	500.0	201910
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2	5	700.0	201910
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1	4	560.0	201906
AirBridgeC	Frankfurt I	London Sta	1925	1905	6	4	560.0	202001
AirBridgeC	Frankfurt I	Milan Malp	1440	1620	1	4	440.0	201911
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5	4	440.0	201909
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3	5	700.0	201905

AirBridgeC	Frankfurt I	Milan Mal	1505	1645	3		4	560.0	201911
AirBridgeC	Frankfurt I	Moscow Sl	1855	0015	1		5	550.0	201912
AirBridgeC	Frankfurt I	Moscow Sl	1935	0055	7		4	560.0	201903
AirBridgeC	Frankfurt I	Moscow Sl	2050	0210	5		5	700.0	202001
AirBridgeC	Houston G	Frankfurt I	1710	1000	4		4	560.0	201902
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		4	560.0	201905
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		4	560.0	201908
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		4	560.0	202001
AirBridgeC	Krasnoyars	Frankfurt I	1235	1255	2		4	560.0	201902
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		4	560.0	201902
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5		5	700.0	202001
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6		4	560.0	201909
AirBridgeC	Moscow Sl	Frankfurt I	0605	0740	1		4	440.0	201911
AirBridgeC	Moscow Sl	Frankfurt I	1120	1255	5		5	550.0	201905
AirBridgeC	Moscow Sl	Frankfurt I	1220	1355	6		5	550.0	201903
AirBridgeC	Moscow Sl	Frankfurt I	1220	1355	6		5	550.0	201906
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3	5	9	900.0	201907
Asiana Airl	Vienna Int	Frankfurt I	1500	1640	7		4	400.0	201902
British Airv	Frankfurt I	London He	2020	2100	6		4	215.6	201905
British Airv	Frankfurt I	London He	2020	2100	6		4	215.6	202001
British Airv	Frankfurt I	Nottinghar	2000	2035	7		4	215.6	201902
British Airv	Madrid Ad	Frankfurt I	1620	1855	45		10	450.0	201908
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		4	440.0	201906
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		4	440.0	202002
Cargologic	Chicago O'	Frankfurt I	1400	0535	5		4	440.0	201906
Cargologic	Frankfurt I	Chicago O'	0815	1100	5		4	440.0	201909
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		5	550.0	201909
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		5	550.0	201912
Cargologic	Frankfurt I	Dubai Al M	1425	2345	6		4	440.0	201904
Cargologic	Frankfurt I	Dubai Al M	1620	0135	3		5	550.0	201907
Cargologic	Houston G	Frankfurt I	1245	0515	4		4	440.0	201903
Cathay Pac	Amsterdar	Frankfurt I	1200	1310	5		4	432.0	201902
Cathay Pac	Amsterdar	Frankfurt I	1205	1315	5		4	560.0	201910
Cathay Pac	Delhi	Frankfurt I	0215	0640	4		1	140.0	201903
Cathay Pac	Delhi	Frankfurt I	0215	0645	4		2	248.0	201902
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5		4	560.0	202002
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7		3	324.0	201907
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7		3	324.0	201910
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5		5	700.0	201905
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5		4	560.0	201912
Cathay Pac	Frankfurt I	Amsterdar	1845	2005	6		4	432.0	201905
Cathay Pac	Frankfurt I	Dubai Al M	1745	0205	5		5	700.0	201905
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4		5	700.0	201905
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4		5	700.0	201908
Cathay Pac	Mumbai	Frankfurt I	1240	1725	6		4	432.0	201912
China Carg	Shanghai P	Frankfurt I	0920	1410	3	7	8	800.0	201903
Air China	Frankfurt I	Tianjin	1930	0650	4	6	9	900.0	201906

Air China	Frankfurt I	Tianjin	1930	0650	4 6		8	800.0	201909
Air China	Zhengzhou	Frankfurt I	1030	1505	5		4	400.0	201906
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0500	2		4	560.0	201909
AirBridgeC	Frankfurt I	Abu Dhabi	1300	2215	1		4	560.0	201903
AirBridgeC	Frankfurt I	Krasnoyars	1920	0810	7		4	440.0	201903
AirBridgeC	Frankfurt I	Milan Malp	1440	1620	1		5	550.0	201907
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5		5	550.0	201905
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	2		4	530.0	201902
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3		4	560.0	201902
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3		4	560.0	201912
AirBridgeC	Frankfurt I	Moscow Sh	0445	1005	7		1	140.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	1230	1750	4		4	560.0	201907
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1		4	440.0	201910
AirBridgeC	Frankfurt I	Moscow Sh	2050	0210	5		3	420.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	2050	0210	5		4	560.0	201909
AirBridgeC	Houston G	Frankfurt I	1610	0800	7		5	700.0	201903
AirBridgeC	Houston G	Frankfurt I	1710	1000	4		4	560.0	202002
AirBridgeC	Krasnoyars	Frankfurt I	1135	1255	2		4	560.0	202002
AirBridgeC	Los Angele	Frankfurt I	2015	1640	2		5	700.0	201907
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		5	700.0	201904
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5		4	560.0	201909
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5		4	560.0	201912
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1		4	440.0	201910
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4		5	700.0	201905
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5		4	440.0	202002
Asiana Airl	London Sta	Frankfurt I	1610	1830	2 4	7	12	1,200.0	201902
Asiana Airl	Vienna Int	Frankfurt I	1620	1800	3 5		8	800.0	202002
British Airv	Frankfurt I	London He	2020	2100	6		4	215.6	201907
British Airv	Frankfurt I	London Lu	0750	0820	34		8	431.2	201902
British Airv	Frankfurt I	Madrid Ad	1725	2005	3		4	215.6	201902
British Airv	Frankfurt I	Madrid Ad	1725	2005	3		4	215.6	201911
British Airv	London Lu	Frankfurt I	1440	1720	7		4	215.6	201911
British Airv	Madrid Ad	Frankfurt I	1620	1855	45		8	360.0	201909
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		5	550.0	201908
Cargologic	Atlanta Ha	Frankfurt I	2025	1125	5		5	550.0	201911
Cargologic	Chicago O'	Frankfurt I	1400	0535	5		5	550.0	201905
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		4	440.0	201904
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		4	440.0	201910
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2		4	440.0	201911
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2		4	440.0	202001
Cargologic	Frankfurt I	Atlanta Ha	1835	2255	3		4	440.0	201904
Cargologic	Frankfurt I	Chicago O'	0815	1100	5		4	440.0	201902
Cargologic	Frankfurt I	Chicago O'	0815	1100	1		4	440.0	201903
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1		5	550.0	201904
Cargologic	Houston G	Frankfurt I	1245	0515	4		5	550.0	201910
Cathay Pac	Amsterdan	Frankfurt I	1205	1315	5		4	560.0	201909
Cathay Pac	Delhi	Frankfurt I	0215	0640	4		4	560.0	201904

Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5		4	560.0	201906
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5		4	560.0	201909
Cathay Pac	Dubai Al M	Frankfurt I	0300	0705	7		4	528.0	201903
Cathay Pac	Dubai Al M	Frankfurt I	0305	0805	7		5	540.0	201906
Cathay Pac	Frankfurt I	Milan Malp	0920	1035	1		5	540.0	201907
Cathay Pac	Frankfurt I	Milan Malp	0920	1035	1		3	324.0	201910
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1		4	432.0	201910
China Sout	Frankfurt I	Guangzhou	1440	0815	7		4	400.0	201904
AirBridgeC	Abu Dhabi	Frankfurt I	0115	0600	6		4	560.0	202001
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5		4	560.0	201902
AirBridgeC	Frankfurt I	Abu Dhabi	1500	2315	5		5	700.0	201905
AirBridgeC	Frankfurt I	Chicago O'	1835	2120	5		4	560.0	201912
AirBridgeC	Frankfurt I	London Sta	1925	1905	6		5	700.0	201906
AirBridgeC	Frankfurt I	Milan Malp	1455	1635	5		5	550.0	201911
AirBridgeC	Frankfurt I	Milan Malp	1505	1645	3		4	560.0	201906
AirBridgeC	Frankfurt I	Moscow D	2000	0135	6		4	560.0	201904
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6		4	440.0	201905
AirBridgeC	Frankfurt I	Moscow Sh	1650	2210	6		4	440.0	202001
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	5		4	560.0	201902
AirBridgeC	Frankfurt I	Moscow Sh	1855	0015	1		4	440.0	202001
AirBridgeC	Frankfurt I	Oslo Garde	1225	1430	2		4	560.0	202002
AirBridgeC	Frankfurt I	Zaragoza A	0630	0830	2		4	560.0	202001
AirBridgeC	Frankfurt I	Zaragoza A	2030	2245	1		4	560.0	201902
AirBridgeC	Houston G	Frankfurt I	1610	0800	7		4	560.0	201902
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		4	560.0	201905
AirBridgeC	Moscow D	Frankfurt I	0810	0940	1		4	560.0	201908
AirBridgeC	Moscow D	Frankfurt I	1045	1215	5		4	560.0	201906
AirBridgeC	Moscow D	Frankfurt I	1610	1740	6		4	560.0	201907
AirBridgeC	Moscow Sh	Frankfurt I	0555	0730	1		4	440.0	201902
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1		5	550.0	201912
AirBridgeC	Moscow Sh	Frankfurt I	0605	0740	1		4	440.0	202002
AirBridgeC	Moscow Sh	Frankfurt I	0825	1000	4		4	560.0	201902
AirBridgeC	Moscow Sh	Frankfurt I	1120	1255	5		4	440.0	201910
AirBridgeC	Moscow Sh	Frankfurt I	1255	1430	5		4	440.0	201909
Asiana Airl	Frankfurt I	Seoul Inch	2000	1430	3	5	8	800.0	202002
Asiana Airl	Frankfurt I	Seoul Inch	2015	1400	2	4 7	13	1,300.0	201907
British Airv	Frankfurt I	London He	2020	2100	6		5	269.5	201903
British Airv	Frankfurt I	Madrid Ad	1725	2005	3		4	215.6	201912
British Airv	London He	Frankfurt I	1700	1925	6		5	269.5	201908
British Airv	Madrid Ad	Frankfurt I	1715	1945	3		4	215.6	201903
Cargologic	Chicago O'	Frankfurt I	1400	0535	5		5	550.0	201908
Cargologic	Chicago O'	Frankfurt I	1400	0535	5		5	550.0	201911
Cargologic	Frankfurt I	Atlanta Ha	1305	1725	5		5	550.0	201903
Cargologic	Frankfurt I	Atlanta Ha	1430	1850	2		4	440.0	201905
Cargologic	Frankfurt I	Chicago O'	0815	1100	5		5	550.0	202001
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5		5	550.0	201908
Cargologic	Frankfurt I	Dubai Al M	1455	0015	5		5	550.0	201911

Cargologic	Frankfurt I	Dubai Al M	1920	0440	1		4	440.0	201903
Cargologic	Frankfurt I	Dubai Al M	1920	0440	1		5	550.0	201909
Cargologic	Frankfurt I	London Sta	1535	1610	6		5	550.0	201906
Cargologic	Frankfurt I	London Sta	1535	1610	6		5	550.0	202002
Cargologic	Houston G	Frankfurt I	1245	0515	7		4	440.0	201908
Cargologic	Houston G	Frankfurt I	1245	0515	4		4	440.0	201904
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5		4	560.0	201904
Cathay Pac	Dubai Al M	Frankfurt I	0300	0700	5		4	560.0	201910
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4		5	700.0	201910
Cathay Pac	Mumbai	Frankfurt I	1130	1645	6		5	540.0	201908
China Sout	Frankfurt I	Guangzhou	0900	0245	7		4	400.0	201902
China Sout	Frankfurt I	Guangzhou	1440	0815	7		4	400.0	201910
China Sout	Frankfurt I	Guangzhou	1500	0815	1		4	400.0	201902
China Sout	Frankfurt I	Guangzhou	1520	0740	5		4	400.0	201906
China Sout	Frankfurt I	Shanghai P	1520	0650	2	5 7	12	1,200.0	201902
China Sout	Frankfurt I	Shanghai P	1520	0650	2	5 7	12	1,200.0	202002
Emirates	Maastricht	Frankfurt I	1040	1155	6		5	515.0	202002
Etihad Airv	Frankfurt I	Barbados	0850	1200	4		5	519.5	201905
Iberia	Madrid Ad	Frankfurt I	1620	1840	6		4	205.6	201907
Iberia	Madrid Ad	Frankfurt I	1725	2005	3		5	257.0	201910
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6		5	700.0	201908
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6		5	700.0	201911
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5		4	415.6	201906
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6		4	560.0	201907
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23		9	935.1	202001
Korean Air	Vienna Int	Frankfurt I	1325	1455	4		4	560.0	201909
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7		5	500.0	201903
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6		4	400.0	201902
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	7		4	400.0	202001
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6		4	400.0	201904
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6		4	400.0	202001
Lufthansa	Almaty	Frankfurt I	0950	1320	7		4	340.0	201904
Lufthansa	Cairo Inter	Frankfurt I	0530	0950	3		5	425.0	201907
Lufthansa	Cairo Inter	Frankfurt I	0600	1015	1		5	425.0	201904
Lufthansa	Chicago O'	Frankfurt I	0145	1705	234		12	1,020.0	201909
Lufthansa	Chicago O'	Frankfurt I	2215	1320	6		1	85.0	201903
Lufthansa	Chicago O'	Frankfurt I	2230	1335	1		1	103.9	201902
Lufthansa	Dakar Blais	Frankfurt I	0100	0900	6		4	415.6	201904
Lufthansa	Dakar Blais	Frankfurt I	2130	0530	1		4	415.6	201908
Lufthansa	Dallas Dall	Frankfurt I	0310	1930	7		1	85.0	201903
Lufthansa	Dallas Dall	Frankfurt I	0525	2150	2		4	415.6	201909
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	2	6	1	103.9	201906
Lufthansa	Dallas Dall	Frankfurt I	1410	0530	6		2	170.0	201903
Lufthansa	Dallas Dall	Frankfurt I	1410	0630	6		1	85.0	201903
Lufthansa	Frankfurt I	Ashgabat	0445	1305	6		4	340.0	201907
Lufthansa	Frankfurt I	Ashgabat	0510	1430	6		3	255.0	201902
Lufthansa	Frankfurt I	Atlanta Ha	1620	2015	2		1	103.9	201902

Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	10	1,039.0	201910
Lufthansa	Frankfurt I	Bengaluru	1335	0200	3	4	340.0	201904
Lufthansa	Frankfurt I	Bengaluru	1335	0200	3	5	425.0	201907
Lufthansa	Frankfurt I	Cairo Inter	2050	0045	2	3	255.0	201908
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7	4	340.0	201905
Lufthansa	Frankfurt I	Chicago O'	1935	2220	5	1	85.0	201902
Lufthansa	Frankfurt I	Dakar Blais	2115	0220	1	4	340.0	201902
Lufthansa	Frankfurt I	Dammam	1350	2125	1	1	85.0	201902
Lufthansa	Frankfurt I	Dammam	1425	2110	1	4	340.0	201907
Lufthansa	Frankfurt I	Johannesb	0545	1630	7	4	340.0	201908
Lufthansa	Frankfurt I	Los Angele	1230	1530	3	4	340.0	201908
Lufthansa	Frankfurt I	Mexico Cit	1425	2020	6	3	311.7	201904
Lufthansa	Frankfurt I	Mexico Cit	1425	2020	6	3	311.7	201910
Lufthansa	Frankfurt I	Mumbai	1550	0420	34	8	680.0	201903
Lufthansa	Frankfurt I	New York J	2120	2355	3	5	425.0	201907
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	7	595.0	201909
Lufthansa	Frankfurt I	Novosibirs	1405	0120	3 5	8	680.0	201910
Lufthansa	Frankfurt I	Riyadh Kin	0840	1610	7	4	340.0	201903
Lufthansa	Frankfurt I	Seattle-Ta	0845	1010	5	5	425.0	201905
Lufthansa	Frankfurt I	Shanghai P	0720	0105	1 3	6	623.4	201902
Lufthansa	Frankfurt I	Shanghai P	0820	0105	1 3	8	831.2	201906
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	23	2,389.7	201905
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2100	2	1	103.9	201902
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	13	1,300.0	201911
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	13	1,300.0	202001
China Sout	London Sta	Frankfurt I	0835	1035	2	4	400.0	202001
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	201911
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201911
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	201911
Emirates	Dubai Al M	Frankfurt I	1240	1630	4	4	412.0	201902
Emirates	Dubai Al M	Frankfurt I	1240	1630	4	4	412.0	201912
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	4	412.0	201902
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	4	412.0	201909
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	4	412.0	201912
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	4	412.0	201910
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	201909
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	201912
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	4	205.6	201909
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	8	360.0	201906
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	8	360.0	202002
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	8	360.0	201909
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	4	415.6	201910
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	4	560.0	201905
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	4	560.0	201912
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	4	415.6	202001
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	4	415.6	201910
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	5	700.0	201903

LATAM Ca	Amsterdar	Frankfurt I	1610	1820	6	5	500.0	201908
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	7	5	500.0	201906
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	6	4	400.0	201910
LATAM Ca	Frankfurt I	Sao Paulo '	1940	0335	3	5	500.0	201907
Lufthansa	Buenos Air	Frankfurt I	0205	1950	6	4	415.6	201902
Lufthansa	Cairo Inter	Frankfurt I	0530	0950	3	4	340.0	201906
Lufthansa	Cairo Inter	Frankfurt I	0600	1015	1	4	340.0	201905
Lufthansa	Chicago O'	Frankfurt I	1410	0515	5	1	85.0	201902
Lufthansa	Dakar Blais	Frankfurt I	0835	1635	6	1	85.0	201906
Lufthansa	Dallas Dall	Frankfurt I	0335	1945	1	4	340.0	201902
Lufthansa	Frankfurt I	Ashgabat	0445	1305	6	5	425.0	201908
Lufthansa	Frankfurt I	Atlanta Ha	1035	1415	3	4	415.6	201908
Lufthansa	Frankfurt I	Atlanta Ha	1530	1915	2	5	425.0	201904
Lufthansa	Frankfurt I	Atlanta Ha	1530	1915	2	5	425.0	201907
Lufthansa	Frankfurt I	Atlanta Ha	1530	1915	2	4	340.0	201910
Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	13	1,350.7	201906
Lufthansa	Frankfurt I	Beijing Cap	1200	0435	2	2	207.8	201903
Lufthansa	Frankfurt I	Bengaluru	1230	0055	6	4	340.0	201907
Lufthansa	Frankfurt I	Bengaluru	1335	0200	3	4	340.0	201908
Lufthansa	Frankfurt I	Chicago O'	0855	1110	3	3	255.0	201902
Lufthansa	Frankfurt I	Chicago O'	1335	1605	4	4	340.0	201906
Lufthansa	Frankfurt I	Chicago O'	2020	0005	34	6	623.4	201903
Lufthansa	Frankfurt I	Chicago O'	2020	2305	34	2	170.0	201902
Lufthansa	Frankfurt I	Chicago O'	2040	0025	5	3	255.0	201903
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7	5	519.5	201906
Lufthansa	Frankfurt I	Johannesb	0545	1630	7	4	340.0	201907
Lufthansa	Frankfurt I	Johannesb	0555	1640	2	4	340.0	201908
Lufthansa	Frankfurt I	Johannesb	0555	1640	2 4	4	340.0	201905
Lufthansa	Frankfurt I	Kuwait	1550	2310	4	4	340.0	201903
Lufthansa	Frankfurt I	Los Angele	1520	1820	6	4	340.0	201904
Cargologic	London Sta	Frankfurt I	1250	1525	3	4	440.0	201902
Cargologic	London Sta	Frankfurt I	1250	1525	3	5	550.0	201905
Cathay Pac	Delhi	Frankfurt I	0215	0640	4	5	700.0	201910
Cathay Pac	Delhi	Frankfurt I	0230	0740	1	3	324.0	201910
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5	5	700.0	201908
Cathay Pac	Frankfurt I	Amsterdar	0900	1025	5	5	700.0	202001
Cathay Pac	Frankfurt I	Dubai Al M	1745	0205	5	4	560.0	201910
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4	4	560.0	201904
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4	4	560.0	201911
Cathay Pac	Mumbai	Frankfurt I	1130	1645	6	4	432.0	201907
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	13	1,300.0	201906
China Sout	Frankfurt I	Shanghai P	1520	0650	1 4 6	12	1,200.0	201902
China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	201906
China Sout	Guangzhou	Frankfurt I	0555	1240	5	5	500.0	201903
China Sout	Guangzhou	Frankfurt I	0555	1240	5	4	400.0	201906
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	1	103.0	201903
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	4	412.0	201906

Emirates	Dubai Al M	Frankfurt I	1240	1730	7	4	412.0	201907
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	4	412.0	201907
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	4	412.0	202001
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	5	515.0	202001
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	201906
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	201909
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	4	415.6	201909
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	5	519.5	202002
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	4	415.6	201902
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	4	415.6	201909
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	5	257.0	202001
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	5	257.0	201906
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	5	257.0	202001
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	4	415.6	201911
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	4	415.6	202002
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	4	560.0	202001
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	9	935.1	201904
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	5	700.0	202001
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	5	500.0	201906
Lufthansa	Almaty	Frankfurt I	0950	1320	1 4 6	12	1,020.0	201907
Lufthansa	Atlanta Ha	Frankfurt I	1720	0740	3	2	207.8	201902
Lufthansa	Beijing Cap	Frankfurt I	0250	0710	6	4	415.6	201905
Lufthansa	Beijing Cap	Frankfurt I	0320	0740	1 3 5	13	1,350.7	201904
Lufthansa	Beijing Cap	Frankfurt I	0320	0740	1 3 5	10	1,039.0	201910
Lufthansa	Beijing Cap	Frankfurt I	0655	1025	3	1	103.9	201902
Lufthansa	Buenos Air	Frankfurt I	0115	1940	4	4	415.6	201904
Lufthansa	Buenos Air	Frankfurt I	2115	1540	6	2	207.8	201910
Lufthansa	Cairo Inter	Frankfurt I	0530	0950	3	4	340.0	201905
Lufthansa	Cairo Inter	Frankfurt I	0530	0950	3	3	255.0	201908
Lufthansa	Dakar Blais	Frankfurt I	0240	0940	4	3	255.0	201903
Lufthansa	Dakar Blais	Frankfurt I	1315	2115	3	1	85.0	201904
Lufthansa	Dakar Blais	Frankfurt I	2130	0530	1	3	292.8	201910
Lufthansa	Dallas Dall	Frankfurt I	0225	1845	3	4	340.0	201902
Lufthansa	Frankfurt I	Atlanta Ha	1035	1415	3	4	415.6	201909
Lufthansa	Frankfurt I	Atlanta Ha	1055	1550	3	3	311.7	201903
Lufthansa	Frankfurt I	Atlanta Ha	1345	1740	7	3	255.0	201902
Lufthansa	Frankfurt I	Beijing Cap	0905	0140	5	2	207.8	201902
Lufthansa	Frankfurt I	Bengaluru	1230	0055	6	5	425.0	201906
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	2 4 6	11	935.0	201906
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	2 4 6	12	1,020.0	201909
Lufthansa	Frankfurt I	Tokyo Nari	2110	1655	2	4	415.6	201903
Lufthansa	Frankfurt I	Tokyo Nari	2115	1655	7	4	415.6	201902
Lufthansa	Guadalajar	Frankfurt I	0100	2020	7	1	103.9	201904
Lufthansa	Guadalajar	Frankfurt I	0200	2020	7	4	415.6	201905
Lufthansa	Houston G	Frankfurt I	1955	1245	2	4	340.0	201910
Lufthansa	Hyderabad	Frankfurt I	1055	1645	2 6	9	765.0	201904
Lufthansa	Hyderabad	Frankfurt I	1120	1710	4	5	425.0	201905

Lufthansa	Istanbul At	Frankfurt I	0330	0530	3 5 7		12	1,020.0	201908
Lufthansa	Los Angele	Frankfurt I	0150	2050	1		3	255.0	201903
Lufthansa	Los Angele	Frankfurt I	1730	1320	5		4	340.0	201910
Lufthansa	Los Angele	Frankfurt I	2050	1700	6		1	85.0	201903
Lufthansa	Mumbai	Frankfurt I	0735	1235	1		5	425.0	201904
Lufthansa	Mumbai	Frankfurt I	0735	1235	1		3	255.0	201910
Lufthansa	New York J	Frankfurt I	0005	1330	1		1	85.0	201902
Lufthansa	Novosibirs	Frankfurt I	0410	0530	7		5	425.0	201906
Lufthansa	Novosibirs	Frankfurt I	0410	0530	6		4	340.0	201909
Lufthansa	Novosibirs	Frankfurt I	0410	0530	4		3	255.0	201906
Lufthansa	Novosibirs	Frankfurt I	0410	0530	3		4	340.0	201908
Lufthansa	Sao Paulo '	Frankfurt I	0035	1750	3		1	103.9	201910
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2	7	9	935.1	201907
Lufthansa	Shanghai P	Frankfurt I	0935	1435	2	7	5	519.5	201902
Qatar Airw	Doha	Frankfurt I	0720	1240	1		4	415.6	201902
Qatar Airw	Doha	Frankfurt I	0720	1240	1		4	415.6	202002
Qatar Airw	Doha	Frankfurt I	1225	1745	2		4	415.6	202002
Qatar Airw	Doha	Frankfurt I	1310	1830	6		4	415.6	201910
Qatar Airw	Doha	Frankfurt I	1355	1915	7		5	519.5	201906
Qatar Airw	Frankfurt I	Doha	1735	0025	4		5	519.5	201905
Qatar Airw	Frankfurt I	Doha	1735	0025	4		5	519.5	201908
Qatar Airw	Frankfurt I	Doha	1945	0235	2		4	415.6	201909
Qatar Airw	Frankfurt I	Doha	2020	0320	3		4	260.0	201903
Qatar Airw	Frankfurt I	Doha	2020	0320	3		4	260.0	201906
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3		4	440.0	201902
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3		4	440.0	202002
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1		4	400.0	201905
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5		5	550.0	201908
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5		5	550.0	202001
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4		4	260.0	201907
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5		4	260.0	201902
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4		4	260.0	201907
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5		12	481.2	201902
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5		14	561.4	201905
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7		4	260.0	201902
Emirates	Dubai Al M	Frankfurt I	1055	1445	4		4	412.0	201912
Emirates	Dubai Al M	Frankfurt I	1055	1445	4		4	412.0	202002
Emirates	Dubai Al M	Frankfurt I	1240	1630	4		4	412.0	201904
Emirates	Dubai Al M	Frankfurt I	1240	1630	4		5	515.0	201910
Emirates	Dubai Al M	Frankfurt I	1320	1710	5		4	412.0	201910
Emirates	Frankfurt I	Dubai Al M	0830	1735	7		4	412.0	201902
Emirates	Frankfurt I	Dubai Al M	0930	1735	7		4	412.0	201905
Emirates	Frankfurt I	Dubai Al M	1940	0445	4		4	412.0	201904
Emirates	Frankfurt I	Dubai Al M	1940	0445	4		4	412.0	201907
Emirates	Frankfurt I	Mexico Cit	1810	2325	4		4	412.0	201912
Emirates	Frankfurt I	Mexico Cit	1810	2325	4		4	412.0	202002
Emirates	Frankfurt I	Mexico Cit	2125	0140	7		4	412.0	201911

Emirates	Maastricht	Frankfurt I	0815	0930	3	5	515.0	202001
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	4	205.6	201904
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	5	257.0	201903
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	4	205.6	201911
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	4	415.6	201905
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	201904
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	201907
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	9	935.1	201912
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	4	400.0	202002
Lufthansa	Atlanta Ha	Frankfurt I	0200	1630	67	5	519.5	201902
Lufthansa	Atlanta Ha	Frankfurt I	0255	1640	1	3	255.0	201903
Lufthansa	Atlanta Ha	Frankfurt I	1645	0730	3	5	519.5	201905
Lufthansa	Beijing Cap	Frankfurt I	0320	0740	1 3 5	14	1,454.6	201907
Lufthansa	Buenos Air	Frankfurt I	2115	1540	6	3	311.7	201904
Lufthansa	Cairo Inter	Frankfurt I	0600	1015	1	5	425.0	201907
Lufthansa	Chicago O'	Frankfurt I	0145	1705	234	14	1,190.0	201907
Lufthansa	Dakar Blais	Frankfurt I	0100	0900	6	4	415.6	201910
Lufthansa	Dakar Blais	Frankfurt I	2130	0530	1	5	519.5	201907
Lufthansa	Dallas Dall	Frankfurt I	0525	2150	2	5	519.5	201907
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	6	4	415.6	201906
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	6	4	415.6	201909
Lufthansa	Frankfurt I	Ashgabat	0445	1305	6	5	425.0	201906
Lufthansa	Frankfurt I	Atlanta Ha	1830	2225	4	3	255.0	201902
Lufthansa	Frankfurt I	Beijing Cap	1030	0305	4 7	1	103.9	201902
Lufthansa	Frankfurt I	Bengaluru	1335	0200	3	4	340.0	201906
Lufthansa	Frankfurt I	Cairo Inter	2110	0155	7	4	340.0	201902
Lufthansa	Frankfurt I	Chengdu	0935	0110	1 6	9	935.1	201906
Lufthansa	Frankfurt I	Chengdu	1045	0305	1 6	5	519.5	201902
Lufthansa	Frankfurt I	Chicago O'	1335	1605	4	5	425.0	201905
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7	4	415.6	201908
Lufthansa	Frankfurt I	Johannesb	0540	1625	6	4	340.0	201909
Lufthansa	Frankfurt I	Los Angele	1230	1530	3	4	340.0	201904
Lufthansa	Frankfurt I	Los Angele	1450	1755	6	2	170.0	201903
Lufthansa	Frankfurt I	Mexico Cit	1425	2020	6	5	519.5	201908
Lufthansa	Frankfurt I	Mumbai	1730	0505	7	3	255.0	201910
Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7	4	340.0	201905
Lufthansa	Frankfurt I	Sao Paulo	0445	1155	6	3	311.7	201910
Lufthansa	Frankfurt I	Sao Paulo	2040	0350	7	4	415.6	201904
Lufthansa	Frankfurt I	Sao Paulo	2210	0725	6	2	207.8	201902
Lufthansa	Frankfurt I	Shanghai P	0820	0105	1 3	9	935.1	201905
Lufthansa	Frankfurt I	Tokyo Nari	2115	1655	4 6	9	935.1	201903
Lufthansa	Frankfurt I	Toronto Le	1110	1335	2	5	425.0	201904
Cathay Pac	Frankfurt I	Dubai Al M	1925	0445	6	4	432.0	201902
Cathay Pac	Frankfurt I	Milan Mal	1230	1355	1	4	432.0	201902
Cathay Pac	Frankfurt I	Paris Charl	0840	1010	4	4	560.0	201912
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	13	1,300.0	201908
China Sout	Guangzhou	Frankfurt I	0100	0600	7	5	500.0	201903

China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	201905
China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	201908
China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	202001
China Sout	London Sta	Frankfurt I	0835	1035	2	4	400.0	201911
China Sout	London Sta	Frankfurt I	0835	1055	4 6	9	900.0	201906
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	202001
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	201905
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	201908
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	4	412.0	201904
Emirates	Dubai Al M	Frankfurt I	1240	1630	4	4	412.0	202002
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	4	412.0	202002
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	5	515.0	201905
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	4	412.0	202002
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	4	412.0	201910
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	4	412.0	201905
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	4	412.0	202002
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	201903
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	202002
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	202002
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	4	415.6	201910
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	5	257.0	201903
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	8	360.0	201909
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	5	257.0	201911
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	4	205.6	201903
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	201909
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	201912
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	8	831.2	201911
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	9	935.1	202001
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	4	415.6	201905
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	4	415.6	201908
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	4	415.6	201907
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	9	935.1	201912
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	4	560.0	201903
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	4	400.0	201907
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	4	400.0	201910
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	4	400.0	201904
Lufthansa	Almaty	Frankfurt I	0950	1220	7	1	85.0	201910
Lufthansa	Almaty	Frankfurt I	0950	1320	1 6	3	255.0	201908
Lufthansa	Almaty	Frankfurt I	0950	1320	1 4 6	13	1,105.0	201906
Lufthansa	Atlanta Ha	Frankfurt I	1645	0730	3	4	415.6	201904
Lufthansa	Atlanta Ha	Frankfurt I	1645	0730	3	4	415.6	201910
Lufthansa	Atlanta Ha	Frankfurt I	2225	1310	6	5	425.0	201906
Lufthansa	Beijing Cap	Frankfurt I	0250	0710	6	4	415.6	201907
Lufthansa	Chicago O'	Frankfurt I	0145	1705	234	14	1,190.0	201905
Lufthansa	Chicago O'	Frankfurt I	0145	1705	234	13	1,105.0	201908
Lufthansa	Chicago O'	Frankfurt I	1420	0525	1	1	85.0	201902
Lufthansa	Chicago O'	Frankfurt I	2215	1220	6	2	207.8	201903

Lufthansa	Dakar Blais	Frankfurt I	0100	0900	6	4	415.6	201905
Lufthansa	Dakar Blais	Frankfurt I	0100	0900	6	5	519.5	201908
Lufthansa	Dakar Blais	Frankfurt I	2315	0715	1	1	85.0	201904
Lufthansa	Frankfurt I	Almaty	0635	1805	7	3	255.0	201902
Lufthansa	Frankfurt I	Bengaluru	1230	0055	6	3	255.0	201909
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7	1	85.0	201903
Lufthansa	Frankfurt I	Chicago O'	1135	1420	2	4	340.0	201902
Lufthansa	Frankfurt I	Chicago O'	1135	1520	2	3	255.0	201903
Lufthansa	Frankfurt I	Chicago O'	1335	1605	4	5	425.0	201908
Lufthansa	Frankfurt I	Chicago O'	1420	1735	2	3	255.0	201903
Lufthansa	Frankfurt I	Chicago O'	1710	1955	1	1	103.9	201902
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7	4	415.6	201904
Lufthansa	Frankfurt I	Dakar Blais	0930	1340	2	1	85.0	201904
Lufthansa	Frankfurt I	Dakar Blais	0930	1340	2	1	85.0	201910
Lufthansa	Frankfurt I	Dakar Blais	2205	0215	7	1	85.0	201910
Lufthansa	Frankfurt I	Dallas Dall	1155	1600	3	4	340.0	201902
Lufthansa	Frankfurt I	Kuwait	1620	2255	4	4	340.0	201907
Lufthansa	Frankfurt I	Los Angele	1230	1530	3	5	425.0	201907
Lufthansa	Frankfurt I	Los Angele	1520	1820	6	4	340.0	201909
Lufthansa	Frankfurt I	Mexico Cit	1525	2120	3	1	103.9	201905
Lufthansa	Frankfurt I	Mumbai	1730	0505	7	4	340.0	201904
Lufthansa	Frankfurt I	Mumbai	1730	0505	7	4	340.0	201907
Lufthansa	Frankfurt I	New York J	1950	2225	3	3	255.0	201902
Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7	4	340.0	201908
Lufthansa	Frankfurt I	Sao Paulo '	2040	0350	7	2	207.8	201910
Lufthansa	Frankfurt I	Sao Paulo '	2210	0625	6	2	207.8	201902
Lufthansa	Frankfurt I	Seattle-Ta	0845	1010	5	4	340.0	201906
Lufthansa	Frankfurt I	Shanghai P	0915	0200	4 6	9	935.1	201906
Lufthansa	Frankfurt I	Shanghai P	1335	0720	2345 7	21	2,181.9	201903
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	2 4	8	831.2	201906
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	18	1,870.2	201907
Lufthansa	Frankfurt I	Toronto Le	1110	1335	2	5	425.0	201907
Lufthansa	Frankfurt I	Toronto Le	1110	1335	2	4	340.0	201910
Lufthansa	Guadalajar	Frankfurt I	0410	2230	45	6	623.4	201904
Lufthansa	Guadalajar	Frankfurt I	0410	2230	45	8	831.2	201907
Lufthansa	Los Angele	Frankfurt I	1730	1320	5	3	255.0	201907
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	4	340.0	201902
Lufthansa	Los Angele	Frankfurt I	2050	1700	6	4	340.0	201909
Lufthansa	Mumbai	Frankfurt I	0735	1235	1	4	340.0	201908
Lufthansa	New York J	Frankfurt I	0110	1440	5	5	425.0	201905
Lufthansa	New York J	Frankfurt I	0130	1455	6	4	340.0	201907
Lufthansa	New York J	Frankfurt I	0130	1500	3	5	425.0	201907
Lufthansa	New York J	Frankfurt I	0305	1635	4	4	340.0	201906
Lufthansa	Novosibirs	Frankfurt I	0410	0530	6	5	425.0	201908
Lufthansa	Novosibirs	Frankfurt I	0410	0530	3	4	340.0	201907
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7	5	519.5	201906
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	1 4 6	11	1,142.9	201910

Lufthansa	Shanghai P	Frankfurt I	0530	1030	5 7	9	935.1	201903
Lufthansa	Shanghai P	Frankfurt I	0820	1350	1 3456	23	2,389.7	201905
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	202001
Qatar Airw	Doha	Frankfurt I	1310	1830	5	5	519.5	202001
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	201902
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	201908
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201907
Qatar Airw	Frankfurt I	Doha	2020	0320	3	4	260.0	201904
Qatar Airw	Frankfurt I	Doha	2020	0320	3	5	325.0	201907
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	201907
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	5	500.0	201905
China Sout	Guangzhou	Frankfurt I	0555	1240	5	4	400.0	201910
China Sout	London Sta	Frankfurt I	0835	1055	4 6	8	800.0	201902
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201905
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201912
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	201907
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	5	515.0	201909
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	5	515.0	201911
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	5	515.0	201910
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	5	515.0	201911
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	5	515.0	202001
Emirates	Frankfurt I	Mexico Cit	2025	0140	7	4	412.0	201902
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	5	515.0	201912
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	4	412.0	202002
Emirates	Maastricht	Frankfurt I	0815	0930	3	5	515.0	201910
Emirates	Maastricht	Frankfurt I	1040	1155	6	4	412.0	201904
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	5	519.5	201908
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	4	415.6	202001
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	201903
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	5	519.5	201911
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	4	205.6	201909
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	8	360.0	201902
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	8	360.0	201912
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	4	205.6	201912
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	4	415.6	201906
Korean Air	Frankfurt I	Seoul Inch	1725	1055	2 5 7	5	519.5	201902
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	5	700.0	201903
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	4	415.6	201910
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23 7	2	207.8	201902
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	7	4	400.0	201910
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6	5	500.0	202002
Lufthansa	Almaty	Frankfurt I	0950	1320	7	5	425.0	201909
Lufthansa	Beijing Cap	Frankfurt I	0250	0710	6	5	519.5	201908
Lufthansa	Beijing Cap	Frankfurt I	0525	0855	1 5	5	519.5	201903
Lufthansa	Beijing Cap	Frankfurt I	0525	0855	1 3 5	5	519.5	201903
Lufthansa	Buenos Air	Frankfurt I	0115	1940	4	5	519.5	201908
Lufthansa	Cairo Inter	Frankfurt I	0600	1015	1	4	340.0	201906

Lufthansa	Cairo Inter	Frankfurt I	0600	1015	1	5	425.0	201909
Lufthansa	Dakar Blais	Frankfurt I	0630	1430	1	1	85.0	201909
Lufthansa	Dallas Dall	Frankfurt I	0325	1845	3	3	255.0	201903
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	6	3	311.7	201910
Lufthansa	Dallas Dall	Frankfurt I	1310	0530	6	4	340.0	201902
Lufthansa	Frankfurt I	Almaty	0730	1830	5 7	1	85.0	201909
Lufthansa	Frankfurt I	Atlanta Ha	1520	1905	6	1	85.0	201910
Lufthansa	Frankfurt I	Atlanta Ha	1530	1915	2	4	340.0	201908
Lufthansa	Frankfurt I	Atlanta Ha	1930	0025	7	3	255.0	201903
Lufthansa	Frankfurt I	Bengaluru	1335	0200	3	3	255.0	201909
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7	4	340.0	201904
Lufthansa	Frankfurt I	Chicago O'	1350	1605	6	4	340.0	201902
Lufthansa	Frankfurt I	Chicago O'	1540	1855	4	3	255.0	201903
Lufthansa	Frankfurt I	Chicago O'	2030	2315	1	1	85.0	201903
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7	4	415.6	201907
Lufthansa	Frankfurt I	Dakar Blais	0445	0855	6	1	85.0	201906
Lufthansa	Frankfurt I	Dallas Dall	1530	2035	5	3	255.0	201903
Lufthansa	Frankfurt I	Dammam	1425	2110	1	4	340.0	201906
Lufthansa	Frankfurt I	Dammam	1425	2110	1	5	425.0	201909
China Sout	Frankfurt I	Guangzhou	0900	0245	7	4	400.0	201910
China Sout	Frankfurt I	Guangzhou	1440	0815	7	4	400.0	201908
China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	201902
China Sout	Guangzhou	Frankfurt I	0555	1220	1	5	500.0	201912
China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	202002
China Sout	Guangzhou	Frankfurt I	0555	1240	5	4	400.0	201912
China Sout	London Sta	Frankfurt I	0835	1035	2	4	400.0	201902
China Sout	London Sta	Frankfurt I	0835	1055	4 6	9	900.0	201910
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	201904
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	5	515.0	201906
Emirates	Dubai Al M	Frankfurt I	1240	1630	4	5	515.0	201908
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	4	412.0	201904
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	5	515.0	201903
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	5	515.0	201905
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	5	515.0	201905
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	5	515.0	201908
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	5	515.0	201908
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	5	515.0	202001
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	201911
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	4	205.6	201910
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	10	450.0	201905
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	5	257.0	201907
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	8	831.2	201908
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	4	415.6	201909
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	8	831.2	201911
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	4	560.0	201906
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	5	500.0	201909
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	4	400.0	201912

LATAM Ca	Amsterdar	Frankfurt I	1630	1840	3		4	400.0	202002
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	7		4	400.0	201902
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	7		4	400.0	201905
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	7		4	400.0	201908
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	7		4	400.0	201911
Lufthansa	Almaty	Frankfurt I	0245	0630	7		1	85.0	201903
Lufthansa	Almaty	Frankfurt I	0950	1320	1	4 6	12	1,020.0	201905
Lufthansa	Almaty	Frankfurt I	0950	1320	1	4 6	9	765.0	201908
Lufthansa	Atlanta Ha	Frankfurt I	0055	1540	5		1	85.0	201903
Lufthansa	Atlanta Ha	Frankfurt I	1645	0730	3		4	415.6	201909
Lufthansa	Atlanta Ha	Frankfurt I	1720	0745	3		2	207.8	201902
Lufthansa	Atlanta Ha	Frankfurt I	2225	1310	6		3	255.0	201909
Lufthansa	Beijing Cap	Frankfurt I	0250	0710	6		5	519.5	201906
Lufthansa	Beijing Cap	Frankfurt I	0250	0710	6		4	415.6	201909
Lufthansa	Frankfurt I	Bengaluru	1230	0055	6		4	340.0	201905
Lufthansa	Frankfurt I	Chengdu	0935	0110	1	6	7	727.3	201910
Lufthansa	Frankfurt I	Chicago O'	1830	2045	6		1	85.0	201902
Lufthansa	Frankfurt I	Chicago O'	2040	2325	5		1	85.0	201903
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7		4	415.6	201905
Lufthansa	Frankfurt I	Dakar Blais	0450	0900	7		1	85.0	201909
Lufthansa	Frankfurt I	Dakar Blais	0930	1340	2		1	85.0	201906
Lufthansa	Frankfurt I	Los Angele	1230	1530	3		5	425.0	201905
Lufthansa	Frankfurt I	Los Angele	1520	1820	6		4	340.0	201910
Lufthansa	Frankfurt I	Mexico Cit	1325	1920	6		1	103.9	201903
Lufthansa	Frankfurt I	Mexico Cit	1735	2330	4		3	311.7	201904
Lufthansa	Frankfurt I	Mexico Cit	1745	2330	1		4	415.6	201905
Lufthansa	Frankfurt I	Mexico Cit	1745	2330	1		4	415.6	201908
Lufthansa	Frankfurt I	Mumbai	1735	0605	1		4	340.0	201902
China Sout	London Sta	Frankfurt I	0835	1035	2		4	400.0	201905
China Sout	London Sta	Frankfurt I	0835	1035	2		4	400.0	201908
China Sout	London Sta	Frankfurt I	0835	1055	4 6		9	900.0	202002
China Sout	Shanghai P	Frankfurt I	0650	1220	1	4 6	14	1,400.0	201908
Emirates	Dubai Al M	Frankfurt I	1240	1630	4		5	515.0	201905
Emirates	Frankfurt I	Dubai Al M	0930	1735	7		1	103.0	201903
Emirates	Frankfurt I	Dubai Al M	1355	2300	6		4	412.0	201912
Emirates	Frankfurt I	Dubai Al M	1500	0005	3		4	412.0	201903
Emirates	Frankfurt I	Dubai Al M	1500	0005	3		4	412.0	201912
Emirates	Frankfurt I	Dubai Al M	1500	0005	3		4	412.0	202002
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4		5	519.5	202001
Etihad Airv	Frankfurt I	Barbados	1020	1330	6		4	415.6	201904
Iberia	Frankfurt I	Madrid Ad	1715	1945	3		4	205.6	201906
Iberia	Frankfurt I	Madrid Ad	1715	1945	3		4	205.6	201909
Iberia	Frankfurt I	Madrid Ad	1715	1945	3		4	205.6	201912
Iberia	Frankfurt I	Madrid Ad	1715	1945	3		4	205.6	202002
Iberia	Madrid Ad	Frankfurt I	1620	1955	45		9	405.0	201903
Iberia	Madrid Ad	Frankfurt I	1725	2005	3		4	205.6	201906
Korean Air	Frankfurt I	Seoul Inch	0820	0150	1		1	103.9	201902

Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	4	415.6	201903
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	3	420.0	201902
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	9	935.1	201904
Korean Air	Moscow Sl	Frankfurt I	0520	0635	1	4	415.6	201911
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	5	500.0	201905
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	7	4	400.0	202002
Lufthansa	Almaty	Frankfurt I	0950	1320	1 4 6	12	1,020.0	201909
Lufthansa	Beijing Cap	Frankfurt I	0250	0710	6	4	415.6	201904
Lufthansa	Beijing Cap	Frankfurt I	0250	0710	6	3	311.7	201910
Lufthansa	Beijing Cap	Frankfurt I	0320	0740	1 3 5	13	1,350.7	201909
Lufthansa	Chicago O'	Frankfurt I	0200	1705	6	1	85.0	201903
Lufthansa	Dakar Blais	Frankfurt I	1040	1840	3	1	85.0	201910
Lufthansa	Dallas Dall	Frankfurt I	0525	2150	2	3	311.7	201905
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	6	5	519.5	201908
Lufthansa	Dallas Dall	Frankfurt I	0630	2150	4	3	255.0	201903
Lufthansa	Dallas Dall	Frankfurt I	2230	1500	4	4	340.0	201910
Lufthansa	Frankfurt I	Atlanta Ha	1520	1905	6	1	85.0	201909
Lufthansa	Frankfurt I	Beijing Cap	1030	0305	2 4	2	207.8	201902
Lufthansa	Frankfurt I	Bengaluru	1230	0055	6	4	340.0	201904
Lufthansa	Frankfurt I	Cairo Inter	2050	0045	2	5	425.0	201904
Lufthansa	Frankfurt I	Cairo Inter	2050	0045	2	5	425.0	201907
Lufthansa	Frankfurt I	Cairo Inter	2050	0045	2	4	340.0	201910
Lufthansa	Frankfurt I	Cairo Inter	2105	0100	5	5	425.0	201905
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7	4	340.0	201908
Lufthansa	Frankfurt I	Chengdu	0935	0110	1 6	9	935.1	201904
Lufthansa	Frankfurt I	Chengdu	0935	0110	1 6	9	935.1	201907
Lufthansa	Frankfurt I	Chicago O'	1555	1940	6	3	292.8	201903
Lufthansa	Frankfurt I	Chicago O'	2045	2315	123	15	1,275.0	201907
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7	1	103.9	201903
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7	4	415.6	201909
Lufthansa	Frankfurt I	Johannesb	0540	1625	6	4	340.0	201904
Lufthansa	Frankfurt I	Johannesb	0555	1640	2	2	170.0	201905
Lufthansa	Frankfurt I	Los Angele	1230	1530	3	4	340.0	201906
Lufthansa	Frankfurt I	Mexico Cit	1425	2020	6	4	415.6	201909
Lufthansa	Frankfurt I	Mexico Cit	1700	2255	3	3	311.7	201904
Lufthansa	Frankfurt I	Mexico Cit	1735	2330	4	5	519.5	201905
China Sout	Guangzhou	Frankfurt I	0555	1240	5	4	400.0	201907
China Sout	London Sta	Frankfurt I	0835	1035	2	5	500.0	201904
China Sout	London Sta	Frankfurt I	0835	1035	2	5	500.0	201907
China Sout	London Sta	Frankfurt I	0835	1055	4 6	9	900.0	201905
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	14	1,400.0	201912
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	201904
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	4	412.0	201911
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	4	412.0	201908
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	4	412.0	201911
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	4	412.0	201906
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	4	412.0	201909

Emirates	Frankfurt I	Dubai Al M	0930	1735	7	5	515.0	201912
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	5	515.0	201907
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	5	515.0	201910
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	5	515.0	201906
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	202002
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	4	415.6	201905
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	5	519.5	201910
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	5	519.5	201908
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	4	205.6	201912
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	4	205.6	202002
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	5	519.5	201912
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	5	519.5	201907
Korean Air	Moscow Sh	Frankfurt I	1245	1455	2 5 7	5	519.5	201902
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	5	700.0	202002
Korean Air	Moscow Sh	Frankfurt I	1345	1500	3 7	2	207.8	201902
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	8	831.2	201909
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	4	400.0	201911
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	4	400.0	201907
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	6	5	500.0	201906
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	6	4	400.0	201912
Lufthansa	Almaty	Frankfurt I	1840	2215	7	1	85.0	201903
Lufthansa	Atlanta Ha	Frankfurt I	0205	1630	67	2	207.8	201902
Lufthansa	Atlanta Ha	Frankfurt I	0400	1825	6	1	103.9	201902
Lufthansa	Atlanta Ha	Frankfurt I	1645	0730	3	4	415.6	201908
Lufthansa	Atlanta Ha	Frankfurt I	1820	0740	3	3	311.7	201903
Lufthansa	Atlanta Ha	Frankfurt I	2225	1310	6	4	340.0	201907
Lufthansa	Beijing Cap	Frankfurt I	0400	0730	6	5	519.5	201903
Lufthansa	Buenos Air	Frankfurt I	0205	1950	6	5	519.5	201903
Lufthansa	Chicago O'	Frankfurt I	0145	1705	234	13	1,105.0	201904
Lufthansa	Chicago O'	Frankfurt I	1630	0750	7	1	85.0	201906
Lufthansa	Dakar Blais	Frankfurt I	0110	0810	5	1	85.0	201903
Lufthansa	Dakar Blais	Frankfurt I	1120	1920	4	1	85.0	201905
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	6	4	415.6	201904
Lufthansa	Dallas Dall	Frankfurt I	0700	2220	5	3	255.0	201903
Lufthansa	Dallas Dall	Frankfurt I	2230	1500	4	4	340.0	201909
Lufthansa	Frankfurt I	Atlanta Ha	0835	1230	5	1	103.9	201902
Lufthansa	Frankfurt I	Atlanta Ha	1920	2325	56	2	207.8	201902
Lufthansa	Frankfurt I	Beijing Cap	0905	0140	5	5	519.5	201903
Lufthansa	Frankfurt I	Beijing Cap	0930	0100	5	4	415.6	201906
Lufthansa	Frankfurt I	Beijing Cap	0930	0100	5	3	311.7	201910
Lufthansa	Frankfurt I	Beijing Cap	1030	0305	4 7	4	415.6	201903
Lufthansa	Frankfurt I	Bengaluru	0505	1830	2	3	255.0	201902
Lufthansa	Frankfurt I	Cairo Inter	1910	0005	5	5	425.0	201903
Lufthansa	Frankfurt I	Chengdu	0935	0110	1 6	9	935.1	201908
China Sout	Guangzhou	Frankfurt I	0555	1240	5	5	500.0	201905
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201904
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	4	412.0	201903

Emirates	Dubai Al M	Frankfurt I	1240	1630	4	4	412.0	201911
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	4	412.0	201910
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	5	515.0	201911
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	5	515.0	202001
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	4	412.0	201902
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	4	412.0	201909
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	4	412.0	201904
Emirates	Maastricht	Frankfurt I	1040	1155	6	4	412.0	201902
Emirates	Maastricht	Frankfurt I	1040	1155	6	4	412.0	201909
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	5	519.5	201910
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	4	415.6	201910
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	201902
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	4	205.6	201902
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	5	257.0	201905
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	4	205.6	201904
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	10	450.0	202001
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	4	205.6	201904
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	9	405.0	201910
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	4	205.6	201904
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	5	519.5	201904
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	9	935.1	201905
Korean Air	Moscow Sh	Frankfurt I	0415	0620	1	1	103.9	201902
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	1	103.9	201902
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	5	519.5	201909
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	5	519.5	201903
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	4	560.0	201910
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	8	831.2	201908
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	4	560.0	201912
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	4	560.0	202002
Lufthansa	Almaty	Frankfurt I	0245	0530	4	2	170.0	201902
Lufthansa	Almaty	Frankfurt I	0950	1320	7	4	340.0	201907
Lufthansa	Atlanta Ha	Frankfurt I	0200	1630	67	3	311.7	201903
Lufthansa	Atlanta Ha	Frankfurt I	1550	0615	1	1	103.9	201902
Lufthansa	Atlanta Ha	Frankfurt I	1645	0730	3	4	415.6	201906
Lufthansa	Beijing Cap	Frankfurt I	0320	0740	1 3 5	14	1,454.6	201905
Lufthansa	Beijing Cap	Frankfurt I	0320	0740	1 3 5	13	1,350.7	201908
Lufthansa	Cairo Inter	Frankfurt I	0530	0950	3	4	340.0	201904
Lufthansa	Cairo Inter	Frankfurt I	0600	0920	1 3 6	12	1,020.0	201902
Lufthansa	Chicago O'	Frankfurt I	0135	1640	4	1	85.0	201902
Lufthansa	Chicago O'	Frankfurt I	0145	1705	234	11	935.0	201906
Lufthansa	Chicago O'	Frankfurt I	0235	1640	45	6	623.4	201903
Lufthansa	Chicago O'	Frankfurt I	0710	2230	5	1	85.0	201906
Lufthansa	Dallas Dall	Frankfurt I	2230	1500	4	4	340.0	201904
Lufthansa	Frankfurt I	Almaty	0715	1845	3	4	340.0	201903
Lufthansa	Frankfurt I	Ashgabat	0445	1305	6	4	340.0	201904
Lufthansa	Frankfurt I	Atlanta Ha	1035	1415	3	5	519.5	201905
Lufthansa	Frankfurt I	Atlanta Ha	1605	1950	6	4	340.0	201907

Lufthansa	Frankfurt I	Beijing Cap	0930	0100	5	5	519.5	201905
Lufthansa	Frankfurt I	Beijing Cap	0930	0100	5	5	519.5	201908
Lufthansa	Frankfurt I	Beijing Cap	1030	0305	2 4 7	6	623.4	201902
Lufthansa	Frankfurt I	Cairo Inter	2105	0100	5	4	340.0	201909
Lufthansa	Frankfurt I	Chengdu	0850	0110	6	1	103.9	201903
Cathay Pac	Frankfurt I	Milan Malp	1230	1355	1	4	432.0	202001
China Sout	Frankfurt I	Guangzhou	1500	0815	1	4	400.0	201903
China Sout	Frankfurt I	Guangzhou	1520	0740	5	4	400.0	201902
China Sout	Guangzhou	Frankfurt I	0100	0600	7	5	500.0	201906
China Sout	London Sta	Frankfurt I	0835	1055	4 6	8	800.0	201909
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	201905
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	201908
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	202001
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	202001
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	5	515.0	201909
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	5	515.0	201912
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	4	412.0	201912
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	4	412.0	201906
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	4	412.0	201904
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	5	515.0	201910
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	1	103.0	201903
Emirates	Maastricht	Frankfurt I	1040	1155	6	5	515.0	201906
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	201911
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	4	415.6	201904
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	5	519.5	201911
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	201909
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	201912
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	4	205.6	201903
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	4	205.6	201905
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	8	360.0	201906
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	5	700.0	202002
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	202002
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23 7	2	207.8	201902
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	5	700.0	201906
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	9	935.1	201905
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	8	831.2	202002
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	5	700.0	201910
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	5	500.0	201911
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	4	400.0	202001
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	4	400.0	201908
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	4	400.0	201911
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	7	5	500.0	201909
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6	4	400.0	201907
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	5	500.0	201910
Lufthansa	Almaty	Frankfurt I	0310	0555	3	4	340.0	201903
Lufthansa	Atlanta Ha	Frankfurt I	1645	0730	3	5	519.5	201907
Lufthansa	Atlanta Ha	Frankfurt I	2140	1225	6	1	85.0	201909

Lufthansa	Beijing Cap	Frankfurt I	0525	0855	1 3 5	7	727.3	201902
Lufthansa	Buenos Air	Frankfurt I	0115	1940	4	4	415.6	201905
Lufthansa	Chicago O'	Frankfurt I	1635	0755	4	1	85.0	201906
Lufthansa	Dakar Blais	Frankfurt I	2130	0530	1	5	519.5	201909
Lufthansa	Dallas Dall	Frankfurt I	0435	1945	1	3	255.0	201903
Lufthansa	Dallas Dall	Frankfurt I	0530	2150	4	1	85.0	201903
Lufthansa	Frankfurt I	Almaty	0715	1845	3	4	340.0	201902
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	12	1,020.0	201909
Lufthansa	Frankfurt I	Atlanta Ha	1605	1950	6	5	425.0	201906
Lufthansa	Frankfurt I	Beijing Cap	0930	0100	5	4	415.6	201907
Lufthansa	Frankfurt I	Bengaluru	1335	0200	3	5	425.0	201905
Lufthansa	Frankfurt I	Chengdu	1045	0305	1	1	103.9	201902
Lufthansa	Frankfurt I	Chicago O'	2045	2315	123	14	1,190.0	201904
Lufthansa	Frankfurt I	Curitiba Af	1145	1910	2	4	415.6	201904
China Sout	Frankfurt I	Guangzhou	0900	0245	7	4	400.0	201908
China Sout	Frankfurt I	Guangzhou	1440	0815	7	5	500.0	201903
China Sout	Frankfurt I	Guangzhou	1500	0815	1	5	500.0	201912
China Sout	Frankfurt I	Guangzhou	1500	0815	1	4	400.0	202002
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	14	1,400.0	201912
China Sout	Guangzhou	Frankfurt I	0100	0600	7	4	400.0	201904
China Sout	London Sta	Frankfurt I	0835	1035	2	5	500.0	201910
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	202002
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	5	515.0	201905
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	5	515.0	201908
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	5	515.0	201903
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	5	515.0	201906
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	5	515.0	201908
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	4	412.0	202001
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	4	412.0	201904
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	4	412.0	201903
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	5	515.0	201909
Emirates	Maastricht	Frankfurt I	1040	1155	6	4	412.0	201910
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	201912
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	5	257.0	201907
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	5	257.0	201910
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	4	205.6	201905
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	5	257.0	202002
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	5	257.0	202002
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	10	450.0	201905
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	4	205.6	201902
Iberia	Madrid Ad	Frankfurt I	1725	2005	3	4	205.6	201909
Korean Air	Frankfurt I	Seoul Inch	1725	1055	6	2	280.0	201902
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	201903
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	201906
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	10	1,039.0	201910
Korean Air	Moscow Sh	Frankfurt I	1245	1455	6	2	280.0	201902
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	4	560.0	201912

Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	8	831.2	201903
Korean Air	Vienna Int	Frankfurt I	0800	0930	2	2	207.8	201902
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	4	400.0	201904
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	4	400.0	201904
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	7	5	500.0	201903
LATAM Ca	Frankfurt I	Sao Paulo '	1940	0335	3	5	500.0	202001
Lufthansa	Almaty	Frankfurt I	0245	0530	6	5	425.0	201903
Lufthansa	Beijing Cap	Frankfurt I	0645	1015	5	1	103.9	201903
Lufthansa	Buenos Air	Frankfurt I	2115	1540	6	4	415.6	201906
Lufthansa	Dakar Blais	Frankfurt I	0130	0830	5	1	85.0	201902
Lufthansa	Dakar Blais	Frankfurt I	0240	1040	6	1	85.0	201906
Lufthansa	Dakar Blais	Frankfurt I	2130	0530	1	4	396.7	201906
Lufthansa	Dallas Dall	Frankfurt I	0335	1945	1	1	85.0	201903
Lufthansa	Dallas Dall	Frankfurt I	0525	2150	2	4	415.6	201908
Lufthansa	Frankfurt I	Almaty	0525	1655	5	5	425.0	201903
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	12	1,020.0	201907
Lufthansa	Frankfurt I	Ashgabat	0445	1405	6	1	85.0	201903
Lufthansa	Frankfurt I	Atlanta Ha	1930	2325	7	1	85.0	201903
Lufthansa	Frankfurt I	Beijing Cap	1150	0425	4	1	103.9	201903
Lufthansa	Frankfurt I	Bengaluru	1300	0225	6	4	340.0	201903
Lufthansa	Frankfurt I	Chennai	1715	0600	3	4	340.0	201908
Lufthansa	Frankfurt I	Chicago O'	1220	1450	4	1	85.0	201906
Lufthansa	Frankfurt I	Chicago O'	1420	1645	2	2	170.0	201902
China Carg	Frankfurt I	Shanghai P	1710	1120	1 4	8	800.0	201902
China Carg	Shanghai P	Frankfurt I	0920	1410	3 7	8	800.0	201902
China Sout	Frankfurt I	Guangzhou	0900	0245	7	4	400.0	201911
China Sout	Frankfurt I	Guangzhou	0900	0245	7	4	400.0	202001
China Sout	Frankfurt I	Guangzhou	1500	0815	1	4	400.0	202001
China Sout	Frankfurt I	Guangzhou	1520	0740	5	4	400.0	201910
China Sout	Guangzhou	Frankfurt I	0100	0600	7	4	400.0	201908
China Sout	London Sta	Frankfurt I	0835	1035	2	4	400.0	201903
China Sout	London Sta	Frankfurt I	0835	1055	4 6	8	800.0	201907
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	14	1,400.0	201903
Emirates	Dubai Al M	Frankfurt I	0140	0530	7	4	412.0	201903
Emirates	Dubai Al M	Frankfurt I	1240	1630	4	4	412.0	201907
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	4	412.0	201904
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	4	412.0	201907
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	4	412.0	201907
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	4	412.0	201910
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	4	412.0	201902
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	4	412.0	201909
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	4	412.0	201908
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	4	412.0	202001
Emirates	Maastricht	Frankfurt I	1040	1155	6	5	515.0	201911
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	201904
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	4	415.6	201912
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	4	205.6	201911

Iberia	Frankfurt I	Madrid Ad	2030	2250	45	8	360.0	201904
Korean Air	Frankfurt I	Oslo Garde	1345	1555	2	1	103.9	201902
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	4	415.6	201908
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	4	560.0	201904
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	4	560.0	201907
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1	4	415.6	201903
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	5	519.5	201905
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	5	700.0	201905
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	5	700.0	201908
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	4	560.0	201911
LATAM Ca	Amsterdar	Frankfurt I	1610	1820	7	4	400.0	201902
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	7	4	400.0	201904
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	6	4	400.0	201905
LATAM Ca	Frankfurt I	Sao Paulo '	1940	0335	3	5	500.0	201905
Lufthansa	Almaty	Frankfurt I	0950	1320	7	4	340.0	201908
Lufthansa	Atlanta Ha	Frankfurt I	0055	1540	5	3	255.0	201902
Lufthansa	Beijing Cap	Frankfurt I	0525	0855	1 5	2	207.8	201902
Lufthansa	Buenos Air	Frankfurt I	0115	1940	4	4	415.6	201907
Lufthansa	Buenos Air	Frankfurt I	0115	1940	4	3	311.7	201910
Lufthansa	Buenos Air	Frankfurt I	2115	1540	6	4	415.6	201907
Lufthansa	Chicago O'	Frankfurt I	0300	1705	6	3	255.0	201903
Lufthansa	Dakar Blais	Frankfurt I	0100	0900	6	4	415.6	201907
Lufthansa	Dakar Blais	Frankfurt I	0400	1200	5	1	85.0	201910
Lufthansa	Dakar Blais	Frankfurt I	0435	1135	3	4	340.0	201902
Lufthansa	Dallas Dall	Frankfurt I	0525	2150	2	5	519.5	201904
Lufthansa	Dallas Dall	Frankfurt I	0525	2150	2	3	311.7	201910
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	8	680.0	201908
Lufthansa	Frankfurt I	Atlanta Ha	1055	1450	3	4	415.6	201902
Lufthansa	Frankfurt I	Atlanta Ha	1520	1915	2	1	103.9	201903
Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	13	1,350.7	201904
Lufthansa	Frankfurt I	Cairo Inter	2105	0100	5	4	340.0	201906
China Sout	Guangzhou	Frankfurt I	0100	0600	7	4	400.0	201907
China Sout	Guangzhou	Frankfurt I	0555	1240	5	4	400.0	201904
China Sout	London Sta	Frankfurt I	0835	1055	4 6	9	900.0	201911
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	201906
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	201909
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	12	1,200.0	202002
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	5	515.0	202001
Emirates	Dubai Al M	Frankfurt I	1240	1630	4	4	412.0	201909
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	4	412.0	202001
Emirates	Frankfurt I	Dubai Al M	0830	1735	7	4	412.0	201903
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	4	412.0	202002
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	4	412.0	201906
Emirates	Maastricht	Frankfurt I	0815	0930	3	5	515.0	201907
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	5	519.5	201905
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	4	415.6	202001
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	4	205.6	201902

Iberia	Frankfurt I	Madrid Ad	2020	2300	6	4	205.6	201912
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	9	405.0	201903
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	8	360.0	202002
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	5	519.5	201909
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	4	560.0	201909
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	10	1,039.0	201907
Korean Air	Moscow Sl	Frankfurt I	0520	0635	1	5	519.5	201904
Korean Air	Moscow Sl	Frankfurt I	1340	1455	5	5	519.5	201908
Korean Air	Moscow Sl	Frankfurt I	1340	1455	5	5	519.5	202001
Korean Air	Moscow Sl	Frankfurt I	1345	1500	6	2	280.0	201902
Korean Air	Moscow Sl	Frankfurt I	1345	1500	6	4	560.0	201905
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	4	560.0	201904
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	4	560.0	201907
LATAM Ca	Amsterdar	Frankfurt I	1610	1820	7	4	400.0	202001
LATAM Ca	Amsterdar	Frankfurt I	1630	1840	3	5	500.0	201907
LATAM Ca	Amsterdar	Frankfurt I	1630	1840	3	5	500.0	201910
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6	4	400.0	201909
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	4	400.0	201911
Lufthansa	Almaty	Frankfurt I	0950	1320	1 4 6	11	935.0	201910
Lufthansa	Almaty	Frankfurt I	1615	1900	4	4	340.0	201903
Lufthansa	Atlanta Ha	Frankfurt I	1720	0740	3	1	103.9	201903
Lufthansa	Atlanta Ha	Frankfurt I	2225	1310	6	4	340.0	201904
Lufthansa	Atlanta Ha	Frankfurt I	2225	1310	6	3	255.0	201910
Lufthansa	Beijing Cap	Frankfurt I	0320	0740	1 3 5	12	1,246.8	201906
Lufthansa	Cairo Inter	Frankfurt I	0530	0950	3	4	340.0	201909
Lufthansa	Chicago O'	Frankfurt I	0250	1655	2	3	255.0	201903
Lufthansa	Dakar Blais	Frankfurt I	0100	0900	6	3	311.7	201906
Lufthansa	Dakar Blais	Frankfurt I	1120	1920	7	1	85.0	201910
Lufthansa	Dallas Dall	Frankfurt I	0225	1845	3	1	85.0	201903
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	6	4	415.6	201907
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	2 6	1	103.9	201905
Lufthansa	Frankfurt I	Ashgabat	0445	1305	6	4	340.0	201909
Lufthansa	Frankfurt I	Atlanta Ha	1035	1415	3	5	519.5	201907
Lufthansa	Frankfurt I	Atlanta Ha	1530	1915	2	4	340.0	201905
Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	13	1,350.7	201908
Lufthansa	Frankfurt I	Bengaluru	1230	0055	6	4	340.0	201910
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7	4	340.0	201907
Lufthansa	Frankfurt I	Cairo Inter	2110	0155	7	4	340.0	201903
Lufthansa	Frankfurt I	Chengdu	0935	0110	1 6	8	831.2	201905
China Sout	Frankfurt I	Guangzhou	0900	0245	7	4	400.0	202002
China Sout	Frankfurt I	Guangzhou	1440	0815	7	5	500.0	201906
China Sout	Frankfurt I	Guangzhou	1440	0815	7	4	400.0	202002
China Sout	Guangzhou	Frankfurt I	0100	0600	7	5	500.0	201909
China Sout	Guangzhou	Frankfurt I	0555	1220	1	4	400.0	201911
China Sout	Guangzhou	Frankfurt I	0555	1240	5	5	500.0	202001
China Sout	London Sta	Frankfurt I	0835	1055	4 6	8	800.0	201912
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	12	1,200.0	201902

Emirates	Dubai Al M	Frankfurt I	1055	1445	4	4	412.0	201907
Emirates	Dubai Al M	Frankfurt I	1240	1730	7	5	515.0	201906
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	4	412.0	201902
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	5	515.0	202002
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	4	412.0	201906
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	4	412.0	201909
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	4	412.0	201902
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	5	515.0	201905
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	5	515.0	201908
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	4	412.0	201907
Emirates	Frankfurt I	Mexico Cit	2025	0140	7	4	412.0	201903
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	201906
Emirates	Maastricht	Frankfurt I	1040	1155	6	5	515.0	201903
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	5	519.5	201908
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	4	415.6	201907
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	4	415.6	201906
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	4	415.6	201907
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	5	257.0	201906
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	8	360.0	201912
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	5	257.0	201908
Iberia	Madrid Ad	Frankfurt I	1620	1840	6	4	205.6	202001
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	2	280.0	201902
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	4	415.6	201904
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	2	207.8	201902
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	4	400.0	201904
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	5	500.0	202001
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	7	5	500.0	201912
Lufthansa	Almaty	Frankfurt I	0950	1320	7	5	425.0	201906
Lufthansa	Buenos Air	Frankfurt I	2115	1540	6	4	415.6	201909
Lufthansa	Cairo Inter	Frankfurt I	0600	1015	1	4	340.0	201908
Lufthansa	Dakar Blais	Frankfurt I	0435	1135	3	4	340.0	201903
Lufthansa	Dakar Blais	Frankfurt I	0930	1630	1	4	340.0	201903
Lufthansa	Frankfurt I	Ashgabat	0445	1305	6	4	340.0	201905
Lufthansa	Frankfurt I	Atlanta Ha	1605	1950	6	3	255.0	201909
Lufthansa	Frankfurt I	Atlanta Ha	1930	0025	56	5	519.5	201903
Lufthansa	Frankfurt I	Atlanta Ha	1930	2325	56	6	623.4	201902
Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	1	103.9	201903
Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	13	1,350.7	201909
Lufthansa	Frankfurt I	Cairo Inter	1950	0045	2	4	340.0	201903
Lufthansa	Frankfurt I	Cairo Inter	2105	0100	5	5	425.0	201908
Lufthansa	Frankfurt I	Cairo Inter	2105	0100	5	4	340.0	201910
Lufthansa	Frankfurt I	Johannesb	0455	1640	1 7	8	680.0	201902
Lufthansa	Frankfurt I	Mexico Cit	1805	2359	5	3	311.7	201904
Lufthansa	Frankfurt I	Mumbai	1750	0525	1 5	8	680.0	201906
Lufthansa	Frankfurt I	Mumbai	1750	0525	1 5	9	765.0	201909
Lufthansa	Frankfurt I	New York J	1950	2325	34	6	510.0	201903
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5	3	255.0	201908

Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	13	1,105.0	201907
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201909
Emirates	Dubai Al M	Frankfurt I	1240	1630	7	4	412.0	201903
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	4	412.0	201908
Emirates	Frankfurt I	Dubai Al M	0930	1735	7	4	412.0	201911
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	201911
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	201903
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	5	519.5	201906
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	5	257.0	201911
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	10	450.0	201908
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	1	103.9	201902
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	4	415.6	202001
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	8	831.2	201903
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	8	831.2	201906
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	8	831.2	201909
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	8	831.2	202002
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5	4	415.6	201912
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	5	700.0	201908
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	10	1,039.0	201907
Korean Air	Moscow Sh	Frankfurt I	1345	1500	23	10	1,039.0	201910
Korean Air	Vienna Int	Frankfurt I	1325	1455	4	3	420.0	201902
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	4	400.0	201905
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	4	400.0	202002
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	5	500.0	201903
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	4	400.0	201909
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	4	400.0	201903
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	4	400.0	201912
Lufthansa	Almaty	Frankfurt I	0245	0530	6	4	340.0	201902
Lufthansa	Almaty	Frankfurt I	0245	0530	4 7	8	680.0	201903
Lufthansa	Almaty	Frankfurt I	0950	1320	7	4	340.0	201905
Lufthansa	Atlanta Ha	Frankfurt I	0155	1640	1	1	85.0	201903
Lufthansa	Atlanta Ha	Frankfurt I	0300	1630	67	6	623.4	201903
Lufthansa	Atlanta Ha	Frankfurt I	1500	0545	5	1	103.9	201902
Lufthansa	Atlanta Ha	Frankfurt I	2225	1310	6	4	340.0	201905
Lufthansa	Atlanta Ha	Frankfurt I	2225	1310	6	5	425.0	201908
Lufthansa	Beijing Cap	Frankfurt I	0400	0730	6	2	207.8	201902
Lufthansa	Cairo Inter	Frankfurt I	0600	0920	1 3 6	13	1,105.0	201903
Lufthansa	Chicago O'	Frankfurt I	0135	1640	45	3	292.8	201903
Lufthansa	Chicago O'	Frankfurt I	0145	1705	234	12	1,020.0	201910
Lufthansa	Dakar Blais	Frankfurt I	1120	1920	7	1	85.0	201906
Lufthansa	Dakar Blais	Frankfurt I	2130	0530	1	4	415.6	201904
Lufthansa	Dallas Dall	Frankfurt I	0410	1930	7	3	255.0	201903
Lufthansa	Dallas Dall	Frankfurt I	0600	2220	5	2	170.0	201903
Lufthansa	Frankfurt I	Atlanta Ha	1530	1915	2	4	340.0	201909
Lufthansa	Frankfurt I	Atlanta Ha	1605	1950	6	4	340.0	201904
Lufthansa	Frankfurt I	Beijing Cap	0930	0100	5	4	415.6	201909
Lufthansa	Frankfurt I	Chengdu	0935	0110	1 6	9	935.1	201909

Lufthansa	Frankfurt I	Chennai	1515	0445	4		4	340.0	201902
Lufthansa	Frankfurt I	Chicago O'	1420	1635	2		1	85.0	201903
Lufthansa	Frankfurt I	Chicago O'	1540	1755	4		4	340.0	201902
Lufthansa	Frankfurt I	Curitiba Af	1145	1910	2		3	311.7	201906
Lufthansa	Frankfurt I	Dakar Blais	0445	0855	6		1	85.0	201910
Lufthansa	Frankfurt I	Dammam	1400	2125	1		2	170.0	201902
Lufthansa	Frankfurt I	Johannesb	0455	1630	6		4	340.0	201902
Lufthansa	Frankfurt I	Johannesb	0545	1630	7		4	340.0	201905
China Sout	Frankfurt I	Guangzhou	1500	0815	1		4	400.0	201908
China Sout	Frankfurt I	Shanghai P	1520	0650	2	5 7	13	1,300.0	201909
China Sout	Guangzhou	Frankfurt I	0100	0600	7		4	400.0	201911
China Sout	London Sta	Frankfurt I	0835	1035	2		4	400.0	201906
China Sout	Shanghai P	Frankfurt I	0650	1220	2	5 7	13	1,300.0	201910
China Sout	Shanghai P	Frankfurt I	0650	1220	1	4 6	13	1,300.0	201906
Emirates	Dubai Al M	Frankfurt I	1055	1445	4		4	412.0	201909
Emirates	Dubai Al M	Frankfurt I	1320	1710	5		4	412.0	201904
Emirates	Frankfurt I	Dubai Al M	1355	2300	6		4	412.0	201904
Emirates	Frankfurt I	Dubai Al M	1355	2300	6		4	412.0	201910
Emirates	Frankfurt I	Dubai Al M	1500	0005	3		4	412.0	201904
Emirates	Frankfurt I	Dubai Al M	1500	0005	3		4	412.0	201911
Emirates	Frankfurt I	Mexico Cit	2125	0140	7		4	412.0	201905
Emirates	Maastricht	Frankfurt I	0815	0930	3		4	412.0	201904
Emirates	Maastricht	Frankfurt I	1040	1155	6		4	412.0	201905
Emirates	Maastricht	Frankfurt I	1040	1155	6		5	515.0	201908
Emirates	Maastricht	Frankfurt I	1040	1155	6		4	412.0	202001
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6		4	415.6	201912
Etihad Airv	Frankfurt I	Barbados	0850	1200	4		4	415.6	201907
Etihad Airv	Frankfurt I	Barbados	1020	1330	6		4	415.6	201905
Etihad Airv	Frankfurt I	Barbados	1020	1330	6		5	519.5	202002
Iberia	Frankfurt I	Madrid Ad	2020	2300	6		5	257.0	201908
Iberia	Frankfurt I	Madrid Ad	2020	2300	6		4	205.6	202001
Iberia	Frankfurt I	Madrid Ad	2030	2250	45		8	360.0	201907
Iberia	Madrid Ad	Frankfurt I	1620	1955	45		9	405.0	201911
Iberia	Madrid Ad	Frankfurt I	1620	1955	45		10	450.0	202001
Iberia	Madrid Ad	Frankfurt I	1725	2005	3		5	257.0	201905
Iberia	Madrid Ad	Frankfurt I	1725	2005	3		4	205.6	201908
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6		4	560.0	201910
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4		5	700.0	201910
Korean Air	Moscow Sh	Frankfurt I	0520	0635	1		4	415.6	201906
Korean Air	Moscow Sh	Frankfurt I	1340	1455	5		2	207.8	201902
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6		5	700.0	201911
Korean Air	Vienna Int	Frankfurt I	1315	1445	4		1	140.0	201902
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7		5	500.0	201912
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3		4	400.0	201906
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	7		4	400.0	201907
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6		4	400.0	201902
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6		5	500.0	201908

LATAM Ca	Frankfurt I	Sao Paulo '	1940	0335	3		4	400.0	201902
Lufthansa	Almaty	Frankfurt I	0245	0530	2		3	255.0	201902
Lufthansa	Almaty	Frankfurt I	0310	0555	3		3	255.0	201902
Lufthansa	Almaty	Frankfurt I	0950	1320	1	4 6	13	1,105.0	201904
Lufthansa	Cairo Inter	Frankfurt I	0600	1015	1		3	255.0	201910
Lufthansa	Chicago O'	Frankfurt I	2115	1220	6		1	103.9	201903
Lufthansa	Dakar Blais	Frankfurt I	0930	1630	1		2	170.0	201902
Lufthansa	Dallas Dall	Frankfurt I	0310	1930	7		4	340.0	201902
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	2	6	2	207.8	201910
Lufthansa	Dallas Dall	Frankfurt I	2230	1500	4		5	425.0	201905
Lufthansa	Dallas Dall	Frankfurt I	2230	1500	4		5	425.0	201908
Lufthansa	Frankfurt I	Atlanta Ha	0905	1310	1		1	103.9	201902
Lufthansa	Frankfurt I	Atlanta Ha	1035	1415	3		4	415.6	201906
Lufthansa	Frankfurt I	Cairo Inter	2050	0045	2		4	340.0	201909
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7		5	425.0	201909
Lufthansa	Frankfurt I	Chennai	1715	0600	3		4	340.0	201904
Lufthansa	Frankfurt I	Chicago O'	2125	2355	3		1	85.0	201906
China Sout	Shanghai P	Frankfurt I	0650	1220	1	4 6	12	1,200.0	201902
Emirates	Dubai Al M	Frankfurt I	1055	1445	4		4	412.0	201902
Emirates	Dubai Al M	Frankfurt I	1240	1630	4		4	412.0	201903
Emirates	Dubai Al M	Frankfurt I	1240	1630	4		4	412.0	201906
Emirates	Dubai Al M	Frankfurt I	1240	1730	7		4	412.0	201905
Emirates	Frankfurt I	Dubai Al M	1940	0445	4		4	412.0	201903
Emirates	Maastricht	Frankfurt I	1040	1155	6		4	412.0	201907
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4		4	415.6	201902
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6		4	415.6	201902
Iberia	Frankfurt I	Madrid Ad	2030	2250	45		9	405.0	201910
Iberia	Madrid Ad	Frankfurt I	1620	1840	6		4	205.6	201902
Korean Air	Frankfurt I	Oslo Garde	1330	1540	2		1	103.9	201902
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1		4	415.6	202002
Korean Air	Frankfurt I	Seoul Inch	1735	1105	4		1	140.0	201902
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6		5	700.0	201906
Korean Air	Moscow Sl	Frankfurt I	1340	1455	5		5	519.5	201911
Korean Air	Moscow Sl	Frankfurt I	1345	1500	6		4	560.0	201909
Korean Air	Moscow Sl	Frankfurt I	1345	1500	23		8	831.2	201906
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7		4	400.0	201908
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6		4	400.0	201910
LATAM Ca	Frankfurt I	Sao Paulo '	1920	0325	6		5	500.0	201903
LATAM Ca	Frankfurt I	Sao Paulo '	1940	0335	3		4	400.0	201908
Lufthansa	Almaty	Frankfurt I	0950	1320	1	6	1	85.0	201909
Lufthansa	Atlanta Ha	Frankfurt I	0300	1745	7		1	85.0	201903
Lufthansa	Beijing Cap	Frankfurt I	0655	1025	3		2	207.8	201903
Lufthansa	Chicago O'	Frankfurt I	0135	1640	45		2	170.0	201902
Lufthansa	Chicago O'	Frankfurt I	0150	1655	2		1	85.0	201903
Lufthansa	Chicago O'	Frankfurt I	2315	1450	6		1	85.0	201902
Lufthansa	Dakar Blais	Frankfurt I	0100	0900	6		4	415.6	201909
Lufthansa	Dakar Blais	Frankfurt I	0240	0940	4		4	340.0	201902

Lufthansa	Dallas Dall	Frankfurt I	2230	1500	4	4	340.0	201906
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	12	1,020.0	201904
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	11	935.0	201910
Lufthansa	Frankfurt I	Ashgabat	0510	1430	6	4	340.0	201903
Lufthansa	Frankfurt I	Atlanta Ha	1035	1415	3	4	415.6	201904
Lufthansa	Frankfurt I	Atlanta Ha	1035	1415	3	4	415.6	201910
Lufthansa	Frankfurt I	Atlanta Ha	1520	2015	2	3	311.7	201903
Lufthansa	Frankfurt I	Atlanta Ha	1605	1950	6	4	340.0	201905
Lufthansa	Frankfurt I	Atlanta Ha	1605	1950	6	5	425.0	201908
Lufthansa	Frankfurt I	Atlanta Ha	1930	2325	56	4	415.6	201903
Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	13	1,350.7	201905
Lufthansa	Frankfurt I	Cairo Inter	2050	0045	2	4	340.0	201906
Lufthansa	Frankfurt I	Cairo Inter	2105	0100	5	4	340.0	201904
Lufthansa	Frankfurt I	Cairo Inter	2105	0100	5	4	340.0	201907
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7	3	255.0	201910
Lufthansa	Frankfurt I	Chengdu	1045	0305	1 6	8	831.2	201903
Lufthansa	Frankfurt I	Chennai	1715	0600	3	5	425.0	201905
Lufthansa	Frankfurt I	Chicago O'	0810	1055	1	1	85.0	201902
Lufthansa	Frankfurt I	Chicago O'	1335	1605	4	4	340.0	201910
Lufthansa	Frankfurt I	Dakar Blais	1845	2350	2	4	340.0	201902
Lufthansa	Frankfurt I	Dakar Blais	2125	0135	3	1	85.0	201910
Lufthansa	Frankfurt I	Dakar Blais	2155	0205	7	1	85.0	201906
Lufthansa	Frankfurt I	Johannesb	0540	1625	6	4	340.0	201910
Lufthansa	Frankfurt I	Johannesb	0555	1640	2	5	425.0	201907
China Sout	Frankfurt I	Guangzhou	0900	0245	7	4	400.0	201907
China Sout	Frankfurt I	Guangzhou	1500	0815	1	5	500.0	201904
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	13	1,300.0	201904
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	13	1,300.0	201907
China Sout	Frankfurt I	Shanghai P	1520	0650	1 4 6	12	1,200.0	201903
China Sout	Guangzhou	Frankfurt I	0100	0600	7	4	400.0	201902
China Sout	Guangzhou	Frankfurt I	0555	1220	1	5	500.0	201909
China Sout	London Sta	Frankfurt I	0835	1035	2	4	400.0	201909
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	5	515.0	201912
Emirates	Dubai Al M	Frankfurt I	1240	1630	4	5	515.0	202001
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	4	412.0	201909
Emirates	Frankfurt I	Dubai Al M	1940	0445	4	5	515.0	202001
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	5	515.0	201903
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	4	412.0	201912
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	4	412.0	201911
Emirates	Frankfurt I	Mexico Cit	2125	0140	7	4	412.0	201907
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	201902
Emirates	Maastricht	Frankfurt I	0815	0930	3	5	515.0	201905
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	201904
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	5	519.5	201908
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	5	519.5	201903
Etihad Airv	Frankfurt I	Barbados	1020	1330	6	5	519.5	201906
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	9	405.0	201911

Iberia	Madrid Ad	Frankfurt I	1620	1840	6	4	205.6	201910
Korean Air	Frankfurt I	Seoul Inch	0900	0330	1	5	519.5	201907
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	5	700.0	201905
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	5	700.0	201908
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	4	560.0	201911
Korean Air	Frankfurt I	Seoul Inch	1735	1205	3 7	2	207.8	201902
Korean Air	Frankfurt I	Seoul Inch	1735	1205	23	2	207.8	201902
Korean Air	Moscow Sh	Frankfurt I	1345	1500	6	4	560.0	201904
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	7	5	500.0	201906
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	4	400.0	201909
LATAM Ca	Frankfurt I	Sao Paulo	1920	0325	6	5	500.0	201911
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	4	400.0	201903
Lufthansa	Buenos Air	Frankfurt I	0115	1940	4	4	415.6	201906
Lufthansa	Dakar Blais	Frankfurt I	0130	0830	5	4	340.0	201903
Lufthansa	Dallas Dall	Frankfurt I	0530	2150	4	4	340.0	201902
Lufthansa	Dallas Dall	Frankfurt I	0605	2230	6	4	415.6	201905
Lufthansa	Frankfurt I	Almaty	0525	1655	5	2	170.0	201902
Lufthansa	Frankfurt I	Almaty	0635	1805	7	4	340.0	201903
Lufthansa	Frankfurt I	Ashgabat	0445	1305	6	4	340.0	201910
Lufthansa	Frankfurt I	Atlanta Ha	1605	1950	6	3	255.0	201910
Lufthansa	Frankfurt I	Beijing Cap	0950	0120	2 4 7	13	1,350.7	201907
Lufthansa	Frankfurt I	Bengaluru	1230	0055	6	5	425.0	201908
Lufthansa	Frankfurt I	Bengaluru	1335	0200	3	4	340.0	201910
Lufthansa	Frankfurt I	Chennai	1515	0445	4	4	340.0	201903
Lufthansa	Frankfurt I	Chennai	1715	0600	3	4	340.0	201910
Lufthansa	Frankfurt I	Chicago O'	1000	1345	7	3	255.0	201903
Lufthansa	Frankfurt I	Chicago O'	1335	1605	4	4	340.0	201909
Lufthansa	Frankfurt I	Chicago O'	2045	2315	123	11	935.0	201906
Lufthansa	Frankfurt I	Dakar Blais	1845	2350	2	4	340.0	201903
Lufthansa	Frankfurt I	Dallas Dall	1530	1935	5	2	170.0	201903
Lufthansa	Frankfurt I	Johannesb	0540	1625	6	5	425.0	201908
Lufthansa	Frankfurt I	Mexico Cit	1700	2255	3	4	415.6	201908
Lufthansa	Frankfurt I	Mexico Cit	1735	2230	4	1	103.9	201904
China Sout	Frankfurt I	Guangzhou	1440	0815	7	4	400.0	201902
China Sout	Frankfurt I	Guangzhou	1440	0815	7	4	400.0	202001
China Sout	Frankfurt I	Guangzhou	1500	0815	1	5	500.0	201907
China Sout	Frankfurt I	Guangzhou	1500	0815	1	4	400.0	201910
China Sout	Frankfurt I	Guangzhou	1520	0740	5	4	400.0	201907
China Sout	Frankfurt I	Shanghai P	1520	0650	2 5 7	13	1,300.0	201910
China Sout	Guangzhou	Frankfurt I	0100	0600	7	4	400.0	202002
China Sout	Guangzhou	Frankfurt I	0555	1240	5	4	400.0	201902
China Sout	Guangzhou	Frankfurt I	0555	1240	5	4	400.0	202002
China Sout	London Sta	Frankfurt I	0835	1035	2	5	500.0	201912
China Sout	London Sta	Frankfurt I	0835	1055	4 6	9	900.0	201903
China Sout	Shanghai P	Frankfurt I	0650	1220	2 5 7	13	1,300.0	201907
China Sout	Shanghai P	Frankfurt I	0650	1220	1 4 6	13	1,300.0	201910
Emirates	Dubai Al M	Frankfurt I	0140	0630	7	5	515.0	201909

Emirates	Dubai Al M	Frankfurt I	0140	0630	7	4	412.0	202002
Emirates	Dubai Al M	Frankfurt I	1055	1445	4	5	515.0	201910
Emirates	Dubai Al M	Frankfurt I	1320	1710	5	5	515.0	201908
Emirates	Frankfurt I	Dubai Al M	1355	2300	6	5	515.0	201906
Emirates	Frankfurt I	Dubai Al M	1500	0005	3	4	412.0	201908
Emirates	Frankfurt I	Dubai Al M	2010	0515	5	4	412.0	201906
Emirates	Frankfurt I	Mexico Cit	1810	2325	4	5	515.0	201905
Emirates	Maastricht	Frankfurt I	0815	0930	3	4	412.0	201908
Etihad Airv	Abu Dhabi	Frankfurt I	0105	0600	4	4	415.6	201907
Etihad Airv	Abu Dhabi	Frankfurt I	0235	0730	6	5	519.5	201903
Etihad Airv	Frankfurt I	Barbados	0850	1200	4	5	519.5	202001
Iberia	Frankfurt I	Madrid Ad	1715	1945	3	4	205.6	201908
Iberia	Frankfurt I	Madrid Ad	2020	2300	6	4	205.6	201907
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	8	360.0	201902
Iberia	Frankfurt I	Madrid Ad	2030	2250	45	10	450.0	201908
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	8	360.0	201904
Iberia	Madrid Ad	Frankfurt I	1620	1955	45	8	360.0	201907
Korean Air	Frankfurt I	Seoul Inch	1735	1205	6	4	560.0	202001
Korean Air	Frankfurt I	Seoul Inch	1735	1205	4	5	700.0	202001
Korean Air	Moscow Sl	Frankfurt I	0520	0635	1	5	519.5	201912
Korean Air	Moscow Sl	Frankfurt I	0520	0635	1	4	415.6	202002
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	4	400.0	201905
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	4	400.0	201912
LATAM Ca	Amsterdan	Frankfurt I	1610	1820	6	5	500.0	202002
LATAM Ca	Amsterdan	Frankfurt I	1630	1840	3	4	400.0	201902
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	4	400.0	201906
LATAM Ca	Frankfurt I	Sao Paulo	1940	0335	3	4	400.0	201909
Lufthansa	Almaty	Frankfurt I	0245	0530	4 7	3	255.0	201902
Lufthansa	Almaty	Frankfurt I	0245	0530	2	4	340.0	201903
Lufthansa	Almaty	Frankfurt I	0950	1320	7	3	255.0	201910
Lufthansa	Buenos Air	Frankfurt I	0115	1940	4	4	415.6	201909
Lufthansa	Buenos Air	Frankfurt I	2115	1540	6	4	415.6	201905
Lufthansa	Buenos Air	Frankfurt I	2115	1540	6	5	519.5	201908
Lufthansa	Cairo Inter	Frankfurt I	0530	0950	3	4	340.0	201910
Lufthansa	Chicago O'	Frankfurt I	0055	1600	6	1	85.0	201902
Lufthansa	Dakar Blais	Frankfurt I	0110	0810	5	3	255.0	201902
Lufthansa	Dakar Blais	Frankfurt I	1040	1840	3	1	85.0	201906
Lufthansa	Dakar Blais	Frankfurt I	2130	0530	1	4	415.6	201905
Lufthansa	Dallas Dall	Frankfurt I	0525	2150	2	4	415.6	201906
Lufthansa	Dallas Dall	Frankfurt I	0600	2220	5	4	340.0	201902
Lufthansa	Dallas Dall	Frankfurt I	1310	0530	6	2	170.0	201903
Lufthansa	Dallas Dall	Frankfurt I	2230	1500	4	4	340.0	201907
Lufthansa	Frankfurt I	Mexico Cit	1745	2230	1	1	103.9	201904
Lufthansa	Frankfurt I	Moscow D	2100	0210	5	4	340.0	201902
Lufthansa	Frankfurt I	Mumbai	1745	0520	34	9	765.0	201908
Lufthansa	Frankfurt I	New York J	2005	2240	4	5	425.0	201908
Lufthansa	Frankfurt I	New York J	2020	2300	56	9	765.0	201905

Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7	4	340.0	201907
Lufthansa	Frankfurt I	Sao Paulo	0445	1155	5	4	415.6	201909
Lufthansa	Frankfurt I	Shanghai P	0820	0105	1 3	7	727.3	201910
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	2 4 6	12	1,020.0	201905
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	2 4 6	13	1,105.0	201908
Lufthansa	Frankfurt I	Tokyo Nari	2230	1655	6	5	519.5	201906
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	18	1,870.2	201909
Lufthansa	Frankfurt I	Toronto Le	1440	1720	1	1	85.0	201903
Lufthansa	Guadalajar	Frankfurt I	0410	2230	45	9	935.1	201905
Lufthansa	Hyderabad	Frankfurt I	1120	1710	4	4	340.0	201906
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	5	425.0	201907
Lufthansa	Los Angele	Frankfurt I	1830	1320	5	3	255.0	201903
Lufthansa	Los Angele	Frankfurt I	2050	1700	6	4	340.0	201904
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	4	340.0	201907
Lufthansa	Mumbai	Frankfurt I	0735	1235	1	5	425.0	201909
Lufthansa	Mumbai	Frankfurt I	0755	1255	45	8	680.0	201910
Lufthansa	Novosibirs	Frankfurt I	2010	2130	7	4	340.0	201904
Lufthansa	Novosibirs	Frankfurt I	2035	2155	4	4	340.0	201904
Lufthansa	Shanghai P	Frankfurt I	0335	0835	2 4	8	831.2	201903
Lufthansa	Shanghai P	Frankfurt I	0430	1000	5 7	8	831.2	201907
Lufthansa	Shanghai P	Frankfurt I	0820	1350	1 3456	22	2,285.8	201907
Qatar Airw	Doha	Frankfurt I	0720	1240	1	4	415.6	201908
Qatar Airw	Doha	Frankfurt I	0935	1455	4	4	415.6	201902
Qatar Airw	Doha	Frankfurt I	0935	1455	4	5	519.5	201905
Qatar Airw	Doha	Frankfurt I	0935	1455	4	5	519.5	201908
Qatar Airw	Doha	Frankfurt I	1225	1745	2	5	519.5	201910
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201906
Qatar Airw	Doha	Frankfurt I	1310	1830	6	5	519.5	201906
Qatar Airw	Doha	Frankfurt I	1310	1830	6	4	415.6	201909
Qatar Airw	Frankfurt I	Doha	1440	2130	1	5	519.5	201907
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	202002
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	201908
Qatar Airw	Frankfurt I	Doha	1945	0235	2	5	519.5	201912
Qatar Airw	Frankfurt I	Doha	2030	0320	6	5	519.5	201906
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	201902
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201907
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	201904
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	5	500.0	201911
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	5	500.0	201908
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201911
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	5	550.0	201905
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	5	550.0	202001
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	202002
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	5	500.0	201904
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201911
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	4	260.0	201902
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5	12	481.2	201909

Turkish Air	Lagos	Frankfurt I	0240	1120	5	4	260.0	201909
Lufthansa	Frankfurt I	Toronto Le	1400	1630	5	1	85.0	201903
Lufthansa	Guadalajar	Frankfurt I	0200	2020	7	4	415.6	201906
Lufthansa	Guadalajar	Frankfurt I	0410	2230	45	4	415.6	201910
Lufthansa	Hyderabad	Frankfurt I	1120	1710	4	5	425.0	201908
Lufthansa	Hyderabad	Frankfurt I	1135	1640	2	4	340.0	201903
Lufthansa	Istanbul At	Frankfurt I	0330	0530	3 5 7	12	1,020.0	201907
Lufthansa	Mumbai	Frankfurt I	0655	1125	45	9	765.0	201903
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 7	13	1,105.0	201906
Lufthansa	New York J	Frankfurt I	0130	1455	6	4	340.0	201910
Lufthansa	New York J	Frankfurt I	0130	1500	3	4	340.0	201904
Lufthansa	Novosibirs	Frankfurt I	0410	0530	6	4	340.0	201905
Lufthansa	Novosibirs	Frankfurt I	0510	0530	5	1	85.0	201903
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 4 6	13	1,105.0	201904
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 4 6	13	1,105.0	201907
Lufthansa	Novosibirs	Frankfurt I	1220	1240	4	3	255.0	201902
Lufthansa	Novosibirs	Frankfurt I	2035	2155	4	5	425.0	201905
Lufthansa	Sao Paulo '	Frankfurt I	0035	1750	3	2	207.8	201906
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7	1	103.9	201903
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	23 5 7	17	1,766.3	201909
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2 7	8	831.2	201905
Lufthansa	Shanghai P	Frankfurt I	0935	1435	2 7	8	831.2	201903
Lufthansa	Shanghai P	Frankfurt I	0935	1435	1 3456	22	2,285.8	201903
Qatar Airw	Doha	Frankfurt I	0720	1240	1	4	415.6	201906
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	201905
Qatar Airw	Doha	Frankfurt I	1255	1820	3	5	325.0	202001
Qatar Airw	Doha	Frankfurt I	1310	1830	6	4	415.6	201904
Qatar Airw	Frankfurt I	Doha	1945	0235	2	5	519.5	201910
Qatar Airw	Frankfurt I	Doha	2030	0320	6	5	519.5	201911
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	201911
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201909
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	5	500.0	201906
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201906
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	5	500.0	201904
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	5	550.0	201903
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	4	260.0	201904
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	4	260.0	201907
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	4	260.0	201903
Turkish Air	Lagos	Frankfurt I	0240	1120	5	4	260.0	201904
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	1	85.0	201903
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	13	1,105.0	201906
Lufthansa	Frankfurt I	Atlanta Ha	1520	1915	2	1	85.0	201902
Lufthansa	Frankfurt I	Beijing Cap	0930	0100	5	4	415.6	201904
Lufthansa	Frankfurt I	Beijing Cap	1030	0305	2 4 7	5	519.5	201903
Lufthansa	Frankfurt I	Bengaluru	0505	1830	2	4	340.0	201903
Lufthansa	Frankfurt I	Chennai	1715	0600	3	4	340.0	201906
Lufthansa	Frankfurt I	Chennai	1715	0600	3	4	340.0	201909

Lufthansa	Frankfurt I	Chicago O'	0840	1055	3	1	85.0	201902
Lufthansa	Frankfurt I	Chicago O'	1540	1755	4	1	85.0	201903
Lufthansa	Frankfurt I	Chicago O'	2045	2315	123	11	935.0	201910
Lufthansa	Frankfurt I	Dakar Blais	1040	1450	5	1	85.0	201906
Lufthansa	Frankfurt I	Dallas Dall	1530	1935	5	4	340.0	201902
Lufthansa	Frankfurt I	Dammam	1425	2110	1	3	255.0	201910
Lufthansa	Frankfurt I	Johannesb	0545	1630	7	4	340.0	201904
Lufthansa	Frankfurt I	Mexico Cit	1735	2330	4	5	519.5	201908
Lufthansa	Frankfurt I	Mexico Cit	1745	2330	1	5	519.5	201907
Lufthansa	Frankfurt I	Mexico Cit	1745	2330	1	3	311.7	201910
Lufthansa	Frankfurt I	Mumbai	2035	0810	2	4	340.0	201909
Lufthansa	Frankfurt I	New York J	1930	2305	6	1	85.0	201903
Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7	3	255.0	201910
Lufthansa	Frankfurt I	Sao Paulo '	2040	0350	7	5	519.5	201909
Lufthansa	Frankfurt I	Shanghai P	0720	0105	1 3	8	831.2	201903
Lufthansa	Frankfurt I	Shanghai P	0915	0200	4 6	10	1,039.0	201908
Lufthansa	Frankfurt I	Shanghai P	0915	0300	4 6	9	935.1	201903
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2200	6	1	85.0	201903
Lufthansa	Frankfurt I	Tokyo Nari	2110	1655	1 3 5	12	1,246.8	201902
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	2 4	9	935.1	201904
Lufthansa	Frankfurt I	Toronto Le	1440	1720	5	1	85.0	201902
Lufthansa	Frankfurt I	Toronto Le	1440	1820	1	3	255.0	201903
Lufthansa	Houston G	Frankfurt I	2345	1625	2	2	170.0	201902
Lufthansa	Hyderabad	Frankfurt I	0950	1455	5	5	425.0	201903
Lufthansa	Hyderabad	Frankfurt I	1055	1645	2 6	9	765.0	201908
Lufthansa	New York J	Frankfurt I	0220	1445	3	3	311.7	201903
Lufthansa	Novosibirs	Frankfurt I	2035	2155	4	4	340.0	201910
Lufthansa	Sao Paulo '	Frankfurt I	0035	1750	3	3	311.7	201905
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7	4	415.6	201905
Qatar Airw	Doha	Frankfurt I	0720	1240	1	4	415.6	202001
Qatar Airw	Doha	Frankfurt I	0935	1455	4	4	415.6	201911
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	201910
Qatar Airw	Frankfurt I	Doha	1440	2130	1	5	519.5	201904
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201902
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	201902
Qatar Airw	Frankfurt I	Doha	2020	0320	3	5	325.0	201905
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	201909
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	5	500.0	202001
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	5	550.0	201905
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	5	550.0	202001
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	5	500.0	202001
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	201902
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	5	500.0	201909
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	201912
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	201910
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	5	500.0	201908
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	5	500.0	202001

Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201912
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	4	440.0	201903
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	4	440.0	201906
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	5	500.0	201907
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	201910
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	202002
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	5	500.0	201910
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	5	325.0	201905
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	5	325.0	201908
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	12	481.2	201902
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	14	561.4	201905
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	4	260.0	201910
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5	13	521.3	201904
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	5	325.0	201906
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	5	325.0	201906
Lufthansa	Frankfurt I	Mumbai	1745	0520	34	8	680.0	201906
Lufthansa	Frankfurt I	New York J	2005	2240	4	4	340.0	201904
Lufthansa	Frankfurt I	Novosibirs	1405	0120	3 5	9	765.0	201907
Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7	1	85.0	201903
Lufthansa	Frankfurt I	Sao Paulo '	0445	1155	5	4	415.6	201905
Lufthansa	Frankfurt I	Shanghai P	0915	0200	4 6	8	831.2	201909
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	22	2,285.8	201908
Lufthansa	Frankfurt I	Tel Aviv-ya	1115	1610	2	1	85.0	201908
Lufthansa	Frankfurt I	Tokyo Nari	2110	1655	1 3 5	13	1,350.7	201903
Lufthansa	Houston G	Frankfurt I	2340	1620	5	4	340.0	201902
Lufthansa	Hyderabad	Frankfurt I	0950	1455	5	4	340.0	201902
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	4	340.0	201908
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	4	340.0	201908
Lufthansa	Nairobi Jor	Frankfurt I	0130	0750	12 5 7	14	1,190.0	201902
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 7	14	1,190.0	201907
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 5 7	9	765.0	201905
Lufthansa	New York J	Frankfurt I	0110	1440	5	4	340.0	201909
Lufthansa	New York J	Frankfurt I	0130	1500	3	4	340.0	201909
Lufthansa	Novosibirs	Frankfurt I	0410	0530	2	4	340.0	201909
Lufthansa	Novosibirs	Frankfurt I	1140	1300	7	1	85.0	201903
Lufthansa	Novosibirs	Frankfurt I	1220	1240	7	3	255.0	201902
Lufthansa	Novosibirs	Frankfurt I	1915	2035	4 6	8	680.0	201907
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7	4	415.6	201907
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	23 5 7	14	1,454.6	201905
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	23 5 7	14	1,454.6	201908
Lufthansa	Seoul Inch	Frankfurt I	0215	0605	1 4 6	13	1,350.7	201903
Lufthansa	Shanghai P	Frankfurt I	0325	0855	2 4	8	831.2	201909
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2 7	7	727.3	201910
Lufthansa	Shanghai P	Frankfurt I	0820	1350	1 3456	21	2,181.9	201906
Lufthansa	Tel Aviv-ya	Frankfurt I	1445	1815	6	1	85.0	201902
Qatar Airw	Doha	Frankfurt I	1225	1745	2	5	519.5	201912
Qatar Airw	Doha	Frankfurt I	1255	1820	3	5	325.0	201910

Qatar Airw	Doha	Frankfurt I	1355	1915	7	5	519.5	201912
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	202002
Qatar Airw	Frankfurt I	Doha	1735	0025	4	5	519.5	202001
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	202002
Qatar Airw	Frankfurt I	Doha	2020	0320	3	4	260.0	201909
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	201907
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	201910
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201906
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201909
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201902
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201912
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	202002
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	201911
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	4	260.0	201910
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	4	160.4	201902
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	4	160.4	201905
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	5	325.0	201908
Turkish Air	Lagos	Frankfurt I	0240	1120	5	5	325.0	201903
Lufthansa	Frankfurt I	Istanbul At	2130	0230	6	1	85.0	201902
Lufthansa	Frankfurt I	Johannesb	0545	1630	7	1	85.0	201903
Lufthansa	Frankfurt I	Johannesb	0545	1630	7	5	425.0	201906
Lufthansa	Frankfurt I	Los Angele	1210	1515	3	1	85.0	201903
Lufthansa	Frankfurt I	Mexico Cit	1425	2020	6	4	415.6	201905
Lufthansa	Frankfurt I	Mexico Cit	1700	2255	3	3	311.7	201906
Lufthansa	Frankfurt I	Mexico Cit	1750	2345	6	1	103.9	201910
Lufthansa	Frankfurt I	Mexico Cit	1805	2359	5	4	415.6	201910
Lufthansa	Frankfurt I	Mumbai	1745	0520	34	8	680.0	201904
Lufthansa	Frankfurt I	Sao Paulo	0445	1155	5	3	311.7	201906
Lufthansa	Frankfurt I	Sao Paulo	0845	1555	3	4	415.6	201905
Lufthansa	Frankfurt I	Seattle-Ta	0845	1010	5	3	255.0	201907
Lufthansa	Frankfurt I	Shanghai P	0820	0105	1 3	10	1,039.0	201907
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	21	2,181.9	201906
Lufthansa	Frankfurt I	Tel Aviv-ya	1000	1455	5	1	85.0	201906
Lufthansa	Frankfurt I	Tokyo Nari	2115	1655	4 6	8	831.2	201902
Lufthansa	Frankfurt I	Toronto Le	1110	1335	2	4	340.0	201908
Lufthansa	Guadalajar	Frankfurt I	0410	2230	45	8	831.2	201909
Lufthansa	Hyderabad	Frankfurt I	1120	1710	4	4	340.0	201910
Lufthansa	Istanbul At	Frankfurt I	0445	0540	7	1	85.0	201902
Lufthansa	Los Angele	Frankfurt I	0050	2050	1	1	85.0	201903
Lufthansa	Los Angele	Frankfurt I	2025	1620	6	3	255.0	201902
Lufthansa	New York J	Frankfurt I	0055	1420	45	2	170.0	201903
Lufthansa	New York J	Frankfurt I	0130	1500	7	1	85.0	201903
Lufthansa	New York J	Frankfurt I	0900	2225	2	4	340.0	201902
Lufthansa	Novosibirs	Frankfurt I	0410	0530	7	4	340.0	201905
Lufthansa	Novosibirs	Frankfurt I	0410	0530	6	4	340.0	201904
Lufthansa	Novosibirs	Frankfurt I	0410	0530	4	4	340.0	201907
Lufthansa	Novosibirs	Frankfurt I	0410	0530	3	4	340.0	201906

Lufthansa	Novosibirs	Frankfurt I	0410	0530	3	4	340.0	201909
Lufthansa	Novosibirs	Frankfurt I	0410	0530	2	4	340.0	201908
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7	4	415.6	201909
Lufthansa	Seoul Inch	Frankfurt I	0205	0520	7	1	103.9	201910
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	23 5 7	15	1,558.5	201910
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	1 4 6	13	1,350.7	201906
Lufthansa	Shanghai P	Frankfurt I	0325	0855	2 4	9	935.1	201904
Lufthansa	Shanghai P	Frankfurt I	0325	0855	2 4	9	935.1	201907
Lufthansa	Shanghai P	Frankfurt I	0820	1350	1 3456	21	2,181.9	201904
Qatar Airw	Doha	Frankfurt I	0720	1240	1	5	519.5	201904
Qatar Airw	Doha	Frankfurt I	0720	1240	1	5	519.5	201907
Qatar Airw	Doha	Frankfurt I	0935	1455	4	4	415.6	201909
Qatar Airw	Doha	Frankfurt I	0935	1455	4	4	415.6	201912
Qatar Airw	Doha	Frankfurt I	1310	1830	6	5	519.5	201908
Qatar Airw	Doha	Frankfurt I	1310	1830	6	4	415.6	202001
Qatar Airw	Doha	Frankfurt I	1310	1830	5	5	519.5	201908
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	201904
Qatar Airw	Frankfurt I	Doha	2020	0320	3	4	260.0	201911
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	201902
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	201905
Qatar Airw	Frankfurt I	Doha	2030	0320	6	5	519.5	202002
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	202002
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	201902
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	201905
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	5	500.0	201908
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	5	500.0	201911
Lufthansa	Frankfurt I	Mexico Cit	1745	2330	1	4	415.6	201904
Lufthansa	Frankfurt I	Mumbai	1550	0420	34	8	680.0	201902
Lufthansa	Frankfurt I	Mumbai	1745	0520	34	10	850.0	201905
Lufthansa	Frankfurt I	Mumbai	2040	0915	2	2	170.0	201902
Lufthansa	Frankfurt I	New York J	2005	2240	4	5	425.0	201905
Lufthansa	Frankfurt I	New York J	2120	2355	3	4	340.0	201908
Lufthansa	Frankfurt I	Novosibirs	1405	0120	3 5	10	850.0	201905
Lufthansa	Frankfurt I	Novosibirs	1405	0120	3 5	9	765.0	201908
Lufthansa	Frankfurt I	Sao Paulo '	0445	1155	6	4	415.6	201909
Lufthansa	Frankfurt I	Seattle-Ta	0825	1100	5	3	255.0	201903
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	5	425.0	201909
Lufthansa	Frankfurt I	Seattle-Ta	1525	1800	7	3	255.0	201903
Lufthansa	Frankfurt I	Shanghai P	0915	0200	4 6	9	935.1	201905
Lufthansa	Frankfurt I	Shanghai P	1335	0720	2345 7	20	2,078.0	201902
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	4 6	2	170.0	201910
Lufthansa	Guadalajar	Frankfurt I	0200	2020	7	4	415.6	201907
Lufthansa	Houston G	Frankfurt I	1955	1245	2	5	425.0	201904
Lufthansa	Istanbul At	Frankfurt I	0330	0530	3 5 7	13	1,105.0	201909
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	4	340.0	201904
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	4	340.0	201910
Lufthansa	Los Angele	Frankfurt I	2025	1615	6	1	85.0	201902

Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 5 7	17	1,445.0	201904
Lufthansa	New York J	Frankfurt I	0055	1420	45	1	85.0	201902
Lufthansa	New York J	Frankfurt I	0110	1440	5	4	340.0	201910
Lufthansa	New York J	Frankfurt I	0120	1445	3	1	85.0	201902
Lufthansa	New York J	Frankfurt I	0130	1455	6	4	340.0	201905
Lufthansa	New York J	Frankfurt I	0900	2225	2	1	85.0	201903
Lufthansa	Novosibirs	Frankfurt I	0410	0530	3	5	425.0	201905
Lufthansa	Novosibirs	Frankfurt I	0410	0530	2	4	340.0	201905
Lufthansa	Novosibirs	Frankfurt I	0450	0510	5	1	85.0	201902
Lufthansa	Novosibirs	Frankfurt I	1915	2035	4 6	8	680.0	201910
Lufthansa	Novosibirs	Frankfurt I	2010	2130	7	4	340.0	201907
Lufthansa	Sao Paulo '	Frankfurt I	0005	1720	3	2	207.8	201905
Lufthansa	Seoul Inch	Frankfurt I	0155	0545	2	4	415.6	201902
Lufthansa	Shanghai P	Frankfurt I	0325	0855	2 4	9	935.1	201905
Lufthansa	Shanghai P	Frankfurt I	0325	0855	2 4	9	935.1	201908
Lufthansa	Shanghai P	Frankfurt I	0430	1000	5 7	8	831.2	201904
Lufthansa	Shanghai P	Frankfurt I	0530	1130	7	1	103.9	201903
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201903
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	202002
Qatar Airw	Doha	Frankfurt I	1310	1830	6	4	415.6	201912
Qatar Airw	Doha	Frankfurt I	1310	1830	5	5	519.5	201903
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	201905
Qatar Airw	Frankfurt I	Doha	2020	0320	3	5	325.0	202001
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	201906
Qatar Airw	Frankfurt I	Doha	2115	0405	7	5	519.5	201909
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	5	500.0	202002
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201911
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201904
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	4	440.0	201908
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	5	500.0	201912
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	5	550.0	201911
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	5	550.0	201905
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	5	500.0	201907
Lufthansa	Frankfurt I	Chicago O'	1335	1605	4	4	340.0	201907
Lufthansa	Frankfurt I	Chicago O'	1555	1840	6	1	103.9	201903
Lufthansa	Frankfurt I	Chicago O'	2020	2305	3	1	85.0	201902
Lufthansa	Frankfurt I	Dakar Blais	0815	1320	7	4	340.0	201903
Lufthansa	Frankfurt I	Dammam	1400	2125	1	4	340.0	201903
Lufthansa	Frankfurt I	Istanbul At	2115	0115	2	2	170.0	201910
Lufthansa	Frankfurt I	Johannesb	0545	1630	7	5	425.0	201909
Lufthansa	Frankfurt I	Los Angele	1230	1530	3	4	340.0	201910
Lufthansa	Frankfurt I	Mumbai	1730	0505	7	1	85.0	201903
Lufthansa	Frankfurt I	Mumbai	1745	0520	34	9	765.0	201907
Lufthansa	Frankfurt I	Mumbai	2035	0810	2	4	340.0	201910
Lufthansa	Frankfurt I	New York J	2005	2240	4	4	340.0	201909
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	12	1,020.0	201904
Lufthansa	Frankfurt I	Novosibirs	1405	0120	3 5	8	680.0	201909

Lufthansa	Frankfurt I	Riyadh Kin	0840	1610	7	3	255.0	201902
Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7	4	340.0	201904
Lufthansa	Frankfurt I	Sao Paulo '	0445	1155	5	4	415.6	201910
Lufthansa	Frankfurt I	Sao Paulo '	0735	1600	5	1	103.9	201902
Lufthansa	Frankfurt I	Sao Paulo '	2040	0350	7	4	415.6	201906
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	1	85.0	201903
Lufthansa	Frankfurt I	Shanghai P	0820	0105	1 3	9	935.1	201904
Lufthansa	Frankfurt I	Shanghai P	0915	0200	4 6	8	831.2	201907
Lufthansa	Frankfurt I	Shanghai P	0915	0200	4 6	8	831.2	201910
Lufthansa	Frankfurt I	Shanghai P	0915	0300	4 6	7	727.3	201902
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2100	2 4 6	8	680.0	201902
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	2 4 6	13	1,105.0	201904
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	2 4	9	935.1	201905
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	17	1,766.3	201906
Lufthansa	Houston G	Frankfurt I	2345	1625	2	1	85.0	201903
Lufthansa	Hyderabad	Frankfurt I	1120	1710	4	4	340.0	201904
Lufthansa	Istanbul At	Frankfurt I	0330	0530	3 5 7	8	680.0	201910
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	4	340.0	201906
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	1	85.0	201903
Lufthansa	Mumbai	Frankfurt I	0655	1125	45	8	680.0	201902
Lufthansa	Novosibirs	Frankfurt I	0410	0530	4	4	340.0	201904
Lufthansa	Novosibirs	Frankfurt I	1220	1240	4	4	340.0	201903
Lufthansa	Novosibirs	Frankfurt I	2010	2130	7	3	255.0	201910
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	4 6	2	207.8	201908
Lufthansa	Seoul Inch	Frankfurt I	0215	0605	1 4 6	12	1,246.8	201902
Qatar Airw	Doha	Frankfurt I	0720	1240	1	4	415.6	201910
Qatar Airw	Doha	Frankfurt I	0935	1455	4	4	415.6	201906
Qatar Airw	Doha	Frankfurt I	1225	1745	2	5	519.5	201907
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201902
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201908
Qatar Airw	Doha	Frankfurt I	1310	1830	6	4	415.6	201902
Qatar Airw	Doha	Frankfurt I	1310	1830	6	5	519.5	201911
Qatar Airw	Doha	Frankfurt I	1310	1830	5	5	519.5	201905
Qatar Airw	Frankfurt I	Doha	2030	0320	5	5	519.5	201905
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	202002
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201902
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	5	550.0	201910
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	201906
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	201910
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	201909
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	201911
Lufthansa	Frankfurt I	Chennai	1715	0600	3	5	425.0	201907
Lufthansa	Frankfurt I	Chicago O'	1350	1605	6	2	170.0	201903
Lufthansa	Frankfurt I	Chicago O'	1350	1705	6	2	170.0	201903
Lufthansa	Frankfurt I	Chicago O'	2045	2315	123	13	1,105.0	201909
Lufthansa	Frankfurt I	Curitiba Af	1145	1910	2	4	415.6	201908
Lufthansa	Frankfurt I	Dakar Blais	2040	0050	7	1	85.0	201903

Lufthansa	Frankfurt I	Johannesb	0445	1630	4		4	340.0	201902
Lufthansa	Frankfurt I	Johannesb	0455	1630	6		5	425.0	201903
Lufthansa	Frankfurt I	Johannesb	0455	1640	1	7	8	680.0	201903
Lufthansa	Frankfurt I	Johannesb	0540	1625	6		4	340.0	201905
Lufthansa	Frankfurt I	Johannesb	0555	1640	2 4		9	765.0	201904
Lufthansa	Frankfurt I	Kuwait	1620	2255	4		5	425.0	201908
Lufthansa	Frankfurt I	Los Angele	1520	1820	6		4	340.0	201907
Lufthansa	Frankfurt I	Mexico Cit	1425	2020	6		4	415.6	201907
Lufthansa	Frankfurt I	Mexico Cit	1805	2300	5		1	103.9	201904
Lufthansa	Frankfurt I	Mumbai	1730	0505	7		4	340.0	201905
Lufthansa	Frankfurt I	Mumbai	1935	0805	5		1	85.0	201902
Lufthansa	Frankfurt I	Mumbai	2025	0855	5		1	85.0	201902
Lufthansa	Frankfurt I	Mumbai	2035	0810	2		4	340.0	201905
Lufthansa	Frankfurt I	New York J	2005	2240	4		4	340.0	201907
Lufthansa	Frankfurt I	New York J	2120	2355	3		4	340.0	201904
Lufthansa	Frankfurt I	New York J	2120	2355	3		4	340.0	201910
Lufthansa	Frankfurt I	Novosibirs	1405	0120	3 5		8	680.0	201904
Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7		5	425.0	201906
Lufthansa	Frankfurt I	Riyadh Kin	1345	2025	7		5	425.0	201909
Lufthansa	Frankfurt I	Seattle-Ta	0825	1000	5		4	340.0	201902
Lufthansa	Frankfurt I	Seattle-Ta	1525	1700	7		1	85.0	201903
Lufthansa	Frankfurt I	Tokyo Nari	2230	1655	6		4	415.6	201910
Lufthansa	Guadalajar	Frankfurt I	0310	2230	45		2	207.8	201904
Lufthansa	Guadalajar	Frankfurt I	0410	2230	4		1	103.9	201910
Lufthansa	Houston G	Frankfurt I	1955	1245	2		5	425.0	201907
Lufthansa	Hyderabad	Frankfurt I	1055	1645	2	6	8	680.0	201910
Lufthansa	Hyderabad	Frankfurt I	1135	1640	2		4	340.0	201902
Lufthansa	Istanbul At	Frankfurt I	0330	0530	7		1	85.0	201905
Lufthansa	Istanbul At	Frankfurt I	0445	0540	3 5 7		13	1,105.0	201903
Lufthansa	Istanbul At	Frankfurt I	0445	0640	7		1	85.0	201903
Lufthansa	Los Angele	Frankfurt I	1730	1320	5		2	170.0	201903
Lufthansa	Mumbai	Frankfurt I	0755	1255	45		10	850.0	201905
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3	7	10	850.0	201910
Lufthansa	New York J	Frankfurt I	0110	1440	5		4	340.0	201906
Lufthansa	New York J	Frankfurt I	0130	1455	6		4	340.0	201904
Lufthansa	New York J	Frankfurt I	0130	1500	7		4	340.0	201905
Lufthansa	Novosibirs	Frankfurt I	0410	0530	4		4	340.0	201909
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 4 6		13	1,105.0	201906
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 4 6		7	595.0	201909
Lufthansa	Novosibirs	Frankfurt I	1230	1250	3		3	255.0	201902
Lufthansa	Novosibirs	Frankfurt I	2010	2130	7		4	340.0	201908
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7		3	311.7	201910
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	1 4 6		13	1,350.7	201904
Lufthansa	Tel Aviv-ya	Frankfurt I	1725	2050	5		1	85.0	201906
Qatar Airw	Doha	Frankfurt I	0935	1455	4		4	415.6	201904
Qatar Airw	Doha	Frankfurt I	0935	1455	4		4	415.6	201907
Qatar Airw	Doha	Frankfurt I	1310	1830	6		5	519.5	201903

Lufthansa	Frankfurt I	Dakar Blais	0445	0855	5	1	85.0	201905
Lufthansa	Frankfurt I	Dakar Blais	0815	1320	7	4	340.0	201902
Lufthansa	Frankfurt I	Dakar Blais	1955	0100	3	4	340.0	201903
Lufthansa	Frankfurt I	Johannesb	0445	1630	4	4	340.0	201903
Lufthansa	Frankfurt I	Johannesb	0545	1630	7	3	255.0	201910
Lufthansa	Frankfurt I	Kuwait	1620	2255	4	5	425.0	201905
Lufthansa	Frankfurt I	Kuwait	1620	2340	4	1	85.0	201902
Lufthansa	Frankfurt I	Los Angele	1230	1530	3	4	340.0	201909
Lufthansa	Frankfurt I	Mexico Cit	1425	2020	6	4	415.6	201906
Lufthansa	Frankfurt I	Mexico Cit	1700	2255	3	5	519.5	201907
Lufthansa	Frankfurt I	Mexico Cit	1700	2255	3	4	415.6	201910
Lufthansa	Frankfurt I	Mumbai	1730	0505	7	5	425.0	201909
Lufthansa	Frankfurt I	Mumbai	2035	0810	2	3	255.0	201906
Lufthansa	Frankfurt I	New York J	1950	2225	34	2	170.0	201903
Lufthansa	Frankfurt I	New York J	2020	2300	56	10	850.0	201908
Lufthansa	Frankfurt I	Novosibirs	0450	1605	5 7	4	340.0	201909
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	11	935.0	201910
Lufthansa	Frankfurt I	Sao Paulo '	0735	1600	5	5	519.5	201903
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	21	2,181.9	201909
Lufthansa	Frankfurt I	Tokyo Nari	2115	1655	7	4	415.6	201903
Lufthansa	Frankfurt I	Tokyo Nari	2230	1655	6	4	415.6	201909
Lufthansa	Istanbul At	Frankfurt I	0330	0530	3 5 7	11	935.0	201906
Lufthansa	Los Angele	Frankfurt I	1730	1320	5	4	340.0	201909
Lufthansa	Mumbai	Frankfurt I	0755	1255	45	8	680.0	201904
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 7	12	1,020.0	201908
Lufthansa	New York J	Frankfurt I	0055	1420	4	3	255.0	201902
Lufthansa	New York J	Frankfurt I	0130	1455	6	5	425.0	201908
Lufthansa	New York J	Frankfurt I	0130	1500	7	5	425.0	201909
Lufthansa	New York J	Frankfurt I	0130	1500	3	5	425.0	201905
Lufthansa	New York J	Frankfurt I	0305	1635	4	5	425.0	201908
Lufthansa	Novosibirs	Frankfurt I	0410	0530	6	4	340.0	201910
Lufthansa	Novosibirs	Frankfurt I	0410	0530	4	4	340.0	201910
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 4 6	12	1,020.0	201905
Lufthansa	Novosibirs	Frankfurt I	1210	1230	1	3	255.0	201902
Lufthansa	Sao Paulo '	Frankfurt I	0035	1750	3	2	207.8	201908
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7	4	415.6	201908
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	1 4 6	13	1,350.7	201905
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	1 4 6	12	1,246.8	201908
Lufthansa	Shanghai P	Frankfurt I	0430	1000	5 7	7	727.3	201910
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2 7	1	103.9	201903
Lufthansa	Shanghai P	Frankfurt I	0820	1350	1 3456	16	1,662.4	201910
Qatar Airw	Doha	Frankfurt I	0720	1240	1	4	415.6	201911
Qatar Airw	Doha	Frankfurt I	0935	1455	4	5	519.5	202001
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	201906
Qatar Airw	Doha	Frankfurt I	1310	1830	6	5	519.5	202002
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	201906
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201912

Qatar Airw	Frankfurt I	Doha	2030	0320	6	5	519.5	201903
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	201909
Qatar Airw	Frankfurt I	Doha	2030	0320	5	5	519.5	201903
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	201912
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201904
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	5	500.0	201910
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	202001
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	4	440.0	201911
Lufthansa	Frankfurt I	Cairo Inter	2110	0055	7	5	425.0	201906
Lufthansa	Frankfurt I	Chicago O'	2045	2315	123	13	1,105.0	201905
Lufthansa	Frankfurt I	Chicago O'	2125	2355	6	1	85.0	201906
Lufthansa	Frankfurt I	Curitiba Af	1145	1910	2	4	415.6	201909
Lufthansa	Frankfurt I	Dammam	1425	2110	1	4	340.0	201905
Lufthansa	Frankfurt I	Kuwait	1620	2255	4	4	340.0	201910
Lufthansa	Frankfurt I	Mexico Cit	1645	2240	4	1	103.9	201910
Lufthansa	Frankfurt I	Mumbai	1745	0520	34	8	680.0	201910
Lufthansa	Frankfurt I	Mumbai	1750	0525	1 5	9	765.0	201904
Lufthansa	Frankfurt I	New York J	2120	2355	3	4	340.0	201909
Lufthansa	Frankfurt I	Sao Paulo '	0445	1155	6	4	415.6	201907
Lufthansa	Frankfurt I	Sao Paulo '	0845	1555	3	4	415.6	201909
Lufthansa	Frankfurt I	Sao Paulo '	2040	0350	7	4	415.6	201907
Lufthansa	Frankfurt I	Seattle-Ta	0845	1010	5	4	340.0	201909
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	4	340.0	201904
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	4	340.0	201907
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	21	2,181.9	201904
Lufthansa	Frankfurt I	Tokyo Nari	2110	1655	2	4	415.6	201902
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	2 4	8	831.2	201909
Lufthansa	Guadalajar	Frankfurt I	0200	2020	7	5	519.5	201909
Lufthansa	Guadalajar	Frankfurt I	0205	2025	4	1	103.9	201905
Lufthansa	Houston G	Frankfurt I	1955	1245	2	4	340.0	201909
Lufthansa	Houston G	Frankfurt I	2340	1620	5	2	170.0	201903
Lufthansa	Hyderabad	Frankfurt I	1055	1645	2 6	9	765.0	201906
Lufthansa	Los Angele	Frankfurt I	1730	1320	5	4	340.0	201904
Lufthansa	Natal	Frankfurt I	1600	0515	7	4	415.6	201902
Lufthansa	New York J	Frankfurt I	0110	1440	5	5	425.0	201908
Lufthansa	New York J	Frankfurt I	0130	1500	7	4	340.0	201904
Lufthansa	New York J	Frankfurt I	0155	1420	45	6	510.0	201903
Lufthansa	New York J	Frankfurt I	0305	1635	4	4	340.0	201909
Lufthansa	Novosibirs	Frankfurt I	0410	0530	4	5	425.0	201905
Lufthansa	Novosibirs	Frankfurt I	0410	0530	2	5	425.0	201904
Lufthansa	Novosibirs	Frankfurt I	0410	0530	2	4	340.0	201910
Lufthansa	Novosibirs	Frankfurt I	1115	1235	4 6	3	255.0	201908
Lufthansa	Novosibirs	Frankfurt I	1915	2035	4 6	10	850.0	201908
Lufthansa	Novosibirs	Frankfurt I	2110	2130	7	3	255.0	201902
Lufthansa	Sao Paulo '	Frankfurt I	0005	1720	3	1	103.9	201907
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	23 5 7	17	1,766.3	201906
Lufthansa	Seoul Inch	Frankfurt I	0215	0705	7	1	103.9	201903

Lufthansa	Shanghai P	Frankfurt I	0430	0900	7	1	103.9	201910
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	201908
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	201911
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201911
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	201904
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	202001
Qatar Airw	Frankfurt I	Doha	1440	2130	1	5	519.5	201912
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201904
Qatar Airw	Frankfurt I	Doha	2020	0320	3	5	325.0	201910
Qatar Airw	Frankfurt I	Doha	2030	0320	5	5	519.5	201908
Qatar Airw	Frankfurt I	Doha	2030	0320	5	5	519.5	201911
Qatar Airw	Frankfurt I	Doha	2030	0320	5	5	519.5	202001
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	201910
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201912
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201909
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	201902
Lufthansa	Frankfurt I	Chicago O'	2020	2305	34	2	207.8	201903
Lufthansa	Frankfurt I	Chicago O'	2045	2315	123	12	1,020.0	201908
Lufthansa	Frankfurt I	Curitiba Af	0650	1430	7	3	311.7	201910
Lufthansa	Frankfurt I	Curitiba Af	1145	1910	2	5	519.5	201907
Lufthansa	Frankfurt I	Curitiba Af	1145	1910	2	3	311.7	201910
Lufthansa	Frankfurt I	Dallas Dall	1155	1700	3	3	255.0	201903
Lufthansa	Frankfurt I	Johannesb	0540	1625	6	4	340.0	201907
Lufthansa	Frankfurt I	Los Angele	1200	1605	3	3	255.0	201903
Lufthansa	Frankfurt I	Los Angele	1450	1755	6	4	340.0	201902
Lufthansa	Frankfurt I	Los Angele	1450	1855	6	3	255.0	201903
Lufthansa	Frankfurt I	Mumbai	1730	0505	7	5	425.0	201906
Lufthansa	Frankfurt I	Mumbai	1935	0805	5	5	425.0	201903
Lufthansa	Frankfurt I	Mumbai	2035	0810	2	5	425.0	201907
Lufthansa	Frankfurt I	New York J	2020	2300	56	8	680.0	201904
Lufthansa	Frankfurt I	Sao Paulo '	2210	0625	6	4	415.6	201903
Lufthansa	Frankfurt I	Seattle-Ta	0845	1010	5	4	340.0	201904
Lufthansa	Frankfurt I	Shanghai P	0720	0105	1	1	103.9	201902
Lufthansa	Frankfurt I	Toronto Le	1110	1335	2	4	340.0	201905
Lufthansa	Frankfurt I	Toronto Le	1440	1720	1	4	340.0	201902
Lufthansa	Guadalajar	Frankfurt I	0410	2230	45	6	623.4	201906
Lufthansa	Houston G	Frankfurt I	1955	1245	2	4	340.0	201908
Lufthansa	Hyderabad	Frankfurt I	1055	1645	2 6	8	680.0	201905
Lufthansa	Istanbul At	Frankfurt I	0445	0540	3	1	103.9	201902
Lufthansa	Istanbul At	Frankfurt I	0445	0540	3 5 7	8	680.0	201902
Lufthansa	New York J	Frankfurt I	0110	1440	5	4	340.0	201907
Lufthansa	New York J	Frankfurt I	0130	1455	6	5	425.0	201906
Lufthansa	New York J	Frankfurt I	0130	1500	7	5	425.0	201906
Lufthansa	New York J	Frankfurt I	0130	1500	3	4	340.0	201908
Lufthansa	New York J	Frankfurt I	0305	1635	4	4	340.0	201904
Lufthansa	New York J	Frankfurt I	0305	1635	4	4	340.0	201910
Lufthansa	Novosibirs	Frankfurt I	0410	0530	7	4	340.0	201908

Lufthansa	Novosibirs	Frankfurt I	1220	1240	7	4	340.0	201903
Lufthansa	Novosibirs	Frankfurt I	1230	1250	3	4	340.0	201903
Lufthansa	Sao Paulo '	Frankfurt I	0005	1720	3	2	207.8	201909
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	23 5 7	18	1,870.2	201907
Lufthansa	Shanghai P	Frankfurt I	0935	1435	1 3456	20	2,078.0	201902
Qatar Airw	Doha	Frankfurt I	0935	1455	4	4	415.6	202002
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201906
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	201911
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	201902
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	201912
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	201905
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	202001
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	5	500.0	202001
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	5	500.0	201908
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201904
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	201903
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	201906
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	201912
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	201909
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	201908
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	4	260.0	201909
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	5	325.0	201903
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	5	325.0	201906
Lufthansa	Frankfurt I	Chicago O'	1000	1245	7	1	85.0	201903
Lufthansa	Frankfurt I	Chicago O'	1135	1420	2	1	85.0	201903
Lufthansa	Frankfurt I	Chicago O'	1335	1605	4	4	340.0	201904
Lufthansa	Frankfurt I	Dakar Blais	0445	0855	3	1	85.0	201905
Lufthansa	Frankfurt I	Dakar Blais	2115	0220	1	4	340.0	201903
Lufthansa	Frankfurt I	Kuwait	1620	2255	4	4	340.0	201909
Lufthansa	Frankfurt I	Los Angele	1520	1820	6	4	340.0	201905
Lufthansa	Frankfurt I	Los Angele	1520	1820	6	5	425.0	201908
Lufthansa	Frankfurt I	Mexico Cit	1735	2330	4	4	415.6	201909
Lufthansa	Frankfurt I	Mexico Cit	1745	2330	1	4	415.6	201906
Lufthansa	Frankfurt I	Mumbai	1735	0605	1	4	340.0	201903
Lufthansa	Frankfurt I	Mumbai	2035	0810	2	5	425.0	201904
Lufthansa	Frankfurt I	New York J	2120	2355	3	5	425.0	201905
Lufthansa	Frankfurt I	Novosibirs	0445	1650	3 5 7	13	1,105.0	201903
Lufthansa	Frankfurt I	Sao Paulo '	0845	1555	3	4	415.6	201908
Lufthansa	Frankfurt I	Shanghai P	0915	0200	4 6	8	831.2	201904
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	1	103.9	201903
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	2 4 6	12	1,020.0	201907
Lufthansa	Guadalajar	Frankfurt I	0100	2020	7	1	103.9	201903
Lufthansa	Guadalajar	Frankfurt I	0200	2020	7	3	311.7	201910
Lufthansa	Houston G	Frankfurt I	1955	1245	2	4	340.0	201905
Lufthansa	Istanbul At	Frankfurt I	0330	0530	3	2	170.0	201910
Lufthansa	Los Angele	Frankfurt I	1730	1320	5	5	425.0	201908
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	1	85.0	201903

Lufthansa	Los Angele	Frankfurt I	2025	1630	6	1	85.0	201903
Lufthansa	Los Angele	Frankfurt I	2050	1700	6	4	340.0	201905
Lufthansa	Mumbai	Frankfurt I	0735	1235	1	4	340.0	201905
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 7	6	510.0	201905
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 5 7	1	85.0	201903
Lufthansa	Natal	Frankfurt I	1600	0515	7	4	415.6	201903
Lufthansa	New York J	Frankfurt I	0110	1440	5	4	340.0	201904
Lufthansa	Novosibirs	Frankfurt I	0410	0430	7	1	85.0	201910
Lufthansa	Novosibirs	Frankfurt I	0510	0530	5 7	5	425.0	201902
Lufthansa	Novosibirs	Frankfurt I	1220	1250	4 6	2	170.0	201903
Lufthansa	Novosibirs	Frankfurt I	1915	2035	4 6	8	680.0	201909
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	1 4 6	13	1,350.7	201909
Lufthansa	Shanghai P	Frankfurt I	0530	1030	5 7	7	727.3	201902
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2 7	9	935.1	201909
Qatar Airw	Doha	Frankfurt I	1225	1745	2	5	519.5	201904
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	201902
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	201911
Qatar Airw	Frankfurt I	Doha	1945	0235	2	5	519.5	201904
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	201912
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201908
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	5	500.0	201908
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	201905
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	4	440.0	201904
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201907
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	4	260.0	201907
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	4	260.0	201909
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	4	260.0	201909
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5	12	481.2	201910
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	4	260.0	201904
Lufthansa	Frankfurt I	Sao Paulo	0845	1555	3	4	415.6	201904
Lufthansa	Frankfurt I	Sao Paulo	0845	1555	3	5	519.5	201907
Lufthansa	Frankfurt I	Sao Paulo	0845	1555	3	3	311.7	201910
Lufthansa	Frankfurt I	Seattle-Ta	0845	1010	5	5	425.0	201908
Lufthansa	Frankfurt I	Tel Aviv-ya	0800	1250	6	1	85.0	201902
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2100	2 4 6	12	1,020.0	201903
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	2 4	9	935.1	201907
Lufthansa	Frankfurt I	Toronto Le	1110	1335	2	4	340.0	201909
Lufthansa	Frankfurt I	Toronto Le	1400	1730	5	3	255.0	201903
Lufthansa	Guadalajar	Frankfurt I	0200	2020	7	3	311.7	201904
Lufthansa	Guadalajar	Frankfurt I	0405	2225	5	3	311.7	201910
Lufthansa	Hyderabad	Frankfurt I	1120	1710	4	4	340.0	201909
Lufthansa	Los Angele	Frankfurt I	1730	1320	5	4	340.0	201906
Lufthansa	Los Angele	Frankfurt I	1900	1350	3	3	255.0	201903
Lufthansa	Los Angele	Frankfurt I	2050	1700	6	4	340.0	201907
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	4	340.0	201904
Lufthansa	Mumbai	Frankfurt I	0735	1235	1	4	340.0	201906
Lufthansa	Mumbai	Frankfurt I	0755	1255	45	8	680.0	201907

Lufthansa	Nairobi Jor	Frankfurt I	0130	0750	12 5 7	17	1,445.0	201903
Lufthansa	New York J	Frankfurt I	0220	1545	3	1	103.9	201902
Lufthansa	Novosibirs	Frankfurt I	0410	0530	7	5	425.0	201909
Lufthansa	Novosibirs	Frankfurt I	1140	1210	6	2	170.0	201902
Lufthansa	Novosibirs	Frankfurt I	2035	2155	4	4	340.0	201907
Lufthansa	Novosibirs	Frankfurt I	2110	2130	7	4	340.0	201903
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	23 5 7	17	1,766.3	201904
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2 7	9	935.1	201906
Lufthansa	Shanghai P	Frankfurt I	0935	1435	2	1	103.9	201902
Lufthansa	Tel Aviv-ya	Frankfurt I	1840	2205	2	1	85.0	201908
Qatar Airw	Doha	Frankfurt I	0720	1240	1	4	415.6	201905
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	201903
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201909
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201912
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	201909
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	201912
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	202002
Qatar Airw	Doha	Frankfurt I	1355	1915	7	5	519.5	201903
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	201910
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201909
Qatar Airw	Frankfurt I	Doha	2020	0320	3	4	260.0	201902
Qatar Airw	Frankfurt I	Doha	2020	0320	3	4	260.0	201912
Qatar Airw	Frankfurt I	Doha	2115	0405	7	5	519.5	201903
Qatar Airw	Frankfurt I	Doha	2115	0405	7	5	519.5	201906
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	201909
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	202002
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	201902
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	4	260.0	201906
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	12	481.2	201910
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	5	325.0	201905
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	4	260.0	201904
Lufthansa	Frankfurt I	Johannesb	0555	1640	2	4	340.0	201910
Lufthansa	Frankfurt I	Kuwait	1550	2310	4	3	255.0	201902
Lufthansa	Frankfurt I	Kuwait	1620	2255	4	4	340.0	201904
Lufthansa	Frankfurt I	Los Angele	1520	1820	6	5	425.0	201906
Lufthansa	Frankfurt I	Mexico Cit	1700	2155	3	1	103.9	201904
Lufthansa	Frankfurt I	Mexico Cit	1700	2255	3	4	415.6	201905
Lufthansa	Frankfurt I	Mexico Cit	1735	2330	4	3	311.7	201906
Lufthansa	Frankfurt I	Mexico Cit	1805	2359	5	4	415.6	201906
Lufthansa	Frankfurt I	Mumbai	1750	0525	1 5	9	765.0	201907
Lufthansa	Frankfurt I	Mumbai	2035	0810	2	4	340.0	201908
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	13	1,105.0	201905
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	8	680.0	201908
Lufthansa	Frankfurt I	Sao Paulo	0445	1155	5	4	415.6	201907
Lufthansa	Frankfurt I	Seattle-Ta	0825	1000	5	2	170.0	201903
Lufthansa	Frankfurt I	Shanghai P	0820	0105	1 3	8	831.2	201908
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	16	1,662.4	201910

Lufthansa	Frankfurt I	Sharjah	1030	1925	3	4	340.0	201903
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2105	2 4 6	8	680.0	201910
Lufthansa	Frankfurt I	Tokyo Nari	2230	1655	6	4	415.6	201904
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	16	1,662.4	201904
Lufthansa	Houston G	Frankfurt I	1955	1245	2	4	340.0	201906
Lufthansa	Los Angele	Frankfurt I	2050	1700	6	5	425.0	201906
Lufthansa	Los Angele	Frankfurt I	2125	1630	6	2	170.0	201903
Lufthansa	Mumbai	Frankfurt I	0755	1255	45	8	680.0	201909
Lufthansa	Nairobi Jor	Frankfurt I	0130	0730	7	1	85.0	201910
Lufthansa	New York J	Frankfurt I	0130	1500	7	4	340.0	201907
Lufthansa	New York J	Frankfurt I	1000	2225	2	3	255.0	201903
Lufthansa	Novosibirs	Frankfurt I	0410	0530	7	4	340.0	201904
Lufthansa	Novosibirs	Frankfurt I	0410	0530	4	5	425.0	201908
Lufthansa	Novosibirs	Frankfurt I	0410	0530	3	4	340.0	201904
Lufthansa	Novosibirs	Frankfurt I	0410	0530	3	4	340.0	201910
Lufthansa	Novosibirs	Frankfurt I	0510	0530	7	1	85.0	201902
Lufthansa	Novosibirs	Frankfurt I	2010	2130	7	4	340.0	201909
Lufthansa	Sao Paulo '	Frankfurt I	0005	1720	3	2	207.8	201904
Lufthansa	Seoul Inch	Frankfurt I	0215	0605	3 5 7	13	1,350.7	201903
Lufthansa	Shanghai P	Frankfurt I	0430	1000	5 7	9	935.1	201905
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2 7	8	831.2	201908
Lufthansa	Shanghai P	Frankfurt I	0820	1350	1 3456	23	2,389.7	201908
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	201905
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	201911
Qatar Airw	Frankfurt I	Doha	1945	0235	2	5	519.5	201907
Qatar Airw	Frankfurt I	Doha	2030	0320	6	5	519.5	201908
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	202001
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	201908
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	202001
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	4	400.0	201904
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201903
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	5	500.0	201903
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	201912
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	201904
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	5	500.0	201912
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	5	325.0	201908
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	5	200.5	201903
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	5	325.0	201903
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	4	260.0	201909
Lufthansa	Frankfurt I	Kuwait	1620	2255	4	4	340.0	201906
Lufthansa	Frankfurt I	Mexico Cit	1700	2255	3	4	415.6	201909
Lufthansa	Frankfurt I	Mexico Cit	1805	2359	5	4	415.6	201907
Lufthansa	Frankfurt I	Moscow D	2130	0240	3	3	255.0	201902
Lufthansa	Frankfurt I	Mumbai	1750	0525	1 5	9	765.0	201905
Lufthansa	Frankfurt I	Mumbai	1750	0525	1 5	9	765.0	201908
Lufthansa	Frankfurt I	New York J	2005	2240	4	4	340.0	201906
Lufthansa	Frankfurt I	New York J	2020	2300	56	8	680.0	201907

Lufthansa	Frankfurt I	New York J	2020	2300	56	8	680.0	201910
Lufthansa	Frankfurt I	Sao Paulo '	0445	1155	6	4	415.6	201906
Lufthansa	Frankfurt I	Seattle-Ta	0845	1010	5	4	340.0	201910
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	5	425.0	201906
Lufthansa	Frankfurt I	Tel Aviv-ya	1610	2100	2 4	2	170.0	201902
Lufthansa	Frankfurt I	Tokyo Nari	2230	1655	6	4	415.6	201905
Lufthansa	Frankfurt I	Tokyo Nari	2230	1655	6	5	519.5	201908
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	2 4	7	727.3	201908
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	1	103.9	201903
Lufthansa	Frankfurt I	Toronto Le	1400	1630	5	2	170.0	201902
Lufthansa	Frankfurt I	Toronto Le	1440	1720	5	1	85.0	201903
Lufthansa	Hyderabad	Frankfurt I	1120	1710	4	4	340.0	201907
Lufthansa	Los Angele	Frankfurt I	1730	1320	5	4	340.0	201902
Lufthansa	Los Angele	Frankfurt I	1730	1320	5	5	425.0	201905
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	4	340.0	201909
Lufthansa	Los Angele	Frankfurt I	2050	1700	6	5	425.0	201908
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	3	255.0	201910
Lufthansa	Mumbai	Frankfurt I	0755	1255	45	8	680.0	201906
Lufthansa	New York J	Frankfurt I	0120	1445	3	1	103.9	201903
Lufthansa	New York J	Frankfurt I	0130	1455	6	4	340.0	201909
Lufthansa	New York J	Frankfurt I	0305	1635	4	4	340.0	201907
Lufthansa	Novosibirs	Frankfurt I	0410	0530	6	4	340.0	201907
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 4 6	9	765.0	201908
Lufthansa	Novosibirs	Frankfurt I	1210	1230	4	3	255.0	201903
Lufthansa	Novosibirs	Frankfurt I	1210	1230	1	5	425.0	201903
Lufthansa	Novosibirs	Frankfurt I	1915	2035	4 6	9	765.0	201906
Lufthansa	Novosibirs	Frankfurt I	2035	2155	4	5	425.0	201908
Lufthansa	Sao Paulo '	Frankfurt I	0005	1720	3	1	103.9	201906
Lufthansa	Sao Paulo '	Frankfurt I	0035	1750	3	2	207.8	201909
Lufthansa	Shanghai P	Frankfurt I	0335	0835	2 4	6	623.4	201902
Lufthansa	Shanghai P	Frankfurt I	0430	1000	5 7	9	935.1	201906
Lufthansa	Shanghai P	Frankfurt I	0430	1000	5 7	9	935.1	201909
Qatar Airw	Doha	Frankfurt I	1255	1820	3	5	325.0	201905
Qatar Airw	Doha	Frankfurt I	1310	1830	6	4	415.6	201905
Qatar Airw	Doha	Frankfurt I	1355	1915	7	4	415.6	201907
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	201908
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	202001
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201903
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	202001
Qatar Airw	Frankfurt I	Doha	2020	0320	3	4	260.0	201908
Qatar Airw	Frankfurt I	Doha	2115	0405	7	5	519.5	201912
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	5	500.0	201905
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	5	500.0	201910
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	202002
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	5	550.0	201903
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	201906
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201904

Lufthansa	Frankfurt I	Mexico Cit	1805	2359	5	5	519.5	201905
Lufthansa	Frankfurt I	Mexico Cit	1805	2359	5	5	519.5	201908
Lufthansa	Frankfurt I	Mumbai	1745	0520	34	8	680.0	201909
Lufthansa	Frankfurt I	Mumbai	1750	0525	1 5	7	595.0	201910
Lufthansa	Frankfurt I	Sao Paulo '	2040	0350	7	4	415.6	201905
Lufthansa	Frankfurt I	Sao Paulo '	2040	0350	7	4	415.6	201908
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	4	340.0	201908
Lufthansa	Frankfurt I	Shanghai P	0820	0105	1 3	9	935.1	201909
Lufthansa	Frankfurt I	Tokyo Nari	2230	1655	6	4	415.6	201907
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	2 4	8	831.2	201910
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	14	1,454.6	201908
Lufthansa	Guadalajar	Frankfurt I	0200	2020	7	4	415.6	201908
Lufthansa	Houston G	Frankfurt I	0045	1625	3	3	255.0	201903
Lufthansa	London Sta	Frankfurt I	0955	1215	4	1	85.0	201903
Lufthansa	Los Angele	Frankfurt I	2025	1620	6	1	85.0	201903
Lufthansa	Mumbai	Frankfurt I	0735	1235	1	5	425.0	201907
Lufthansa	Mumbai	Frankfurt I	0755	1255	45	10	850.0	201908
Lufthansa	Nairobi Jor	Frankfurt I	0130	0750	12 7	1	85.0	201902
Lufthansa	Novosibirs	Frankfurt I	0410	0530	7	3	255.0	201910
Lufthansa	Novosibirs	Frankfurt I	0410	0530	6	5	425.0	201906
Lufthansa	Novosibirs	Frankfurt I	0410	0530	2	4	340.0	201906
Lufthansa	Novosibirs	Frankfurt I	1915	2035	4 6	8	680.0	201904
Lufthansa	Novosibirs	Frankfurt I	2035	2155	4	4	340.0	201906
Lufthansa	Novosibirs	Frankfurt I	2035	2155	4	3	255.0	201909
Lufthansa	Sao Paulo '	Frankfurt I	0035	1750	3	1	103.9	201904
Lufthansa	Sao Paulo '	Frankfurt I	1955	1310	7	4	415.6	201904
Lufthansa	Seoul Inch	Frankfurt I	0205	0620	1 4 6	13	1,350.7	201907
Lufthansa	Seoul Inch	Frankfurt I	0215	0605	3 5 7	12	1,246.8	201902
Lufthansa	Shanghai P	Frankfurt I	0335	0835	2	1	103.9	201902
Lufthansa	Shanghai P	Frankfurt I	0820	1350	2 7	9	935.1	201904
Qatar Airw	Doha	Frankfurt I	0720	1240	1	5	519.5	201909
Qatar Airw	Doha	Frankfurt I	1255	1820	3	5	325.0	201907
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	201910
Qatar Airw	Doha	Frankfurt I	1355	1915	7	5	519.5	201909
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	201903
Qatar Airw	Frankfurt I	Doha	2020	0320	3	4	260.0	202002
Qatar Airw	Frankfurt I	Doha	2030	0320	5	4	415.6	201904
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	5	500.0	201907
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201903
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	4	440.0	201912
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	5	500.0	201905
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	201904
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	201903
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	201906
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201906
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	13	521.3	201904
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	4	160.4	201908

Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	4	260.0	201907
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	4	260.0	201910
Lufthansa	Frankfurt I	Dakar Blais	1955	0100	3	4	340.0	201902
Lufthansa	Frankfurt I	Dammam	1425	2110	1	4	340.0	201908
Lufthansa	Frankfurt I	Johannesb	0540	1625	6	5	425.0	201906
Lufthansa	Frankfurt I	Mexico Cit	1745	2330	1	5	519.5	201909
Lufthansa	Frankfurt I	Mexico Cit	1805	2359	5	4	415.6	201909
Lufthansa	Frankfurt I	Mumbai	2040	0915	2	4	340.0	201903
Lufthansa	Frankfurt I	New York J	2005	2240	4	4	340.0	201910
Lufthansa	Frankfurt I	New York J	2020	2300	56	9	765.0	201906
Lufthansa	Frankfurt I	New York J	2120	2355	3	4	340.0	201906
Lufthansa	Frankfurt I	Novosibirs	1405	0120	3 5	8	680.0	201906
Lufthansa	Frankfurt I	Sao Paulo '	0445	1155	6	4	415.6	201904
Lufthansa	Frankfurt I	Sao Paulo '	0445	1155	5	4	415.6	201904
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	3	255.0	201910
Lufthansa	Frankfurt I	Seoul Inch	0520	2335	3 5	2	207.8	201908
Lufthansa	Frankfurt I	Shanghai P	1305	0550	2345 7	22	2,285.8	201907
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	14	1,454.6	201910
Lufthansa	Frankfurt I	Toronto Le	1010	1250	5	1	85.0	201902
Lufthansa	Houston G	Frankfurt I	0040	1620	6	3	255.0	201903
Lufthansa	Hyderabad	Frankfurt I	1055	1645	2 6	8	680.0	201909
Lufthansa	Istanbul At	Frankfurt I	0330	0530	3 5 7	12	1,020.0	201904
Lufthansa	London Sta	Frankfurt I	1750	2010	7	1	103.9	201904
Lufthansa	Los Angele	Frankfurt I	1800	1350	3	5	425.0	201905
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	5	425.0	201906
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	5	425.0	201909
Lufthansa	Nairobi Jor	Frankfurt I	0130	0830	1 3 7	14	1,190.0	201909
Lufthansa	New York J	Frankfurt I	0130	1500	7	3	255.0	201910
Lufthansa	New York J	Frankfurt I	0130	1500	3	4	340.0	201910
Lufthansa	Novosibirs	Frankfurt I	0410	0530	7	4	340.0	201907
Lufthansa	Novosibirs	Frankfurt I	0410	0530	2	5	425.0	201907
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 6	4	340.0	201909
Lufthansa	Novosibirs	Frankfurt I	1115	1235	1 4 6	11	935.0	201910
Lufthansa	Novosibirs	Frankfurt I	1915	2035	4 6	9	765.0	201905
Lufthansa	Novosibirs	Frankfurt I	2010	2130	7	5	425.0	201906
Lufthansa	Sao Paulo '	Frankfurt I	0005	1720	3	2	207.8	201910
Lufthansa	Seoul Inch	Frankfurt I	0155	0545	2	4	415.6	201903
Lufthansa	Shanghai P	Frankfurt I	0325	0855	2 4	8	831.2	201910
Qatar Airw	Doha	Frankfurt I	0720	1240	1	4	415.6	201903
Qatar Airw	Doha	Frankfurt I	0935	1455	4	4	415.6	201903
Qatar Airw	Doha	Frankfurt I	0935	1455	4	5	519.5	201910
Qatar Airw	Doha	Frankfurt I	1255	1820	3	4	260.0	201904
Qatar Airw	Doha	Frankfurt I	1310	1830	6	4	415.6	201907
Qatar Airw	Doha	Frankfurt I	1310	1830	5	5	519.5	201911
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	201902
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	201905
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	202002

Qatar Airw	Frankfurt I	Doha	1735	0025	4	5	519.5	201910
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	201906
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	4	400.0	202002
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201902
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	202002
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	201909
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	5	500.0	202002
Saudi Arab	Frankfurt I	Riyadh Kin	1935	0310	4	4	400.0	201903
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	201910
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	201907
Lufthansa	Frankfurt I	Almaty	0730	1830	5 7	3	255.0	201908
Lufthansa	Frankfurt I	Almaty	0730	1830	3 5 7	13	1,105.0	201905
Lufthansa	Frankfurt I	Atlanta Ha	1105	1450	3	1	103.9	201903
Lufthansa	Frankfurt I	Atlanta Ha	1530	1915	2	4	340.0	201906
Lufthansa	Frankfurt I	Atlanta Ha	1930	0025	6	1	85.0	201903
Lufthansa	Frankfurt I	Beijing Cap	1200	0435	2	1	103.9	201902
Lufthansa	Frankfurt I	Bengaluru	1210	0135	6	1	85.0	201903
Lufthansa	Frankfurt I	Bengaluru	1300	0225	6	2	170.0	201902
Lufthansa	Frankfurt I	Cairo Inter	1910	0005	5	4	340.0	201902
Lufthansa	Frankfurt I	Cairo Inter	1950	0045	2	4	340.0	201902
Lufthansa	Frankfurt I	Cairo Inter	2050	0045	2	3	255.0	201905
Lufthansa	Frankfurt I	Chicago O'	0840	1125	5	1	85.0	201902
Lufthansa	Frankfurt I	Chicago O'	1000	1245	7	4	340.0	201902
Lufthansa	Frankfurt I	Chicago O'	2030	0015	1	3	255.0	201903
Lufthansa	Frankfurt I	Curitiba Af	1145	1910	2	4	415.6	201905
Lufthansa	Frankfurt I	Dallas Dall	1155	1600	3	1	85.0	201903
Lufthansa	Frankfurt I	Dammam	1425	2110	1	5	425.0	201904
Lufthansa	Frankfurt I	Istanbul At	2115	0115	6	1	85.0	201905
Lufthansa	Frankfurt I	Johannesb	0555	1640	2	4	340.0	201906
Lufthansa	Frankfurt I	Johannesb	0555	1640	2	4	340.0	201909
Lufthansa	Frankfurt I	Mexico Cit	1425	1920	6	1	103.9	201904
Lufthansa	Frankfurt I	Mexico Cit	1735	2330	4	4	415.6	201907
Lufthansa	Frankfurt I	Mexico Cit	1735	2330	4	3	311.7	201910
Lufthansa	Frankfurt I	Mumbai	1730	0505	7	4	340.0	201908
Lufthansa	Frankfurt I	New York J	2020	2300	56	8	680.0	201909
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	1	85.0	201903
Lufthansa	Frankfurt I	Novosibirs	0450	1605	3 5 7	13	1,105.0	201906
Lufthansa	Frankfurt I	Sao Paulo	0445	1155	6	4	415.6	201905
Lufthansa	Frankfurt I	Sao Paulo	0445	1155	6	5	519.5	201908
Lufthansa	Frankfurt I	Sao Paulo	0445	1155	5	5	519.5	201908
Lufthansa	Frankfurt I	Sao Paulo	0735	1700	5	3	311.7	201902
Lufthansa	Frankfurt I	Sao Paulo	0845	1555	3	4	415.6	201906
Lufthansa	Frankfurt I	Seattle-Ta	1335	1500	7	4	340.0	201905
Lufthansa	Frankfurt I	Tokyo Nari	2230	1700	1 3 5 7	15	1,558.5	201905
Lufthansa	Frankfurt I	Toronto Le	1110	1335	2	4	340.0	201906
Lufthansa	Guadalajar	Frankfurt I	0410	2230	45	10	1,039.0	201908
Lufthansa	Hyderabad	Frankfurt I	1055	1645	2 6	9	765.0	201907

Lufthansa	Istanbul At	Frankfurt I	0330	0530	5	1	85.0	201910
Lufthansa	Istanbul At	Frankfurt I	0330	0530	3 5 7	13	1,105.0	201905
Lufthansa	Istanbul At	Frankfurt I	0445	0540	3 5	2	170.0	201902
Lufthansa	Los Angele	Frankfurt I	2050	1700	6	3	255.0	201910
Lufthansa	Los Angele	Frankfurt I	2210	1800	7	4	340.0	201905
Lufthansa	New York J	Frankfurt I	0130	1500	7	4	340.0	201908
Lufthansa	New York J	Frankfurt I	0130	1500	3	4	340.0	201906
Lufthansa	New York J	Frankfurt I	0305	1635	4	5	425.0	201905
Lufthansa	Novosibirs	Frankfurt I	1140	1210	6	5	425.0	201903
Lufthansa	Novosibirs	Frankfurt I	1150	1210	1 6	7	595.0	201903
Lufthansa	Novosibirs	Frankfurt I	2010	2130	7	4	340.0	201905
Lufthansa	Sao Paulo	Frankfurt I	0005	1720	3	2	207.8	201908
Lufthansa	Sao Paulo	Frankfurt I	0035	1750	3	4	415.6	201907
Lufthansa	Shanghai P	Frankfurt I	0325	0855	2 4	8	831.2	201906
Lufthansa	Shanghai P	Frankfurt I	0430	1000	5 7	9	935.1	201908
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	4	260.0	201906
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	4	260.0	201905
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5	12	481.2	201906
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	4	260.0	201908
Saudi Arab	Frankfurt I	Jeddah	0705	1420	4	4	400.0	201911
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	201902
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	5	550.0	201907
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	201905
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	4	400.0	202001
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	12	481.2	201906
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	12	481.2	201909
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	4	260.0	201910
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	5	325.0	201908
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	4	260.0	201907
Turkish Air	Lagos	Frankfurt I	0240	1120	5	5	325.0	201908
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201902
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	4	260.0	201903
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	13	521.3	201903
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	5	325.0	201903
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	4	260.0	201909
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	4	160.4	201904
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5	13	521.3	201903
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201907
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	4	260.0	201904
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5	14	561.4	201907
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	4	260.0	201902
Qatar Airw	Doha	Frankfurt I	1310	1830	5	4	415.6	201907
Qatar Airw	Frankfurt I	Doha	1440	2130	1	4	415.6	201906
Qatar Airw	Frankfurt I	Doha	1440	2130	1	5	519.5	201909
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	201906
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	201904
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	201904

Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	201907
Qatar Airw	Frankfurt I	Doha	2115	0405	7	4	415.6	201910
Saudi Arab	Dammam	Frankfurt I	1450	1925	3	5	500.0	201910
Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	201907
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	201908
Saudi Arab	Frankfurt I	Riyadh Kin	1940	0315	1	4	400.0	202001
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201912
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	202002
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	4	260.0	201904
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	14	561.4	201907
Turkish Air	Frankfurt I	Istanbul At	1315	1815	5	5	325.0	201905
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	4	260.0	201904
Turkish Air	Istanbul At	Frankfurt I	0430	0630	23 5	13	521.3	201908
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	5	325.0	201909
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	5	550.0	201908
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	4	440.0	201902
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	5	500.0	201905
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	4	260.0	201902
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	5	325.0	201908
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	4	260.0	201905
Turkish Air	Lagos	Frankfurt I	0240	1120	5	4	260.0	201902
Saudi Arab	Riyadh Kin	Frankfurt I	1045	1455	1	5	500.0	201909
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201903
Turkish Air	Frankfurt I	Istanbul At	0815	1215	23 5	13	521.3	201908
Turkish Air	Lagos	Frankfurt I	0240	1120	5	5	325.0	201905
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	5	325.0	201903
Turkish Air	Lagos	Frankfurt I	0240	1120	5	4	260.0	201907
Turkish Air	Lagos	Frankfurt I	0240	1120	5	4	260.0	201910
Turkish Air	Frankfurt I	Istanbul At	0815	1215	4	4	260.0	201902
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	4	160.4	201907
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	3	120.3	201910
Turkish Air	Istanbul At	Frankfurt I	0430	0630	4	4	260.0	201906
Turkish Air	Istanbul At	Frankfurt I	1600	1800	6	4	260.0	201905
Turkish Air	Istanbul At	Frankfurt I	1615	1815	7	3	195.0	201910
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	5	200.5	201906
Turkish Air	Frankfurt I	Istanbul At	2000	0005	7	5	200.5	201909
Turkish Air	Frankfurt I	Istanbul At	2000	0005	6	4	260.0	201910
Lufthansa	Shanghai P	Frankfurt I	0820	1350	1 3456	21	2,181.9	201909
Qatar Airw	Doha	Frankfurt I	0720	1240	1	5	519.5	201912
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	201902
Qatar Airw	Doha	Frankfurt I	1225	1745	2	4	415.6	201909
Qatar Airw	Frankfurt I	Doha	1735	0025	4	4	415.6	201911
Qatar Airw	Frankfurt I	Doha	1945	0235	2	4	415.6	201903
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	201907
Qatar Airw	Frankfurt I	Doha	2030	0320	6	4	415.6	201910
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	5	500.0	201903
Saudi Arab	Dammam	Frankfurt I	0135	0610	6	5	500.0	201906

Saudi Arab	Frankfurt I	Jeddah	0820	1535	6	4	400.0	201910
Saudi Arab	Frankfurt I	Jeddah	2020	0250	3	4	440.0	201909
Saudi Arab	Frankfurt I	Riyadh Kin	2040	0315	5	4	440.0	201907
Saudi Arab	Riyadh Kin	Frankfurt I	0910	1420	5	5	550.0	201911
Saudi Arab	Riyadh Kin	Frankfurt I	1105	1515	4	4	400.0	201909
Turkish Air	Lagos	Frankfurt I	0240	1120	5	4	260.0	201906

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USAGE: 3367 RECORDS.

United Parcel Service (UPS) flights from London Stansted

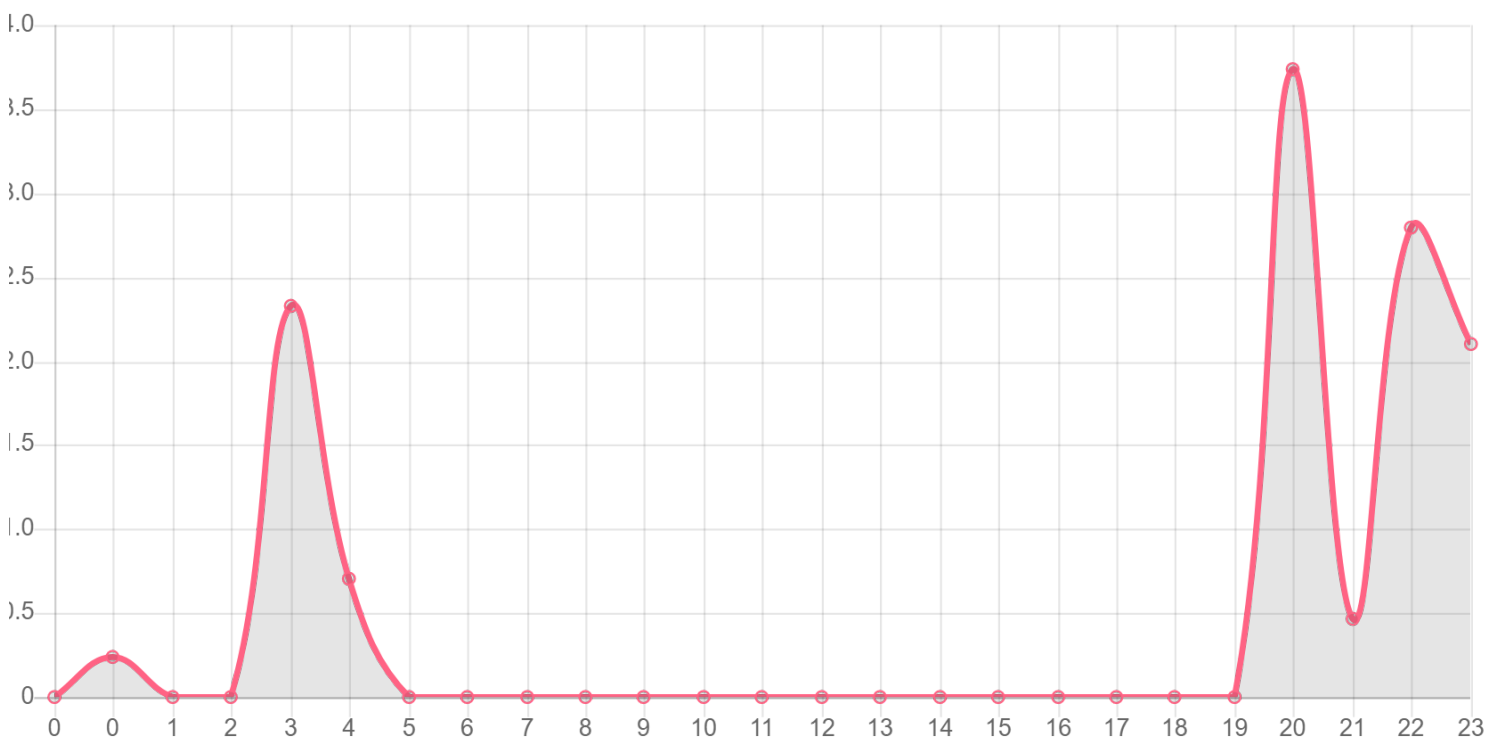
AIRPORT
London Stansted Airport — STN / EGSS

AIRLINE
United Parcel Service (UPS) — 5X / UPS
United States (US)

DESTINATIONS
3 airports

SEAT CAPACITY
474 seats per day
0% of total capacity.

Departures per Hour



Weekly values, based on flights in the last 30 days

Departure Map

Destinations

Top Routes

Show 10 entries

Airport	Flights per Week	Seats per Flight
Louisville International Airport (SDF)	5	237
Cologne Bonn Airport (CGN)	5	237
Warsaw Chopin Airport (WAW)	3	0

Showing 1 to 3 of 3 entries

Based on flights in the last 30 days

Recent Flights

Thu, 28. Feb (lands Thu, 01. Jan): Landed

5X244 UPS244
United Parcel Service (UPS) 5X / UPS
N427UP Boeing B757-200
London (STN)
to Warsaw (WAW)
1,415km (879mi.)

Scheduled:
03:47 (03:47 UTC)
01:00 (00:00 UTC)
Duration: -430923h -47m
Turnaround: 28 hours

Actual:
03:42 (03:42 UTC)
Departed 4 min early
06:32 (05:32 UTC)
Landed 25855532 min delayed
Duration: 1h 45m

Wed, 27. Feb (lands Thu, 28. Feb): Landed

5X235 UPS235
United Parcel Service (UPS) 5X / UPS
N319UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
23:03 (23:03 UTC)
00:56 (23:56 UTC)
Duration: 0h 53m
Turnaround: 2 hours

Actual (estimated values):
23:03 (23:03 UTC)
00:56 (23:56 UTC)
Duration: 0h 53m

Wed, 27. Feb : Landed

5X244 UPS244
United Parcel Service (UPS) 5X / UPS
N429UP Boeing B757-200
London (STN)
to Warsaw (WAW)
1,415km (879mi.)

Scheduled:
03:47 (03:47 UTC)
06:37 (05:37 UTC)
Duration: 1h 50m
Turnaround: 68 minutes

Actual (estimated values):
03:48 (03:48 UTC)
Departed 1 min delayed
06:37 (05:37 UTC)
Duration: 1h 50m

Tue, 26. Feb (lands Wed, 27. Feb): Landed

5X235 UPS235
United Parcel Service (UPS) 5X / UPS
N319UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
23:04 (23:04 UTC)
00:49 (23:49 UTC)
Duration: 0h 45m

Actual (estimated values):
23:04 (23:04 UTC)
00:50 (23:50 UTC)
Duration: 0h 45m

Tue, 26. Feb (lands Wed, 31. Dec): Live

5X238 UPS238
United Parcel Service (UPS) 5X / UPS
N332UP Boeing B767-300
London (STN)
to Louisville (SDF)
6,528km (4,054mi.)

Scheduled:
20:45 (20:45 UTC)
19:00 (00:00 UTC)
Duration: -430892h -45m

Estimated:
20:51 (20:51 UTC)
Departed 1446 min delayed
01:02 (06:02 UTC)
Expected 25855562 min delayed
Duration: 33h 17m

Tue, 26. Feb : Landed

5X244 UPS244
United Parcel Service (UPS) 5X / UPS
N429UP Boeing B757-200
London (STN)
to Warsaw (WAW)
1,415km (879mi.)

Scheduled:
03:47 (03:47 UTC)
06:35 (05:35 UTC)
Duration: 1h 48m

Actual (estimated values):
03:45 (03:45 UTC)
Departed 1 min early
06:34 (05:34 UTC)
Duration: 1h 47m

Mon, 25. Feb (lands Tue, 26. Feb): Landed

5X205 UPS205
United Parcel Service (UPS) 5X / UPS
N304UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
22:57 (22:57 UTC)
00:45 (23:45 UTC)
Duration: 0h 48m

Actual (estimated values):
22:57 (22:57 UTC)
00:45 (23:45 UTC)
Duration: 0h 48m

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Mon, 25. Feb (lands Wed, 27. Feb): Landed

5X238 UPS238
United Parcel Service (UPS) 5X / UPS
N304UP Boeing B767-300
London (STN)
to Louisville (SDF)
6,528km (4,054mi.)

Scheduled:
20:45 (20:45 UTC)
00:15 (05:15 UTC)
Duration: 32h 30m

Actual (estimated values):
21:00 (21:00 UTC)
Departed 1455 min delayed
00:16 (05:16 UTC)
Duration: 32h 31m

Fri, 22. Feb (lands Tue, 26. Feb): Landed

5X238 UPS238

Scheduled:

Actual (estimated values):

United Parcel Service (UPS) 5X / UPS
N340UP Boeing B767-300
London (STN)
to Louisville (SDF)
6,528km (4,054mi.)

23:15 (23:15 UTC)
00:23 (05:23 UTC)
Duration: 78h 8m

21:05 (21:05 UTC)
Departed 4190 min delayed
00:23 (05:23 UTC)
Duration: 78h 8m

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Fri, 22. Feb (lands Sat, 23. Feb): Landed

5X235 UPS235
United Parcel Service (UPS) 5X / UPS
N340UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
23:12 (23:12 UTC)
00:59 (23:59 UTC)
Duration: 0h 47m

Actual (estimated values):
23:12 (23:12 UTC)
01:00 (00:00 UTC)
Duration: 0h 48m

Thu, 21. Feb (lands Fri, 22. Feb): Landed

5X235 UPS235
United Parcel Service (UPS) 5X / UPS
N323UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
23:10 (23:10 UTC)
01:02 (00:02 UTC)
Duration: 0h 52m

Actual (estimated values):
23:09 (23:09 UTC)
01:02 (00:02 UTC)
Duration: 0h 51m

Thu, 21. Feb (lands Fri, 22. Feb): Landed

5X238 UPS238
United Parcel Service (UPS) 5X / UPS
N315UP Boeing B767-300
London (STN)
to Louisville (SDF)
6,528km (4,054mi.)

Scheduled:
20:45 (20:45 UTC)
01:22 (06:22 UTC)
Duration: 9h 37m

Actual (estimated values):
21:54 (21:54 UTC)
Departed 69 min delayed
01:22 (06:22 UTC)
Duration: 9h 37m

Thu, 21. Feb : Landed

5X244 UPS244
United Parcel Service (UPS) 5X / UPS
N429UP Boeing B757-200
London (STN)
to Warsaw (WAW)
1,415km (879mi.)

Scheduled:
03:47 (03:47 UTC)
06:38 (05:38 UTC)
Duration: 1h 51m

Actual (estimated values):
03:42 (03:42 UTC)
Departed 4 min early
06:38 (05:38 UTC)
Duration: 1h 51m

Wed, 20. Feb (lands Thu, 21. Feb): Landed

5X235 UPS235
United Parcel Service (UPS) 5X / UPS
N323UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
22:57 (22:57 UTC)
00:43 (23:43 UTC)
Duration: 0h 45m

Actual (estimated values):
22:57 (22:57 UTC)
00:42 (23:42 UTC)
Duration: 0h 45m

Wed, 20. Feb (lands Thu, 21. Feb): Landed

5X238 UPS238
United Parcel Service (UPS) 5X / UPS
N339UP Boeing B767-300
London (STN)
to Louisville (SDF)
6,528km (4,054mi.)

Scheduled:
20:45 (20:45 UTC)
00:55 (05:55 UTC)
Duration: 9h 10m

Actual (estimated values):
21:01 (21:01 UTC)
Departed 16 min delayed
00:54 (05:54 UTC)
Duration: 9h 9m

Wed, 20. Feb : Landed

5X244 UPS244
United Parcel Service (UPS) 5X / UPS
N431UP Boeing B757-200
London (STN)
to Warsaw (WAW)
1,415km (879mi.)

Scheduled:
03:47 (03:47 UTC)
06:42 (05:42 UTC)
Duration: 1h 55m

Actual (estimated values):
03:39 (03:39 UTC)
Departed 7 min early
06:43 (05:43 UTC)
Duration: 1h 56m

Tue, 19. Feb (lands Wed, 20. Feb): Landed

5X235 UPS235
United Parcel Service (UPS) 5X / UPS
N323UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
23:13 (23:13 UTC)
01:04 (00:04 UTC)
Duration: 0h 50m

Actual (estimated values):
23:12 (23:12 UTC)
01:04 (00:04 UTC)
Duration: 0h 50m

Tue, 19. Feb (lands Wed, 20. Feb): Landed

5X238 UPS238
United Parcel Service (UPS) 5X / UPS
N304UP Boeing B767-300
London (STN)
to Louisville (SDF)
6,528km (4,054mi.)

Scheduled:
20:45 (20:45 UTC)
00:57 (05:57 UTC)
Duration: 9h 12m

Actual (estimated values):
21:08 (21:08 UTC)
Departed 23 min delayed
00:57 (05:57 UTC)
Duration: 9h 12m

Tue, 19. Feb : Landed

5X244 UPS244
United Parcel Service (UPS) 5X / UPS
N429UP Boeing B757-200
London (STN)
to Warsaw (WAW)
1,415km (879mi.)

Scheduled:
03:47 (03:47 UTC)
06:33 (05:33 UTC)
Duration: 1h 46m

Actual (estimated values):
03:42 (03:42 UTC)
Departed 4 min early
06:33 (05:33 UTC)
Duration: 1h 46m

Mon, 18. Feb (lands Tue, 19. Feb): Landed

5X205 UPS205
United Parcel Service (UPS) 5X / UPS
N304UP Boeing B767-300
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
22:56 (22:56 UTC)
00:47 (23:47 UTC)
Duration: 0h 50m

Actual (estimated values):
22:56 (22:56 UTC)
00:47 (23:47 UTC)
Duration: 0h 50m

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Federal Express (FedEx) flights from London Stansted

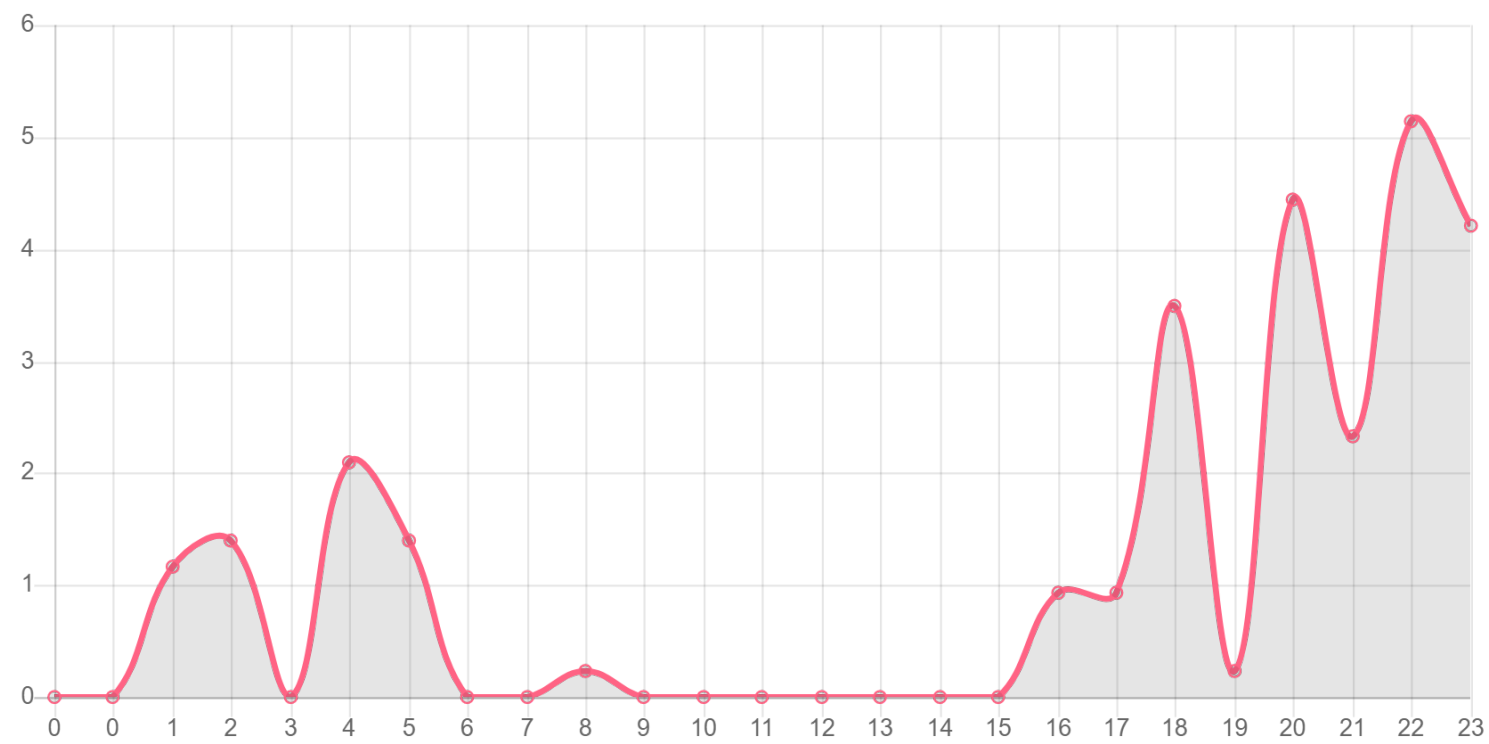
AIRPORT
London Stansted Airport — STN / EGSS

AIRLINE
Federal Express (FedEx) — FX / FDX
United States (US)

DESTINATIONS
7 airports

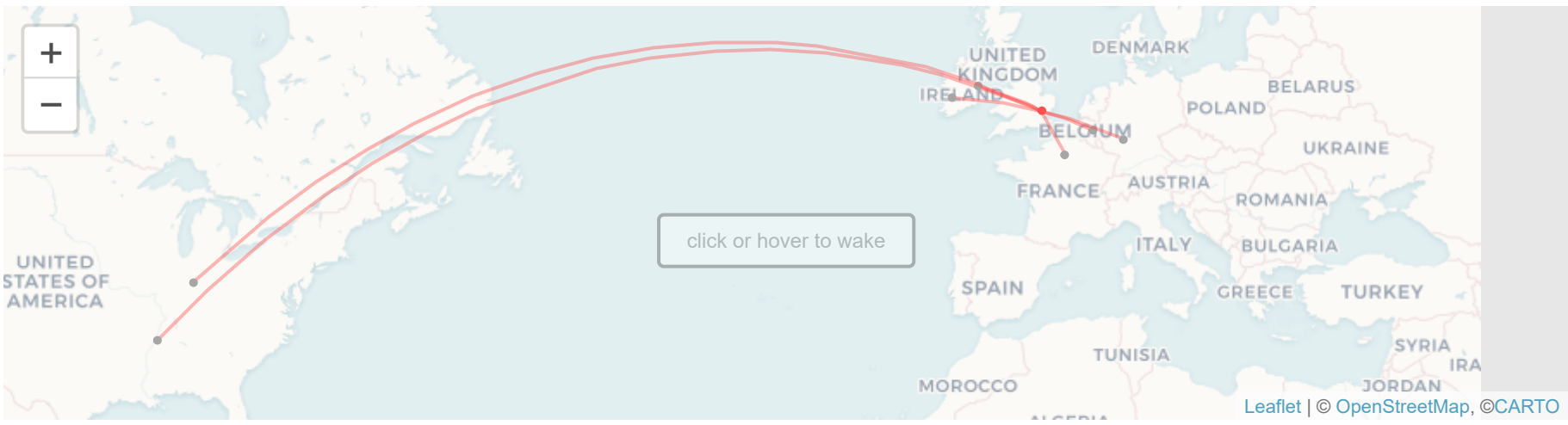
SEAT CAPACITY
0 seats per day
0% of total capacity.

Departures per Hour



Weekly values, based on flights in the last 30 days

Departure Map



Destinations

Top Routes

Show 10 entries

Airport	Flights per Week	Seats per Flight
Paris Charles de Gaulle Airport (CDG)	7	0
Liege Airport (LGG)	6	0
Memphis International Airport (MEM)	6	0
Dublin Airport (DUB)	5	0

Airport	Flights per Week	Seats per Flight
Indianapolis International Airport (IND)	2	0
Frankfurt Airport (FRA)	2	0
Shannon Airport (SNN)	1	0

Showing 1 to 7 of 7 entries

Previous 1 Next

Recent Flights

Based on flights in the last 30 days

Thu, 28. Feb : Landed

3V976 TAY976C
Federal Express (FedEx) FX / FDX
OE-IAQ Boeing B737-400
London (STN)
to Liege (LGG)
388km (241mi.)

Scheduled:
02:00 (02:00 UTC)
04:00 (03:00 UTC)
Duration: 1h 0m
Turnaround: 62 minutes

Actual:
02:09 (02:09 UTC)
Departed 9 min delayed
03:53 (02:53 UTC)
Landed 6 min early
Duration: 0h 53m

Tue, 26. Feb (lands Wed, 27. Feb): Landed

FX5201 FDX5201
Federal Express (FedEx) FX / FDX
N676FE Airbus A300-600
London (STN)
to Paris (CDG)
359km (223mi.)

Scheduled:
22:23 (22:23 UTC)
00:08 (23:08 UTC)
Duration: 0h 44m

Actual (estimated values):
22:24 (22:24 UTC)
00:08 (23:08 UTC)
Duration: 0h 44m

Tue, 26. Feb (lands Wed, 31. Dec): Landed

FX9 FDX9
Federal Express (FedEx) FX / FDX
N617FE McDonnell-Douglas MD11
London (STN)
to Indianapolis (IND)
6,444km (4,002mi.)

Scheduled:
21:56 (21:56 UTC)
19:00 (00:00 UTC)
Duration: -430893h -56m
Turnaround: 111 minutes

Actual:
22:31 (22:31 UTC)
Departed 35 min delayed
01:20 (06:20 UTC)
Landed 25854140 min delayed
Duration: 8h 24m

Tue, 26. Feb (lands Wed, 27. Feb): Landed

FX1 FDX1
Federal Express (FedEx) FX / FDX
N890FD Boeing B777-200LR
London (STN)
to Memphis (MEM)
7,042km (4,374mi.)

Scheduled:
20:50 (20:50 UTC)
00:14 (06:14 UTC)
Duration: 9h 24m
Turnaround: 2 hours

Actual (estimated values):
21:25 (21:25 UTC)
Departed 35 min delayed
00:15 (06:15 UTC)
Duration: 9h 25m

Tue, 26. Feb : Landed

FX36 FDX36
Federal Express (FedEx) FX / FDX
N528FE McDonnell-Douglas MD11
London (STN)
to Frankfurt (FRA)
617km (383mi.)

Scheduled:
18:40 (18:40 UTC)
20:45 (19:45 UTC)
Duration: 1h 4m
Turnaround: 99 minutes

Actual (estimated values):
18:41 (18:41 UTC)
20:45 (19:45 UTC)
Duration: 1h 4m

Tue, 26. Feb : Landed

FX5202 FDX5202
Federal Express (FedEx) FX / FDX
N676FE Airbus A300-600
London (STN)
to Dublin (DUB)
471km (292mi.)

Scheduled:
05:02 (05:02 UTC)
05:46 (05:46 UTC)
Duration: 0h 44m

Actual (estimated values):
05:03 (05:03 UTC)
05:47 (05:47 UTC)
Duration: 0h 45m

Tue, 26. Feb : Landed

3V976 TAY976C
Federal Express (FedEx) FX / FDX
OE-IAQ Boeing B737-400
London (STN)
to Liege (LGG)
388km (241mi.)

Scheduled:
02:00 (02:00 UTC)
04:00 (03:00 UTC)
Duration: 1h 0m

Actual:
02:00 (02:00 UTC)
03:40 (02:40 UTC)
Landed 19 min early
Duration: 0h 40m

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Mon, 25. Feb (lands Tue, 26. Feb): Landed

FX6301 FDX6301
Federal Express (FedEx) FX / FDX
N972FD Boeing B757-200
London (STN)
to Liege (LGG)
388km (241mi.)

Scheduled:
23:06 (23:06 UTC)
00:48 (23:48 UTC)
Duration: 0h 42m

Actual (estimated values):
23:06 (23:06 UTC)
00:49 (23:49 UTC)
Duration: 0h 42m

Mon, 25. Feb (lands Tue, 26. Feb): Landed

FX5201 FDX5201
Federal Express (FedEx) FX / FDX

Scheduled:
22:26 (22:26 UTC)

Actual (estimated values):
22:26 (22:26 UTC)

N658FE Airbus A300-600
London (STN)
to Paris (CDG)
359km (223mi.)

00:15 (23:15 UTC)
Duration: 0h 48m
Turnaround: 86 minutes

00:16 (23:16 UTC)
Duration: 0h 49m

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Mon, 25. Feb (lands Tue, 26. Feb): Landed

FX34 FDX34
Federal Express (FedEx) FX / FDX
N598FE McDonnell-Douglas MD11
London (STN)
to Cologne (CGN)
493km (306mi.)

Scheduled:
22:13 (22:13 UTC)
00:06 (23:06 UTC)
Duration: 0h 53m

Actual (estimated values):
22:13 (22:13 UTC)
00:05 (23:05 UTC)
Duration: 0h 52m

Mon, 25. Feb (lands Tue, 26. Feb): Landed

FX1 FDX1
Federal Express (FedEx) FX / FDX
N854FD Boeing B777-200LR
London (STN)
to Memphis (MEM)
7,042km (4,374mi.)

Scheduled:
20:50 (20:50 UTC)
00:17 (06:17 UTC)
Duration: 9h 27m

Actual (estimated values):
21:26 (21:26 UTC)
Departed 36 min delayed
00:16 (06:16 UTC)
Duration: 9h 26m

Mon, 25. Feb : Landed

FX9142 FDX9142
Federal Express (FedEx) FX / FDX
N573FE McDonnell-Douglas MD11
London (STN)
to Paris (CDG)
359km (223mi.)

Scheduled:
18:44 (18:44 UTC)
20:29 (19:29 UTC)
Duration: 0h 45m

Actual (estimated values):
18:45 (18:45 UTC)
20:29 (19:29 UTC)
Duration: 0h 44m

Sun, 24. Feb : Landed

FX5220 FDX5220
Federal Express (FedEx) FX / FDX
N658FE Airbus A300-600
London (STN)
to Dublin (DUB)
471km (292mi.)

Scheduled:
01:37 (01:37 UTC)
02:20 (02:20 UTC)
Duration: 0h 43m

Actual (estimated values):
01:37 (01:37 UTC)
02:20 (02:20 UTC)
Duration: 0h 43m

Sat, 23. Feb (lands Sun, 24. Feb): Landed

FX5391 FDX5391
Federal Express (FedEx) FX / FDX
N883FD Boeing B777-200LR
London (STN)
to Memphis (MEM)
7,042km (4,374mi.)

Scheduled:
23:38 (23:38 UTC)
02:59 (08:59 UTC)
Duration: 9h 21m

Actual (estimated values):
23:49 (23:49 UTC)
Departed 11 min delayed
03:00 (09:00 UTC)
Duration: 9h 22m

Sat, 23. Feb (lands Sun, 24. Feb): Landed

FX36 FDX36
Federal Express (FedEx) FX / FDX
N618FE McDonnell-Douglas MD11
London (STN)
to Paris (CDG)
359km (223mi.)

Scheduled:
23:36 (23:36 UTC)
01:16 (00:16 UTC)
Duration: 0h 40m

Actual (estimated values):
23:35 (23:35 UTC)
01:16 (00:16 UTC)
Duration: 0h 40m

Sat, 23. Feb : Landed

FX5210 FDX5210
Federal Express (FedEx) FX / FDX
N676FE Airbus A300-600
London (STN)
to Paris (CDG)
359km (223mi.)

Scheduled:
17:57 (17:57 UTC)
19:41 (18:41 UTC)
Duration: 0h 44m

Actual (estimated values):
17:57 (17:57 UTC)
19:40 (18:40 UTC)
Duration: 0h 43m

Fri, 22. Feb (lands Sat, 23. Feb): Landed

FX6301 FDX6301
Federal Express (FedEx) FX / FDX
N916FD Boeing B757-200
London (STN)
to Liege (LGG)
388km (241mi.)

Scheduled:
23:05 (23:05 UTC)
00:50 (23:50 UTC)
Duration: 0h 45m

Actual (estimated values):
23:05 (23:05 UTC)
00:49 (23:49 UTC)
Duration: 0h 44m

Fri, 22. Feb (lands Sat, 23. Feb): Landed

FX1 FDX1
Federal Express (FedEx) FX / FDX
N859FD Boeing B777-200LR
London (STN)
to Memphis (MEM)
7,042km (4,374mi.)

Scheduled:
20:50 (20:50 UTC)
00:39 (06:39 UTC)
Duration: 9h 49m

Actual (estimated values):
21:15 (21:15 UTC)
Departed 25 min delayed
00:39 (06:39 UTC)
Duration: 9h 49m

Fri, 22. Feb : Landed

FX5202 FDX5202
Federal Express (FedEx) FX / FDX
N676FE Airbus A300-600
London (STN)
to Dublin (DUB)
471km (292mi.)

Scheduled:
04:49 (04:49 UTC)
05:37 (05:37 UTC)
Duration: 0h 47m

Actual (estimated values):
04:49 (04:49 UTC)
05:38 (05:38 UTC)
Duration: 0h 48m

Thu, 21. Feb (lands Fri, 22. Feb): Landed

FX6301 FDX6301
Federal Express (FedEx) FX / FDX
N916FD Boeing B757-200
London (STN)
to Liege (LGG)
388km (241mi.)

Scheduled:
23:05 (23:05 UTC)
00:51 (23:51 UTC)
Duration: 0h 45m

Actual (estimated values):
23:05 (23:05 UTC)
00:51 (23:51 UTC)
Duration: 0h 45m

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Carrier Name	Dep Airport Name	Arr Airport Name	Local Dep Time	Local Days Of Op	Frequency	FreightTons (Total)	Time series
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	5	519.5	201903
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	4	415.6	201904
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	4	415.6	201905
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	5	519.5	201906
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	4	415.6	201907
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	5	519.5	201908
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	4	415.6	201909
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	4	415.6	201910
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	5	519.5	201911
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	4	415.6	201912
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	4	415.6	202001
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0100	6	5	519.5	202002
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	5	519.5	201903
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	4	415.6	201904
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	4	415.6	201905
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	5	519.5	201906
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	4	415.6	201907
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	5	519.5	201908
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	4	415.6	201909
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	4	415.6	201910
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	5	519.5	201911
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	4	415.6	201912
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	4	415.6	202001
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0105	6	5	519.5	202002
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201903
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201903
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201904
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201904
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201905
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201905
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201906
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201906
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201907
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201907
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201908
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201908
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201909
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201909
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201910
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201910
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201911
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	201911
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201912
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	5	519.5	201912
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	202001
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	202001
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	202002
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0500	7	4	415.6	202002
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	5	519.5	201903
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	4	415.6	201904
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	5	519.5	201905
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	4	415.6	201906
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	4	415.6	201907
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	5	519.5	201908
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	4	415.6	201909
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	4	415.6	201910
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	5	519.5	201911
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	4	415.6	201912
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	5	519.5	202001
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0530	5	4	415.6	202002

Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	5	519.5	201903
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	4	415.6	201904
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	5	519.5	201905
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	4	415.6	201906
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	4	415.6	201907
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	5	519.5	201908
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	4	415.6	201909
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	4	415.6	201910
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	5	519.5	201911
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	4	415.6	201912
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	5	519.5	202001
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0600	5	4	415.6	202002
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	201903
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	201904
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	5	519.5	201905
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	201906
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	201907
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	5	519.5	201908
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	201909
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	5	519.5	201910
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	201911
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	201912
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	5	519.5	202001
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0700	4	4	415.6	202002
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	201903
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	201904
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	5	519.5	201905
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	201906
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	201907
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	5	519.5	201908
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	201909
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	5	519.5	201910
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	201911
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	201912
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	5	519.5	202001
Qatar Airways	London Stansted Apt	Paris Charles de Gau	0725	4	4	415.6	202002
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	4	450.4	201903
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	4	450.4	201904
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	5	563	201905
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	4	450.4	201906
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	5	563	201907
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	4	450.4	201908
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	4	450.4	201909
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	5	563	201910
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	4	450.4	201911
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	4	450.4	201912
Cargolux Airline	London Stansted Apt	Luxembourg	0820	3	5	563	202001
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Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	5	545	201904
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	4	436	201905
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	4	436	201906
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	5	545	201907
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	4	436	201908
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	5	545	201909
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	4	436	201910
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	4	436	201911
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	5	545	201912
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	4	436	202001
Cargolux Italia S	London Stansted Apt	Luxembourg	0820	1	4	436	202002
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	9	900	201903

China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	201903
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	5	500	201904
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	8	800	201904
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	9	900	201905
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	201905
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	201906
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	9	900	201906
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	5	500	201907
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	8	800	201907
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	10	1000	201908
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	201908
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	201909
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	8	800	201909
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	5	500	201910
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China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	9	900	201911
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	201911
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	5	500	201912
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	8	800	201912
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	9	900	202001
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	202001
China Southern	London Stansted Apt	Frankfurt Internatio	0835	2	4	400	202002
China Southern	London Stansted Apt	Frankfurt Internatio	0835	4 6	9	900	202002
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	201903
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	5	519.5	201904
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	201905
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	201906
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	5	519.5	201907
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	201908
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	5	519.5	201909
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	201910
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	201911
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	5	519.5	201912
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	202001
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0900	1	4	415.6	202002
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	201903
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	5	519.5	201904
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	201905
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	201906
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	5	519.5	201907
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	201908
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	5	519.5	201909
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	201910
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	201911
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	5	519.5	201912
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	202001
Qatar Airways	London Stansted Apt	Milan Malpensa Apt	0910	1	4	415.6	202002
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	201903
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	201904
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	5	550	201905
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	201906
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	201907
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	5	550	201908
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	201909
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	5	550	201910
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	201911
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	201912
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	5	550	202001
Silk Way West A	London Stansted Apt	Maastricht/Aachen	0930	4	4	440	202002
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	5	563	201903
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	4	450.4	201904

Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	5	563 201905
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	4	450.4 201906
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	4	450.4 201907
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	5	563 201908
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	4	450.4 201909
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	4	450.4 201910
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	5	563 201911
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	4	450.4 201912
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	5	563 202001
Cargolux Airline	London Stansted Apt	Luxembourg	0935	5	4	450.4 202002
Lufthansa Germ	London Stansted Apt	Frankfurt Internatio	0955	4	1	85 201903
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 201903
China Southern	London Stansted Apt	Guangzhou	1005	1	5	500 201904
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 201905
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 201906
China Southern	London Stansted Apt	Guangzhou	1005	1	5	500 201907
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 201908
China Southern	London Stansted Apt	Guangzhou	1005	1	5	500 201909
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 201910
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 201911
China Southern	London Stansted Apt	Guangzhou	1005	1	5	500 201912
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 202001
China Southern	London Stansted Apt	Guangzhou	1005	1	4	400 202002
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 201903
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 201904
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	5	550 201905
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 201906
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	5	550 201907
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 201908
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 201909
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	5	550 201910
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 201911
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 201912
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	5	550 202001
Cargologicair	London Stansted Apt	Frankfurt Internatio	1250	3	4	440 202002
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 201903
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 201904
Qatar Airways	London Stansted Apt	Basel	1600	3	5	325 201905
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 201906
Qatar Airways	London Stansted Apt	Basel	1600	3	5	325 201907
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 201908
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 201909
Qatar Airways	London Stansted Apt	Basel	1600	3	5	325 201910
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 201911
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 201912
Qatar Airways	London Stansted Apt	Basel	1600	3	5	325 202001
Qatar Airways	London Stansted Apt	Basel	1600	3	4	260 202002
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 201903
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 201904
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 201905
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 201906
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 201907
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 201908
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 201909
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	14	1400 201910
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	12	1200 201911
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	14	1400 201912
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	13	1300 202001
Asiana Airlines	London Stansted Apt	Frankfurt Internatio	1610	2 4 7	12	1200 202002
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260 201903
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260 201904

Qatar Airways	London Stansted Apt	Basel	1615	3	5	325	201905
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260	201906
Qatar Airways	London Stansted Apt	Basel	1615	3	5	325	201907
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260	201908
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260	201909
Qatar Airways	London Stansted Apt	Basel	1615	3	5	325	201910
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260	201911
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260	201912
Qatar Airways	London Stansted Apt	Basel	1615	3	5	325	202001
Qatar Airways	London Stansted Apt	Basel	1615	3	4	260	202002
Qatar Airways	London Stansted Apt	Basel	1740	6	5	325	201903
Qatar Airways	London Stansted Apt	Basel	1740	6	4	260	201904
Qatar Airways	London Stansted Apt	Basel	1740	6	4	260	201905
Qatar Airways	London Stansted Apt	Basel	1740	6	5	325	201906
Qatar Airways	London Stansted Apt	Basel	1740	6	4	260	201907
Qatar Airways	London Stansted Apt	Basel	1740	6	5	325	201908
Qatar Airways	London Stansted Apt	Basel	1740	6	4	260	201909
Qatar Airways	London Stansted Apt	Basel	1740	6	4	260	201910
Qatar Airways	London Stansted Apt	Basel	1740	6	5	325	201911
Qatar Airways	London Stansted Apt	Basel	1740	6	4	260	201912
Qatar Airways	London Stansted Apt	Basel	1740	6	4	260	202001
Qatar Airways	London Stansted Apt	Basel	1740	6	5	325	202002
Lufthansa Germ	London Stansted Apt	Frankfurt Internatio	1750	7	1	103.9	201904
Qatar Airways	London Stansted Apt	Basel	1800	6	5	325	201903
Qatar Airways	London Stansted Apt	Basel	1800	6	4	260	201904
Qatar Airways	London Stansted Apt	Basel	1800	6	4	260	201905
Qatar Airways	London Stansted Apt	Basel	1800	6	5	325	201906
Qatar Airways	London Stansted Apt	Basel	1800	6	4	260	201907
Qatar Airways	London Stansted Apt	Basel	1800	6	5	325	201908
Qatar Airways	London Stansted Apt	Basel	1800	6	4	260	201909
Qatar Airways	London Stansted Apt	Basel	1800	6	4	260	201910
Qatar Airways	London Stansted Apt	Basel	1800	6	5	325	201911
Qatar Airways	London Stansted Apt	Basel	1800	6	4	260	201912
Qatar Airways	London Stansted Apt	Basel	1800	6	4	260	202001
Qatar Airways	London Stansted Apt	Basel	1800	6	5	325	202002
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	5	550	201903
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	201904
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	201905
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	5	550	201906
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	201907
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	201908
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	5	550	201909
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	201910
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	201911
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	5	550	201912
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	202001
Martinair Hollar	London Stansted Apt	Amsterdam	1825	7	4	440	202002
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	201903
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	5	325	201904
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	201905
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	201906
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	5	325	201907
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	201908
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	5	325	201909
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	201910
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	201911
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	5	325	201912
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	202001
Qatar Airways	London Stansted Apt	Brussels Airport	1830	1	4	260	202002
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	5	550	201903
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	4	440	201904

Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	4	440	201905
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	5	550	201906
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	4	440	201907
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	5	550	201908
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	4	440	201909
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	4	440	201910
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	5	550	201911
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	4	440	201912
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	4	440	202001
Cargologicair	London Stansted Apt	Atlanta Hartsfield-ja	1850	6	5	550	202002
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	201903
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	5	325	201904
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	201905
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	201906
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	5	325	201907
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	201908
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	5	325	201909
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	201910
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	201911
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	5	325	201912
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	202001
Qatar Airways	London Stansted Apt	Brussels Airport	1900	1	4	260	202002
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	5	700	201903
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	4	560	201904
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	4	560	201905
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	5	700	201906
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	4	560	201907
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	5	700	201908
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	4	560	201909
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	4	560	201910
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	5	700	201911
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	4	560	201912
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	4	560	202001
AirBridgeCargo	London Stansted Apt	Atlanta Hartsfield-ja	2035	6	5	700	202002

Carrier Name	Dep Airport Name	Arr Airport Name	Local Arr Time	Local Days Of Op	Frequency	FreightTons (Total)	Time series	Column1
British Airways	Doha	London Stansted Ap	0310	6	10	1039	201903	
British Airways	Doha	London Stansted Ap	0310	6	8	831.2	201904	
British Airways	Doha	London Stansted Ap	0310	6	8	831.2	201905	
British Airways	Doha	London Stansted Ap	0310	6	10	1039	201906	
British Airways	Doha	London Stansted Ap	0310	6	8	831.2	201907	
British Airways	Doha	London Stansted Ap	0310	6	10	1039	201908	
British Airways	Doha	London Stansted Ap	0310	6	8	831.2	201909	
British Airways	Doha	London Stansted Ap	0310	6	8	831.2	201910	
British Airways	Doha	London Stansted Ap	0310	6	10	1039	201911	
British Airways	Doha	London Stansted Ap	0310	6	8	831.2	201912	
British Airways	Doha	London Stansted Ap	0310	6	8	831.2	202001	
British Airways	Doha	London Stansted Ap	0310	6	10	1039	202002	
Qatar Airways	Doha	London Stansted Ap	0330	6	5	519.5	201903	
Qatar Airways	Doha	London Stansted Ap	0330	6	4	415.6	201904	
Qatar Airways	Doha	London Stansted Ap	0330	6	4	415.6	201905	
Qatar Airways	Doha	London Stansted Ap	0330	6	5	519.5	201906	
Qatar Airways	Doha	London Stansted Ap	0330	6	4	415.6	201907	
Qatar Airways	Doha	London Stansted Ap	0330	6	5	519.5	201908	
Qatar Airways	Doha	London Stansted Ap	0330	6	4	415.6	201909	
Qatar Airways	Doha	London Stansted Ap	0330	6	4	415.6	201910	
Qatar Airways	Doha	London Stansted Ap	0330	6	5	519.5	201911	
Qatar Airways	Doha	London Stansted Ap	0330	6	4	415.6	201912	
Qatar Airways	Doha	London Stansted Ap	0330	6	4	415.6	202001	
Qatar Airways	Doha	London Stansted Ap	0330	6	5	519.5	202002	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	201903	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	201904	
Qatar Airways	Doha	London Stansted Ap	0415	4	5	519.5	201905	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	201906	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	201907	
Qatar Airways	Doha	London Stansted Ap	0415	4	5	519.5	201908	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	201909	
Qatar Airways	Doha	London Stansted Ap	0415	4	5	519.5	201910	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	201911	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	201912	
Qatar Airways	Doha	London Stansted Ap	0415	4	5	519.5	202001	
Qatar Airways	Doha	London Stansted Ap	0415	4	4	415.6	202002	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	201903	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	201903	
China Southern	Guangzhou	London Stansted Ap	0535	1	5	500	201904	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	201904	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	201905	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	201905	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	201906	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	201906	
China Southern	Guangzhou	London Stansted Ap	0535	1	5	500	201907	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	201907	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	201908	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	14	1400	201908	
China Southern	Guangzhou	London Stansted Ap	0535	1	5	500	201909	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	12	1200	201909	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	201910	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	14	1400	201910	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	201911	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	201911	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	201912	
China Southern	Guangzhou	London Stansted Ap	0535	1	5	500	201912	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	202001	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	202001	
China Southern	Guangzhou	London Stansted Ap	0535	1	4	400	202002	
China Southern	Guangzhou	London Stansted Ap	0535	2 4 6	13	1300	202002	
Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	201903	
Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	201904	
Qatar Airways	Doha	London Stansted Ap	0555	4	5	519.5	201905	
Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	201906	

Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	201907
Qatar Airways	Doha	London Stansted Ap	0555	4	5	519.5	201908
Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	201909
Qatar Airways	Doha	London Stansted Ap	0555	4	5	519.5	201910
Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	201911
Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	201912
Qatar Airways	Doha	London Stansted Ap	0555	4	5	519.5	202001
Qatar Airways	Doha	London Stansted Ap	0555	4	4	415.6	202002
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	201903
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	201904
British Airways	Doha	London Stansted Ap	0630	4	5	519.5	201905
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	201906
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	201907
British Airways	Doha	London Stansted Ap	0630	4	5	519.5	201908
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	201909
British Airways	Doha	London Stansted Ap	0630	4	5	519.5	201910
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	201911
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	201912
British Airways	Doha	London Stansted Ap	0630	4	5	519.5	202001
British Airways	Doha	London Stansted Ap	0630	4	4	415.6	202002
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	201903
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	201904
British Airways	Doha	London Stansted Ap	0636	4	5	519.5	201905
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	201906
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	201907
British Airways	Doha	London Stansted Ap	0636	4	5	519.5	201908
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	201909
British Airways	Doha	London Stansted Ap	0636	4	5	519.5	201910
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	201911
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	201912
British Airways	Doha	London Stansted Ap	0636	4	5	519.5	202001
British Airways	Doha	London Stansted Ap	0636	4	4	415.6	202002
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	201903
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	201904
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	5	563	201905
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	201906
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	5	563	201907
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	201908
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	201909
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	5	563	201910
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	201911
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	201912
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	5	563	202001
Cargolux Airline	Zhengzhou	London Stansted Ap	0650	3	4	450.4	202002
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	201903
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	5	545	201904
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	201905
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	201906
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	5	545	201907
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	201908
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	5	545	201909
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	201910
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	201911
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	5	545	201912
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	202001
Cargolux Italia S	Zhengzhou	London Stansted Ap	0650	1	4	436	202002
British Airways	Doha	London Stansted Ap	0700	7	5	519.5	201903
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	201903
British Airways	Doha	London Stansted Ap	0700	7	4	415.6	201904
British Airways	Doha	London Stansted Ap	0700	1	5	519.5	201904
British Airways	Doha	London Stansted Ap	0700	7	4	415.6	201905
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	201905
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	201906
British Airways	Doha	London Stansted Ap	0700	7	5	519.5	201906
British Airways	Doha	London Stansted Ap	0700	1	5	519.5	201907

British Airways	Doha	London Stansted Ap	0700	7	4	415.6	201907
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	201908
British Airways	Doha	London Stansted Ap	0700	7	4	415.6	201908
British Airways	Doha	London Stansted Ap	0700	7	5	519.5	201909
British Airways	Doha	London Stansted Ap	0700	1	5	519.5	201909
British Airways	Doha	London Stansted Ap	0700	7	4	415.6	201910
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	201910
British Airways	Doha	London Stansted Ap	0700	7	4	415.6	201911
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	201911
British Airways	Doha	London Stansted Ap	0700	1	5	519.5	201912
British Airways	Doha	London Stansted Ap	0700	7	5	519.5	201912
British Airways	Doha	London Stansted Ap	0700	7	4	415.6	202001
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	202001
British Airways	Doha	London Stansted Ap	0700	7	4	415.6	202002
British Airways	Doha	London Stansted Ap	0700	1	4	415.6	202002
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	201903
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	201904
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	5	550	201905
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	201906
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	5	550	201907
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	201908
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	201909
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	5	550	201910
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	201911
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	201912
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	5	550	202001
Safari Express C	Nairobi Jomo Kenyat	London Stansted Ap	0705	3	4	440	202002
British Airways	Doha	London Stansted Ap	0725	5	10	1039	201903
British Airways	Doha	London Stansted Ap	0725	5	8	831.2	201904
British Airways	Doha	London Stansted Ap	0725	5	10	1039	201905
British Airways	Doha	London Stansted Ap	0725	5	8	831.2	201906
British Airways	Doha	London Stansted Ap	0725	5	8	831.2	201907
British Airways	Doha	London Stansted Ap	0725	5	10	1039	201908
British Airways	Doha	London Stansted Ap	0725	5	8	831.2	201909
British Airways	Doha	London Stansted Ap	0725	5	8	831.2	201910
British Airways	Doha	London Stansted Ap	0725	5	10	1039	201911
British Airways	Doha	London Stansted Ap	0725	5	8	831.2	201912
British Airways	Doha	London Stansted Ap	0725	5	10	1039	202001
British Airways	Doha	London Stansted Ap	0725	5	8	831.2	202002
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	201903
Qatar Airways	Doha	London Stansted Ap	0735	1	5	519.5	201904
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	201905
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	201906
Qatar Airways	Doha	London Stansted Ap	0735	1	5	519.5	201907
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	201908
Qatar Airways	Doha	London Stansted Ap	0735	1	5	519.5	201909
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	201910
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	201911
Qatar Airways	Doha	London Stansted Ap	0735	1	5	519.5	201912
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	202001
Qatar Airways	Doha	London Stansted Ap	0735	1	4	415.6	202002
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	5	563	201903
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	4	450.4	201904
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	5	563	201905
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	4	450.4	201906
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	4	450.4	201907
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	5	563	201908
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	4	450.4	201909
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	4	450.4	201910
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	5	563	201911
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	4	450.4	201912
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	5	563	202001
Cargolux Airline	Nairobi Jomo Kenyat	London Stansted Ap	0805	5	4	450.4	202002
Lufthansa Germ	Dakar Blaise Diagne I	London Stansted Ap	0825	4	1	85	201903
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2	4	440	201903

Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		5	550	201904
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		4	440	201905
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		4	440	201906
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		5	550	201907
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		4	440	201908
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		4	440	201909
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		5	550	201910
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		4	440	201911
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		5	550	201912
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		4	440	202001
Cargologicair	Atlanta Hartsfield-ja	London Stansted Ap	1050	2		4	440	202002
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	201903
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	201903
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	8	800	201904
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		5	500	201904
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	201905
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	201905
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	201906
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	201906
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	8	800	201907
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		5	500	201907
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	201908
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	201908
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	201909
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	201909
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		5	500	201910
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	201910
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	8	800	201911
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	201911
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		5	500	201912
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	201912
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	9	900	202001
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	202001
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	2		4	400	202002
Asiana Airlines	Moscow Domodedo	London Stansted Ap	1415	4	7	8	800	202002
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	201903
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	201904
Qatar Airways	Doha	London Stansted Ap	1445	3		5	325	201905
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	201906
Qatar Airways	Doha	London Stansted Ap	1445	3		5	325	201907
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	201908
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	201909
Qatar Airways	Doha	London Stansted Ap	1445	3		5	325	201910
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	201911
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	201912
Qatar Airways	Doha	London Stansted Ap	1445	3		5	325	202001
Qatar Airways	Doha	London Stansted Ap	1445	3		4	260	202002
Lufthansa Germ	Buenos Aires Ministr	London Stansted Ap	1510	6		1	103.9	201904
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		5	550	201903
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		4	440	201904
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		4	440	201905
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		5	550	201906
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		4	440	201907
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		5	550	201908
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		4	440	201909
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		4	440	201910
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		5	550	201911
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		4	440	201912
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		4	440	202001
Cargologicair	Frankfurt Internatior	London Stansted Ap	1610	6		5	550	202002
Qatar Airways	Doha	London Stansted Ap	1610	6		5	325	201903
Qatar Airways	Doha	London Stansted Ap	1610	6		4	260	201904
Qatar Airways	Doha	London Stansted Ap	1610	6		4	260	201905
Qatar Airways	Doha	London Stansted Ap	1610	6		5	325	201906
Qatar Airways	Doha	London Stansted Ap	1610	6		4	260	201907

Qatar Airways	Doha	London Stansted Ap	1610	6	5	325	201908	
Qatar Airways	Doha	London Stansted Ap	1610	6	4	260	201909	
Qatar Airways	Doha	London Stansted Ap	1610	6	4	260	201910	
Qatar Airways	Doha	London Stansted Ap	1610	6	5	325	201911	
Qatar Airways	Doha	London Stansted Ap	1610	6	4	260	201912	
Qatar Airways	Doha	London Stansted Ap	1610	6	4	260	202001	
Qatar Airways	Doha	London Stansted Ap	1610	6	5	325	202002	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	5	550	201903	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	201904	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	201905	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	5	550	201906	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	201907	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	201908	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	5	550	201909	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	201910	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	201911	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	5	550	201912	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	202001	
Martinair Hollar	Miami International	London Stansted Ap	1655	7	4	440	202002	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	201903	
Qatar Airways	Doha	London Stansted Ap	1730	1	5	325	201904	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	201905	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	201906	
Qatar Airways	Doha	London Stansted Ap	1730	1	5	325	201907	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	201908	
Qatar Airways	Doha	London Stansted Ap	1730	1	5	325	201909	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	201910	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	201911	
Qatar Airways	Doha	London Stansted Ap	1730	1	5	325	201912	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	202001	
Qatar Airways	Doha	London Stansted Ap	1730	1	4	260	202002	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	5	700	201903	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	4	560	201904	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	4	560	201905	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	5	700	201906	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	4	560	201907	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	5	700	201908	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	4	560	201909	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	4	560	201910	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	5	700	201911	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	4	560	201912	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	4	560	202001	
AirBridgeCargo	Frankfurt Internatior	London Stansted Ap	1905	6	5	700	202002	
British Airways	Doha	London Stansted Ap	2215	5	10	1039	201903	106
British Airways	Doha	London Stansted Ap	2215	5	8	831.2	201904	
British Airways	Doha	London Stansted Ap	2215	5	10	1039	201905	
British Airways	Doha	London Stansted Ap	2215	5	8	831.2	201906	
British Airways	Doha	London Stansted Ap	2215	5	8	831.2	201907	
British Airways	Doha	London Stansted Ap	2215	5	10	1039	201908	
British Airways	Doha	London Stansted Ap	2215	5	8	831.2	201909	
British Airways	Doha	London Stansted Ap	2215	5	8	831.2	201910	
British Airways	Doha	London Stansted Ap	2215	5	10	1039	201911	
British Airways	Doha	London Stansted Ap	2215	5	8	831.2	201912	
British Airways	Doha	London Stansted Ap	2215	5	10	1039	202001	
British Airways	Doha	London Stansted Ap	2215	5	8	831.2	202002	
Qatar Airways	Doha	London Stansted Ap	2330	5	5	519.5	201903	
Qatar Airways	Doha	London Stansted Ap	2330	5	4	415.6	201904	
Qatar Airways	Doha	London Stansted Ap	2330	5	5	519.5	201905	
Qatar Airways	Doha	London Stansted Ap	2330	5	4	415.6	201906	
Qatar Airways	Doha	London Stansted Ap	2330	5	4	415.6	201907	
Qatar Airways	Doha	London Stansted Ap	2330	5	5	519.5	201908	
Qatar Airways	Doha	London Stansted Ap	2330	5	4	415.6	201909	
Qatar Airways	Doha	London Stansted Ap	2330	5	4	415.6	201910	
Qatar Airways	Doha	London Stansted Ap	2330	5	5	519.5	201911	
Qatar Airways	Doha	London Stansted Ap	2330	5	4	415.6	201912	

Qatar Airways	Doha	London Stansted Ap	2330	5	5	519.5	202001
Qatar Airways	Doha	London Stansted Ap	2330	5	4	415.6	202002

Appendix F

Pakistan International Airlines

PIA - Pakistan International Airlines
Airline Name

Active
Status

Info | News | Fleet/Bases | Ownership/Partners | Contacts | IT | Financials/Pax | Capacities

Fleet
show complete list

Aircraft Type	Active	Inactive	Total	On Order*	Ø Age	Capacity		
A320-200	10	1	11		13.1	1,914	Routes	Schedule
ATR42-500	4	1	5		12.2	240	Routes	Schedule
ATR72-500	3	2	5		6.8	350	Routes	Schedule
B777-200(ER)	6		6		14.1	1,921	Routes	Schedule
B777-200(LR)	2		2		13.9	620	Routes	Schedule
B777-300(ER)	3	1	4		11.3	1,621	Routes	Schedule
Total	28	5	33	0	12.0	6,666		

* Includes new or used aircraft not yet delivered for which a construction/manufacturer serial number is already known.

Orders

Aircraft Type	Aircraft On Order	As of*
B777-300(ER)	5	31JAN2019
Total	5	

* The data in the table above displays unfilled order data provided by manufacturers as of the date displayed in the As of column. It does not take orders announced after this date into consideration.

Iran Air

Iran Air
Airline Name

Active
Status

Info | News | Fleet/Bases | Ownership/Partners | Contacts | IT | Financials/Pax | Capacities

Fleet
show complete list

Aircraft Type	Active	Inactive	Total	On Order*	Ø Age	Capacity		
A300-600R	2	2	4		25.8	1,040	Routes	Schedule
A300B2	1		1		39.1	277	Routes	Schedule
A300B4	1	3	4		35.6	1,089	Routes	Schedule
A300B4(F)		2	2		37.6		Routes	Schedule
A310-300	1	1	2		29.0	385	Routes	Schedule
A319-100		3	3		17.0	414	Routes	Schedule
A320-200	2	4	6		23.4	870	Routes	Schedule
A321-200	1		1		2.3	194	Routes	Schedule
A330-200	2		2		4.5	476	Routes	Schedule
ATR72-600	12	1	13		1.3	910	Routes	Schedule
B747-200C(M)	1		1		30.5		Routes	Schedule
F100	1	8	9		27.2	936	Routes	Schedule
MD-82		1	1		30.5	142	Routes	Schedule
Total	24	25	49	0	19.3	6,733		

* Includes new or used aircraft not yet delivered for which a construction/manufacturer serial number is already known.

Divisions

Cargo

Aircraft Type	Active	Inactive	Total	On Order*	Ø Age	Capacity
A300B4(F)		2	2		37.6	
B747-200C(M)	1		1		30.5	
Total	1	2	3	0	35.2	

* Includes new or used aircraft not yet delivered for which a construction/manufacturer serial number is already known.

Orders

Aircraft Type	Aircraft On Order	As of*
A320-200	6	31JAN2019
A320-200N	32	31JAN2019
A321-200	7	31JAN2019
A330-200	8	31JAN2019
A330-900N	28	31JAN2019
A350-1000	16	31JAN2019
Total	97	

* The data in the table above displays unfilled order data provided by manufacturers as of the date displayed in the As of column. It does not take orders announced after this date into consideration.

Qatar Airways

Qatar Airways
Airline Name

Active
Status

Info | News | Fleet/Bases | Ownership/Partners | Contacts | IT | Financials/Pax | Capacities

Fleet
show complete list

Aircraft Type	Active	Inactive	Total	On Order*	Ø Age	Capacity		
A320-200	32	1	33		7.8	4,812	Routes	Schedule
A321-200	6		6		11.4	1,092	Routes	Schedule
A321-200N				2			Routes	Schedule
A330-200	7		7		13.1	1,832	Routes	Schedule
A330-200F	7		7		4.4		Routes	Schedule
A330-300	13		13		12.7	3,935	Routes	Schedule
A340-600	4		4		12.6	1,488	Routes	Schedule
A350-1000	6		6	17	0.6	1,962	Routes	Schedule
A350-900	32		32	4	2.1	9,168	Routes	Schedule
A380-800	10		10		3.6	5,170	Routes	Schedule
ACJ319-100	2		2		15.6	220	Routes	Schedule
B747-8(F)	2		2		4.0		Routes	Schedule
B777-200(F)	15		15	1	4.3		Routes	Schedule
B777-200(LR)	9		9		9.1	2,344	Routes	Schedule
B777-300(ER)	48		48		5.3	17,806	Routes	Schedule
B787-8	30		30		4.7	7,620	Routes	Schedule
Total	**223**	**1**	**224**	**24**	**6.0**	**57,449**		

* Includes new or used aircraft not yet delivered for which a construction/manufacturer serial number is already known.

Divisions

Cargo

Aircraft Type	Active	Inactive	Total	On Order*	Ø Age	Capacity
A330-200F	7		7		4.4	
B747-8(F)	2		2		4.0	
B777-200(F)	15		15		4.3	
Total	**24**	**0**	**24**	**0**	**4.3**	

* Includes new or used aircraft not yet delivered for which a construction/manufacturer serial number is already known.

Orders

Aircraft Type	Aircraft On Order	As of*
A321-200N	40	31JAN2019
A321-200NX(LR)	10	31JAN2019
A350-1000	36	31JAN2019
A350-900	4	31JAN2019
B777-200(F)	6	31JAN2019
B777-8	10	31JAN2019
B777-9	50	31JAN2019
B787-9	30	31JAN2019
Total	**186**	

* The data in the table above displays unfilled order data provided by manufacturers as of the date displayed in the As of column. It does not take orders announced after this date into consideration.

TAAG Angola

TAAG Angola Airlines
Airline Name

Active
Status

Info | News | Fleet/Bases | Ownership/Partners | Contacts | IT | Financials/Pax | Capacities

Fleet
show complete list

Aircraft Type	Active	Inactive	Total	On Order*	Ø Age	Capacity		
B737-700	4		4		12.5	480	Routes	Schedule
B737-700(QC)	1		1		11.0	120	Routes	Schedule
B777-200(ER)	3		3		12.1	705	Routes	Schedule
B777-300(ER)	5		5		5.3	1,457	Routes	Schedule
Total	**13**	**0**	**13**	**0**	**9.5**	**2,762**		

* Includes new or used aircraft not yet delivered for which a construction/manufacturer serial number is already known.

COMMUNITY SERVICES

Please ask for: Iain Livingstone
Direct Line: 01843 577140
Date: 16/02/18

thanet
district council

Mr Angus Walker
Bircham Dyson Bell LLP
50 Broadway
London
SW1H 0BL

Dear Mr Walker,

Application by Riveroak Strategic Partners for an Order Granting Development Consent for Manston Airport

Second Statutory Consultation on Proposed Project

Thank you for consulting Thanet District Council under the provisions of Section 42 of the Planning Act 2008.

We outline our specific comments on the information provided at this pre-application consultation stage of the process below. Regard should also be had to the Council's first response to the previous formal consultation earlier this year (dated 21st July 2017).

Principle and Basis of Project

As outlined with the Council's previous consultation response, the Council's empirical evidence demonstrates that airport operations at Manston over the Local Plan period are very unlikely to be financially viable. The updated work by Azimuth Associates still fails to adequately consider the importance of the significantly lower cost of belly-hold freight capacity and the peninsular location of Manston within the UK and the South-east, and it fails to show how the project would overcome these fundamental limitations.

The lack of any cogent business case for how the project will be funded and delivered has also not been addressed in the second consultation, nor have any reasoned or transparent financial projections been provided. All previous comments made by the Council regarding the business case are therefore still valid and significant uncertainty remains about the delivery of the project and the purported benefits.

Within your consultation documents the current capability of the airport in terms of flights is stated as zero. It is noted that this figure is contested by the owners of the airport site. This will form a key determination for the Planning Inspectorate when deciding whether the project constitutes a National Significant Infrastructure Project (NSIP). The Council would recommend that you clarify this matter as

a priority, to ensure that all stakeholders are assured of whether the NSIP will progress past the acceptance stage.

Policy Assessment

The Preliminary Environmental Information Report (PEIR) does not include the Proposed Revisions to the draft Local Plan (preferred options) from January 2017 in its analysis of local policy in various sections, however it includes the January 2015 consultation, which has equal weight in decision making at this stage in the production of the Council's Local Plan. The Environmental Statement (ES) should be updated to reflect the correct local policy framework.

Economic impacts

There continues to be a lack of clarity about the use of potential job growth as a result of your project. For example, the new PEIR states that the project would bring "4,000 direct and 30,000 indirect jobs to the local economy by 2038", whereas the previous PEIR stated that by year 20 of operation over 4,200 people would be directly employed at the airport site and a further 26,000 in the "wider regional economy". The economic area, be it the 'wider regional economy' or "local economy", is not defined in any of the consultation documentation and this should be added to the ES. These job numbers continue to be generated on the basis of a theoretical academic report with no acknowledgement or provision for optimism bias, rather than on a studied financial appraisal of the project and expected growth.

It is noted that the consultee comments of section 13 of the PEIR does not include the Council's previous comments, unlike the assessments made in other sections of the PEIR. There remains significant uncertainty about whether the socio-economic benefits from your project in terms of job creation attract significant weight in support of the project, with these benefits overstated in Section 13 of the PEIR. Due to the continued lack of explanation to address the above concerns, it is not considered that the effect on the economy of Thanet would be "major beneficial - significant" due to the limitations in the evidence produced.

Please refer to our previous consultation letter for how to address these concerns.

The proposed commercial development on the northern grass does not appear to be functionally required for operational purposes of the airport and should not form part of the projects viability assessment. This development could be situated on allocated employment land within the district, such as Manston Business Park.

Housing Requirements and Employment Implications

We note the "Review of Future Housing and Employment Growth and Capacity for Development" document which you are consulting upon (also referred to as 'Employment and Housing Land Technical Report' within the PEIR). The main thrust of this document, compiled by your planning consultants RPS, is that there are adequate alternative sites to deliver housing to meet the district's objectively assessed need (OAN) without designating the Manston Airport site for housing and that the Council have under-estimated the likely job growth within the new plan period.

The report produced makes basic and fundamental errors in its analysis of additional sites, including using out-of-date SHLAA information, identifying some sites already recommended for inclusion, double-counting of sites, assuming that all sites submitted are acceptable (ignoring obvious environmental constraints and the Council's sustainability appraisal), whilst the analysis of the potential economic growth in the plan period includes inaccuracies and a lack of understanding of the relationship between housing numbers and expected job growth.

However more importantly, this report fails to address the matters raised in our previous consultation response, that the implications of the job creation purported from this project would significantly affect the OAN for housing within the East Kent region. The impact is a likely significant increase in housing land requirements in Thanet. This may result in indirect effects, such as additional loss of countryside through housing development and significant new infrastructure demands, which has not been assessed in the PEIR. As previously outlined:

An assessment must be carried out within the full submission reviewing job creation in your project and the relevant plan documents in Thanet, Dover and Canterbury (phased over respective plan periods), reviewing the labour supply with existing studies available in all three areas, assessing where the projected workforce will be drawn from to the airport, modelling migration adjustment from this information therefore deriving implications on housing need in the district and the region.

This has not been provided, neither have the ramifications for this on Thanet's countryside been adequately assessed within your submission (including within the socio-economic and landscape visual impact sections of the Environment Statement (ES)).

Other socio-economic impacts

The following comments made in our previous consultation response remain valid:

Additional burdens on local services are considered to be major adverse impact during operation in the PEIR, which would result from the increase in residence of operational workers in the district. This effect should be linked to the work to be carried out around the increase housing requirement in the district and neighbouring authorities (above in Housing Requirement section), to quantify the impact on local services as accurately as possible.

Specific surveys of the location and character of vulnerable groups and community facilities to be undertaken do not appear to be provided in the PEIR, with more details to be provided in the ES. We will await this information, and request that the potential for local employment and training during construction and operational phase be outlined in full in the ES and subsequently secured via appropriate obligations, as per our previous comments.

Previous comments raised regarding the use of out-of-date data are relevant, as the tourism profile of the district provided within the PEIR has not been updated to reflect available data on visitors from the 2015 Cambridge Economic Impact Model, further information can be found via: https://www.visitthanetbusiness.co.uk/. The Council has adopted its Economic Growth Strategy, which is referenced at PEIR section 13.4.27, however the Experian report from 2012 was not adopted and is not considered up-to-date.

Information on how the likely effects on local amenity, businesses, the destination and the experience of visitors will be mitigated by environmental measures has not been outlined in PEIR, with the significance level of effect not yet assessed on key areas such as disruption to local communities and amenity effect on tourism during operation of the airport. As previously outlined, all indicative flight paths would travel over Ramsgate, and night flight mitigation (see Noise and impact on living conditions section) would not impact on the multiple flights during the day that could adversely affect local business, inward investment, the expanding filming industry and a successful tourism sector. We await the further assessments to inform necessary mitigation before commenting on whether these impacts are significantly harmful to local communities, business and tourism in the district.

Noise and Vibration, Land and Air Quality

The project has the potential to result in significant impacts as a result of noise and vibration and on land and air quality. Our response assesses each section in order of the PEIR Chapters.

Noise and Vibration

Scope of Assessment

Based on the PEIR 2018 and associated documents and appendices, the scope of the aircraft and ground noise assessments are generally considered appropriate and consistent with policy and current guidance at this stage.

The scope identifies that noise from operational static sources is not possible at this stage as detailed design has not been undertaken and therefore necessary information is not available. The PEIR states that without mitigation, impacts can arise from these sources and presents a commitment that within the embedded mitigation no significant impacts arise. It is considered that this approach is reasonable at this stage. The methodology and approach to assessing and controlling noise from sources of this nature is detailed in Appendix 12.5 and is considered to offer a reasonable approach at this stage. The PEIR states that noise from these sources shall be controlled such that the “rating level at the worst noise affected property minus the background level is not more than -5 when assessed in accordance with BS4142”. This is considered a reasonable approach and should become a Development Consent Order (DCO) Requirement.

The PEIR commits in a number of locations in the document to a specific course of action or outcome these should become conditions or requirements for DCO. It would be helpful if there was a table to track these commitments through the ES and the planning stages.

The scope of the construction noise, construction vibration and construction traffic noise assessments are generally considered appropriate and follow relevant guidance.

The scope of the phasing of the development and associated phasing overlaps are unclear. Paragraph 12.4.15 states that Year 2 is 2021 and year 20 is 2039, whilst paragraph 12.9.3 states 2020 as being Year 0 and 2026 as Year 15. These statements are inconsistent, the latter being incorrect and whilst this may simply be a typographic error, uncertainty is created by these statements. It is understood that Phase 1 is anticipated to last around 12 months and the other phases will be undertaken at an unknown date, as the airport expands. Further clarity is required to

be provided on the assessment years and phasing of the development. Consistency of assessment years and phasing details should be provided throughout the ES.

Cumulative and combined impacts from the various sources have not been assessed at this time. This will be required as part of the ES.

Assessment Methodology

The methodology and data gathering for assessment of aircraft and ground noise are generally considered appropriate. Associated legislation, policy and guidance have been considered and applied in an appropriate manner. The following points are made, including areas where clarification and/or additional analysis is required to be addressed within the ES:

- The methodology in particular considers the most recent policy developments associated with Heathrow Expansion and their application to Manston (the draft Airports National Policy Statement – draft ANPS) as well as the broader development of airspace policy and guidance.

- The establishment of LOAEL and SOAEL values is considered to be appropriate and based on the latest UK Government (draft) policies relating to aircraft noise and WHO guidance. The methodology recognises that current policies are draft, and adopts a lower threshold for LOAEL daytime than proposed in the draft ANPS. SOAEL values align with those proposed by draft policy and WHO for night-time noise exposure.

- The assessment method determines that likely significant effects from operational aircraft noise are determined by reference to absolute noise levels (or absolute values related to aircraft noise) with specific criteria for residential receptors for significant effects being attributed to exposure greater than SOAEL or another similar metric. Paragraph 12.8.28 of PEIR 2018 indicates a range of other considerations for determining significant adverse effects when the exposure is between LOAEL and SOAEL. However, these do not appear to have been considered in the assessment criteria for operational aircraft noise. For example, significant effects can arise when there is an adverse noise change as a result of change in the acoustic character of an area (as recognised in Planning Guidance – Noise (PPG-N)). Consideration should be given at the earliest opportunity as to whether this approach has implications for the identification of significant effects. This has a bearing on the identification of likely significant effects in the PEIR.

- The study area appears to be appropriate although it is not clear how this area has been determined and further detail on this should be provided..

- There have been no aircraft operating at Manston since 2014. The population considered in the study area can therefore be considered to be newly exposed to aircraft noise - it is not clear how the implications arising from this being a newly exposed population are being considered or how they may modify the effects. For example, there is evidence that initial annoyance responses may be greater at opening than the standard exposure response suggests, but over time this can moderate. As noted later in the report, the number of dwellings exposed to LOAEL increases over the 20 year assessment period. Consideration

should be given to the changing response over this time. It is noted however that there is no current methodology for applying the implications of this apparent habituation.

- Table 12.14 identifies “impact criteria” for non-residential receptors. The table title appears to be incorrect referring to “non-sensitive” receptors rather than “non-residential”. The identified impact criteria are considered appropriate for the categories defined. However, the potential effects are considered to be understated for schools and hospitals. For schools, the effect of noise is a developmental delay (at least in Primary Schools) resulting from change in noise levels. For hospitals there is evidence that there are delays to recovery if noise levels are significant enough. In both cases the higher noise level and change the worse the effect. This should be noted and addressed.

- In DCO terms, the proposed scheme is the ground based development. The development consent for this ground development does not provide consent to fly aircraft onto or off the renewed runway. Consent for the new air traffic movements has to be secured separately, from the CAA, in line with the new UK airspace policy, guidance and procedures and therefore consent for the specific effects of aircraft noise falls to that process. That said assessment of effects from the airspace must still be reported within the DCO process. Concerns may arise associated with the lack of detailed definition of the airspace design and therefore lack of certainty over the effects from airborne aircraft noise. The airspace design process as presented in CAP1520 (and adopted for this project) requires assessment of effects from aircraft noise in the same terms relating to government aims of noise policy as per the Noise Policy Statement for England. Further stages of consultation are required through that process.

- The PEIR notes the issues surrounding airspace design. An assessment approach is proposed and described in Appendix 12.3 – the consideration of effects from airborne aircraft relating to evaluating airspace design options is detailed and well considered given the information available at this time from the airspace design process.

- The application of the aims of Government noise policy (ie avoid significant; mitigate and minimise adverse; and improve where possible) on sustainable development, as required at DCO and through the airspace change process represents a more stringent set of tests than would have previously been applied under the existing APF and previous airspace design guidance.

- In considering the effects of night flights, the methodology goes beyond the requirements of policy in its consideration of “objective awakenings”. However, there is a lack of clarity on how this is considered, assessed and derived. Further explanation of the concept of “objective awakenings” and how this considers events rather than just average noise levels should be provided in the ES, in particular explanation should be provided in non-technical language as, far as possible.

- Paragraph 12.6.8 appears to scope out “Quiet Areas” on the basis that it is “understood that there are no areas within the study area that would be referred to in the NPPF as being prized for their recreational and amenity value”. Clarity is sought on where this understanding comes from. Figure 11.38 indicates that there are many areas at the more tranquil end of the tranquillity spectrum (as defined by the Campaign to Protect Rural England). Whilst it is

recognised that “Quiet” is not the only determinant of tranquillity, clarity should be sought on how these areas are being considered in the assessment and where the understanding that there are no quiet areas is derived from.

- Appendix 12.3 describes the methodology in more detail. In the “options appraisal approach” the use of WebTAG for monetisation is identified but this does not feature in the main body noise and vibration section (ie Chapter 12). In Appendix 12.3 it is indicated that one of the dose-response relationships used in webTAG has been replaced stating that “dose response cover replaced by RIVM 2014 as it was identified as being the best fit for the Proposed Development”. Clarity should be sought on what this means and on the rationale for adopting the RIVM 2014 approach which is not referenced nor described anywhere else in the documentation and the implications of this are not clear or explained for the analysis.

- Policy requires that WebTAG be the primary tool for assessing effects, other methods can be applied but these should be as a secondary, sensitivity analysis. Clarity is required on how the RIVM 2014 dose response relationship has been applied, the evidence base for applying this and the precedent in this context (there is no alignment with policy) and whether the results presented in the options appraisal are based on that or WebTAG and whether any sensitivity analysis is available. At the ES, all the options appraisal should primarily present WebTAG results, anything else must be treated as a sensitivity analysis.

- The WebTAG spreadsheets for aircraft noise were updated towards the end of 2017 to enable analysis to 1dB resolution (previously 3dB bands) and to consider population rather than dwellings. Scheme appraisal for the ES should be undertaken with the latest version.

Whilst the assessment methodology for construction noise and vibration is generally considered as appropriate the following points need further consideration:

- The BS5228:2009+A1:2014 “ABC Method” has been used and Category C thresholds are identified in Chapter 12 to correlate with SOAEL and Category B and Category A thresholds as LOAEL. This is not a precise interpretation with the notes to Table E.1 in BS5228. Note 1 to Table E.1 (in BS5228) states “A potential significant effect is indicated if the LAeq,T noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level”. Therefore a potential significant effect could occur at thresholds lower than interpreted in the Chapter 12 assessment. It is noted that there are a number of “static caravan” type homes at locations around the airport and given the lower level of sound reduction from the building envelop a potential significant effect may occur at these lower levels, in particular at night. These static caravans are detailed in the landscape assessment but do not appear to be mentioned in the noise and vibration assessment.

- The earthworks activities may require consideration of Section E.5 of BS5228:2009+A1:2014. This section gives guidance on the application of criteria to long term earthworks more akin to mineral extraction than conventional construction activity. BS5228 suggests that the limit of 55 dB LAeq,1h is adopted for daytime construction noise for these types of activities but only where the works are likely to occur for a period in excess of six months. Precedent for this approach has been set within a number of landmark appeal decisions associated with the construction of ports. Whilst it is noted this criteria is not commonly applied it could be considered applicable given the scale and duration of the earthworks at the airport.

- The construction noise assessment does not give both typical and worse-case noise levels. Appendix 12.3.1 details they are construction levels when the activity is at the closest work area to a receptor and therefore can be considered as worse-case noise levels. It is noted that the core construction hours are stated as 0800 to 1800 yet a LAeq,12hr is given. Similarly the night time noise assessment uses a LAeq,8hr noise level whereas BS5228 uses LAeq,1hr for the assessment of night time noise.

- The construction noise levels are described in Appendix 12.3 as being a LpAeq,T as a free-field level relating to a position 3.5m from any building. Free-field noise levels have been used in the baseline survey. It is noted if a facade correction is applied to consideration of a point of interest 1m from the façade of a sensitive receptor then predicted construction noise levels will be higher. Appendix 12.3 states that assessment considers conservative daily noise levels calculated from the worst case location in the working area. It is noted if a façade correction is added to some of the predicted noise levels the apparent threshold may be exceeded e.g. Table 12.17 Receptor 1, Receptor 8 and Receptor 9.

- The methodology adopted for the calculation of vibration levels from construction activities is that advocated within Transport and Road Research Laboratory Research Project 429 – Groundborne vibration caused by mechanised construction works and BS5228-2:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration'. The assessment is limited to 100m and is consistent with the aforementioned guidance. This approach is consistent with guidance and contemporary assessments.

- The assessment adopts a VDV of 0.2 as the criteria for the onset of a significant effect. The assessment predicts PPV of 3.6 mms-1 external to sensitive receptors but no significant effect is identified as the VDV does not meet the criteria for a human response significant effect. Though the VDV response, is not met other contemporary assessments use PPV criteria for human response and a PPV of 3.6 mms-1 can be considered a significant effect, depending on the duration. The duration of the anticipated PPV of 3.6 mms-1 and the number of receptors affected is not described and so the significance is not clear. It is also not clear if vibrations during start up and shut down of vibratory compaction equipment have been considered. Clarification is required as to the duration of the potential effect from vibratory compaction and whether the start-up and shut-down of compaction equipment has been considered. The ES should clarify whether or not this results in a significant effect, that is currently not identified.

Baseline

The baseline noise levels for the periods used to establish the BS5228 ABC category are detailed in Appendix 12.4. The expanse of the survey is considered generally suitable although it is noted that the reporting does not include night time LAeq,1hr baseline noise level used in the Environmental Statements for recent high profile schemes where construction working at night is required, such as for HS2 and Tideway. The PEIR suggests that night time construction may be required in Phases 2-4 and as such regard should be given to night time LAeq,1hr baseline noise levels.

The baseline surveys for the Chapter 12 assessment, reported in Appendix 12.4 indicate a LAeq,8hr has been used and when the variation in LAeq,1hr levels over the quietest part of the night have been considered there is potential for lower baseline noise levels at a particular site and thus a potential increase in effect. It is noted that the application of LAeq,1hr to the assessment of night time construction noise is by no means universally accepted however it is the Council's preferred reference period for the assessment of the construction works against a LAeq,1hr baseline for night-time working.

No baseline assessment of vibration has been conducted and is deemed not to be required given the absence of sources of baseline vibration. This approach is considered appropriate.

Assessment of effects

The assessment of effects from aircraft and ground noise is considered to have been generally undertaken using an appropriate methodology. The review has identified a number of areas where clarification and/or additional analysis is required to be addressed within the ES. There are also comments about the adequacy of the mitigation plan which should be addressed within the ES. These are presented below:

- The assessment does not make clear the direct and indirect effects of the development. This should be made clear at ES.

- The combined effects of construction (for those construction phases after opening), road and operational aircraft do not appear to be considered. Particularly of concern would be those combined night-time effects after opening arising from night-time construction activities. This should be addressed in the ES.

- There does not appear to be reference to cumulative effects with other major projects in the area. Clarity is sought and this assessment should be included within the ES. The assessment of effects does not clearly demonstrate how the aims of Government noise policy have been met. This should be included in ES.

- Night flights:

    - Sleep disturbance caused by night flights is perhaps the most sensitive aspect of any airport operations at Manston, particularly where cargo operations are central to the case. The results presented at Table 12.25 indicate that at night that the number of dwellings exposed to noise levels >night-time SOAEL is 225 in year 20, an increase from zero in Year 2.

    - The mitigation identified for this residual "significant effect" appears to be in the form of the "sound insulation grant scheme". It is standard practice when addressing aim 1 (avoiding significant effects) to apply a noise insulation and compensation scheme. This scheme as proposed in the mitigation plan however is only a £4000 contribution towards the costs of insulation and ventilation. There is a question as to whether a "contribution" is adequate for "avoiding" significant effects as per aim 1 of the Government's noise policy. Further, paragraph 12.9.45 indicates that the mitigation "will avoid or reduce significant effects at many receptors". Noise insulation schemes

of this nature only “avoid” significant effects where the noise insulation is actually installed at the property. It is considered unlikely that the cost of noise insulation and ventilation would be less than £4,000 and so this will then generally require a contribution from the homeowner. Consequently, take-up is generally low when a grant type scheme with a contribution to the costs only are provided - to drive take-up of the scheme full costs need to be provided alongside provision of acoustic glazing options. It is considered that this scheme would not provide adequate coverage to enable a claim that the significant effects from aircraft noise are avoided.

- The aviation policy at Heathrow has more generous compensation package and restriction on night flights (11pm-7am). The Air Navigation Guidance 2017 sets LOAEL of 51dB LAeq16hr for daytime noise and 45dB LAeq8hr – so the proposed contours (50/40) are significantly ‘tighter’ but mitigation doesn’t apply until 63dB day and 55dB night to properties within the contours, which is significantly worse than proposed by Heathrow extension.

- The proposed night flying restrictions presented in the Noise Mitigation Plan indicate that only the QC8 and 16 aircraft cannot operate between 11pm and 7am. As the PEIR points out, aircraft technology is improving and aircraft are getting quieter. Clarity should be sought on the extent to which this would make a difference to minimising the effects of night flights. Consideration should be given to ways to incentivise the use of quieter aircraft types at night and/or how the noise limits and fines can be used in combination to act as an incentive.

- The assessment identifies that there are no dwellings where there would be at least one additional awakening either at Year 2 or Year 20. It is not possible to verify this as there are no contours presented, however this seems unlikely given there are over 200 dwellings inside the night-time SOAEL in Year 20. The method for the calculation of awakenings is not apparent through the documentation – key considerations need to be understood to enable understanding of this result. This should be included within the ES.

- The assessment considers there is likely to be an even temporal distribution of flights across the night – ie 1 per hour. Clarity should be sought on the likelihood and reality of this happening in practice given the nature of the night-time operation being cargo only. This assumption may partially explain why there are no additional awakenings forecast - additional awakenings is a function of the magnitude of internal noise events, the number of the events and the time/frequency between events. It is therefore essential that clarification is provided on the proposed night flights schedule and this should be detailed and assessed within the ES.

- The analysis indicates that the most effective means for reducing sleep disturbance is the preferential runway use proposal which reduces flights over Ramsgate. Clarity should be provided on the feasibility of this, if it is to be presented as a mitigation option (though it is recognised that this is a matter for airspace design so may not be relevant for the DCO).

- Notwithstanding the issues outlined, the number of movements within the night-time period should be limited to 8 in accordance with all environmental information produced, otherwise all work in the Environmental Statement would not adequately assess the impact of the development. Therefore there should be no objection for this restriction to be stated as a DCO requirement.

- Schools:

  - Seven schools have been identified as having a significant effect arising from the development (Paragraph 12.9.58 and Table 12.10). Table 12.26 presents the predicted aircraft noise levels for non-residential receptors including schools (as identified meeting the impact criteria). Paragraph 12.9.61 indicates that "noise sensitive schools… have been identified which are exposed to noise levels in excess of 60 dB LAeq,16hr", however the noise levels in Table 12.26 do not support this statement, presenting no schools having noise levels greater than 58 dB LAeq,16hr, unless the magnitude of the change has resulted in this identification. Clarity should be provided on which criteria has identified significant effects for these schools.

  - In respect of the mitigation applied to schools where a significant effect has been identified. In Appendix 1, Section 3 of the noise mitigation plan the proposals for the Noise insulation scheme are set out. This section states that "The airport will provide reasonable levels of noise insulation and ventilation for schools and community buildings within the 60 dB LAeq (16 hour) day time contour." The data presented in Table 12.26 would suggest that there are no schools that meet the eligibility criteria for the scheme – so whilst seven schools are identified with significant effects these would not qualify for the noise insulation scheme. The proposed noise insulation scheme for schools is considered insufficient to mitigate the significant effects that have been identified.

  - Further details and revision of the noise insulation scheme for schools should be provided as part of the ES that demonstrate adequacy to address the identified effects. The scheme currently defines that the project "will provide reasonable levels of noise insulation and ventilation". There needs to be greater clarity on the approach to define reasonable and what criteria would be applied. A good starting point would be the application of noise insulation and ventilation to enable the requirements of BB93 to be met. A revised mitigation plan should be provided with greater detail on this scheme.

  - The noise contour plans show additional contours i.e. the extent of 57dB(LAeq16hr-daytime) contour as this is the threshold where the Aviation Policy Framework suggest there is the onset of significant community annoyance, as well as the 60dB contour (which had to be requested additionally by the Council for the consultation).

- The analysis indicates (para 12.9.53 and Table 12.25) that the number of dwellings exposed to daytime SOAEL increases from 48 to 115 between year 2 and 20. As with the night–time SOAEL point raised above, there is a question of adequacy of the proposed noise insulation scheme if this to be the primary means to "avoid" significant effects.

- The analysis indicates that the number of dwellings exposed to noise levels greater than LOAEL both daytime and night-time is likely to increase. Whilst it understood that the number of movements is forecast to grow and hence the noise exposure footprint gets larger, and that that this is largely a matter of airspace design, some clarity of how the mitigation measures presented might address this to reduce the effects commensurate with the growth forecast is required to be provided. It is not clear how the mitigation measures reduce the effects over time. For example, as with night flights, there appear to be few incentives for operators to consider operating least noisy aircraft available and appropriate to the service.

- Paragraph 12.9.45 refers to “embedded” mitigation from the mitigation plan as outlined in section 12.7. However, it is not clear which of those items in the mitigation plan would be considered embedded and which of them contribution to reducing noise levels – not all of them do, eg the noise and track monitoring system is a management tool, whilst this is an important tool for reporting it would not necessarily reduce noise. Further it is not clear which ones have been considered in the development of the dwelling counts exposed to SOAEL and LOAEL values.

- The evaluation of airport mitigation options presented in Appendix 12.3 is considered appropriate.

- Mitigation Plan:

  In addition to the specific effects comments raised above with respect to night flights and schools the following points are made, that should be addressed within the ES:

  - It is considered that the mitigation plan as currently presented does not provide sufficient information as to how the items enable the aims of noise policy to be achieved and which of the aims of noise policy each addresses. There should also be an evaluation of the mitigation elements to demonstrate how they each meet the aims of noise policy to avoid significant effects; mitigate and minimise adverse effects; and improve the effects on health and quality of life. The evaluation should demonstrate why they are considered appropriate.

  - Further, the NMP indicates that the requirements of the ICAO Balanced Approach have been considered in the development of the mitigation but it is not clear how each item relates to the aspects of the ICAO Balanced Approach.

  - The assessment of effects clearly shows that the effects worsen over time as movements grow and so there is no mechanism built in to the mitigation to apply some measure of control over the growth of adverse effects as the airport grows, ie there is an implication that worsening effects is a consequence of growth. This is a limited view and the mitigation plan should present mechanisms to incentivise the airport and or its operators to improve performance and reduce these effects over time, in particular where there are significant effects identified eg from night flights and to schools.

  - The mitigation plan presents some night flight restrictions with annual quota limits applied to the core night quota period (2300 to 06:00 in this case) of 4000, with an additional quota of 2000 for flights in the shoulder period (defined as 06:00 to 07:00 for

this airport) – that is a total of 6,000. The analysis indicates a maximum of 8 flights per night and so an overall average quota count per movement of 2. However, there is no restriction on the number of movements in this period, so there could be many more movements by aircraft at the lower quota count range, or fewer at the higher end. This Quota Count approach can be an effective mechanism for managing the effects of night flights, especially when considered in conjunction with the noise insulation scheme. However, given the current limitations on the information provided, it is unclear how effective this mechanism will be until all matters raised have been addressed.

- It is not clear what the securing mechanisms are for these mitigation items, clarity should be presented at ES on how these items will be secured.

- Paragraph 1.4 includes planes “scheduled to land” within the night-time period, but omits those aircraft that land during the night-time period when the scheduled landing time has been altered.

- Appendix 12.3 presents an appraisal of the airport mitigation options for displaced thresholds and alternative glideslopes. This analysis indicates that these potentially offer relatively small benefits over the standard positioning and slopes and so they have not been adopted. Limitations in the way in which these have been assessed mask the benefits for those that would benefit (in particular people in Ramsgate). This may be acceptable for the early years of operation where the impacts have been demonstrated to be much smaller it is, in later years the impacts have been shown to worsen, with no mitigation present to reduce noise levels as the airport grows other than assumptions that technology will deliver. It is therefore considered that in the ES further analysis should presented to demonstrate that without these (and potentially other) mitigation elements that all the aims of noise policy can be met; how these options could be deployed over time to offset some of the worsening of effects that accompanies the growth of the airport; and to demonstrate how significant effects have been avoided as far as possible before the application of a noise insulation scheme.

- The adoption of continuous descent approach does not appear in the list of mitigation elements. Evaluation of this should be provided within the ES.

- Measures should be developed, considered, assessed and analysed that could be implemented over time as the airport grows to offset the increased effects (increased glideslope may well be one of these).

- An analysis and evaluation of the noise limits and fine proposals should be undertaken to support the mitigation plan so that some understanding can be provided of how much of a deterrent the proposals may be. This should be detailed within the ES.

- It is important to emphasise that residents will not have recourse to complaint to the Council Environmental Health team to investigate complaints of aircraft noise because Statutory Nuisance does not apply to aviation which is specifically exempted hence why it is vital all residents affected are made aware in plain english of the implications of the potential noise..

- There are a number of different noise metrics units used within the noise mitigation plan including EPNdB and LAMax that are used to describe noise levels from individual aircraft. These could be considered complex for the layperson to understand and it is recommended that a non-technical version of the mitigation plan is prepared to accompany the ES.

- The description of the proposals for night flight restrictions is long and complex – the tables of aircraft types are very lengthy – consideration should be given to providing a simplified explanation (perhaps with a more technical supporting note). This should be simplified to enable better understanding. A time period of application and review should also be applied.

- The justification for the number and location of noise monitors is not provided. The proposals for the noise monitoring terminals indicate a position of 6.5km from start of roll. The reason for this positioning should be made clear. It is assumed that this is because this is the same approach as that taken at other airports where noise limits are in place as it relates to the measurement position used for determining take off noise in the ICAO aircraft noise certification process. The potential locations should be highlighted on a map for ease of understanding. Whilst this approach is appropriate as a minimum, there are other options for citing noise monitoring terminals. For example, noise monitors could additionally be cited in communities where significant effects have been identified – this would be especially helpful to track noise levels over time, especially when this has been identified as worsening. This would provide transparency. Greater justification should be provided in the ES on the noise monitoring arrangements including reasons for rejection of alternative/supplementary community based approaches and who will monitor the data and how will this be reported.

- World Health Organisation (WHO) and the former PPG24 indicate that exceeding an LAMax of 45dB can cause sleep disturbance inside bedrooms at night or 60dBLAMAx outside an open bedroom windows. This is a significant concern and the NMP takes no account of this maximum noise level at night other than to penalise aircraft who breach this at a considerable distance from the runway; 82dB at the reference point 6.5km away is going to be significantly louder over Ramsgate and the intervening land under the flight path. The WHO nighttime noise thresholds recommend an even lower LAmax of 45 dB given that it is reasonable for people to have their windows open. By year 20 approx 10,139 dwellings will be exposed to noise levels in excess of 80dB LASMax. Greater justification should be provided in the ES to clarify what “in excess of” means, and how the NMP would mitigate this impact.

- There are no time-based incentives, performance targets, or review periods identified so it is not clear how the mitigation plan will be reviewed over time for adequacy and effectiveness (including the financial penalties to be imposed) and to incentivise the development and implementation of further mitigation (eg new technology) to be introduced to reduce effects over time.

From a construction perspective the following comments are made:

- The overlap of activities within a phase may not have been presented as only the construction activity noise levels are given and not the overlap of activities that may occur temporally as such further significant construction noise effects may emerge. The effect of overlapping activities may be greater than the effect for the individual activities. Consideration of cumulative impacts needs to be included within the assessment contained within the ES.

- The construction vibration concludes that at Spitfire Way will exceed the SOAEL for construction vibration for works lasting more than one month and states that the potential significant adverse effect from construction vibration will be managed by managing the amplitude at which the compactor operates. It is confirmed that potential significant adverse vibration effects can be avoided through the CEMP specifying requirements around the use of the of vibratory compaction equipment.

- Paragraph 12.9.25 sets out the noise mitigation plan associated with construction activities. The approach set out is considered reasonable and follows standard practice with other major construction projects. The s61 application process will ensures further opportunity for TDC to ensure that effects of noise and vibration are mitigated appropriately to enable significant effects to be avoided as indicated in Paragraph 12.9.26.

Conclusion of preliminary significance

For aircraft and ground noise the PEIR identifies areas where there are likely significant effects for residential receptors and schools. In particular night time effects are identified and these worsen over time. These results are considered to be sufficiently robust given the stage of the process. However, the implications of noise level change for identifying significant effects have not been assessed for residential receptors and this could lead to effects being missed.

It is not clear how effective the mitigation proposed will be and how this manages the worsening of exposure over time. Specific points have been raised in section 4.5 of this review. It is expected that greater clarity should be provided in the ES and that the airspace design will have evolved further (though not yet finalised) to provide greater certainty.

From a construction assessment perspective:

- The summary of significant effect details for construction noise there is a minor/moderate temporary effect on the community of Minster with minor/moderate/sleep disturbance at 14 dwellings at Bell Davies Drive and Spitfire Way.

- With consideration of the overlap of construction activities and the other points raised above there may (or may not) be further significant effects or an extension of the duration of significant effects.

Combined effects are not presented.

Non-technical summary (NTS)

The NTS presents an overview of the significant effects from aircraft and ground noise and where they may arise for residential receptors. Whilst indicating that the effects on schools have been considered, it does not present the number of schools where a significant effect has been identified and how these are to be addressed. Whilst the NTS presents the number of dwellings with significant effects in Year 20, it does not indicate that the effects worsen from Year 2 through to Year 20, nor how the mitigation plan will address this.

The NTS does not discuss the implications of the noise mitigation plan, other than the noise insulation scheme for residential dwellings. The NTS goes on to say that properties exposed to significant noise levels (ie greater than SOAEL) that they "qualify for noise insulation under the proposed noise insulation scheme. The noise insulation scheme will reduce noise inside all dwellings such that it does not reach a level where it will significantly affect residents" – this is a statement that is not used elsewhere and if part of the scheme should form part of the description of the scheme. There is, as previously mentioned, a question to be asked as to whether a scheme that only provides a financial contribution, not the products, not the suppliers, nor an assessment of improvement can be deemed adequate to meeting the "avoid" significant adverse effects noise policy aim and whether it supports this statement in the NTS.

The NTS provides the summary below with regards to construction noise and this is considered an adequate and accurate summary of the Chapter 12 assessment.

<u>Air Quality</u>

Scope of the assessment

An assessment of odour has been carried out in accordance with the Institute of Air Quality Management Guidance and is presented in an Appendix 6.4. It identifies the fuel farm as a highly significant source of odour and recommends that mitigation measures, such as vapour recovery or floating roof design, should be applied. These measures should be demonstrated that there are sufficient to mitigate the impacts. Furthermore, the results of the odour assessment should be referenced within Chapter 6 including conclusions within Table 6.40.

The assessment found that the significance of odours arising from aircraft operations were uncertain. It is appreciated that there are inherent difficulties in estimating odours from airports before they start operating, however, the project should seek to quantify the impacts further and propose mitigation if necessary.

Summary Comments

We consider the scope of the assessment to be appropriate. It addresses the key impacts at relevant locations and assesses these for appropriate years.

The air quality chapter provides adequate responses to comments raised during consultation with one exception. This being our previous comment that an emissions mitigation assessment must be provided in accordance with Thanet District Council Air Quality Technical Planning guidance 2016.

Section 6.13 of PEIR only sets out a monetisation of air quality effects and the only mitigation assessed is the upgrading of construction plant to meet Stage IV emission standards. It is therefore

considered that the PEIR does not fulfil the requirements of Thanet District Council's Air Quality Technical Planning Guidance (2016).

Assessment methodology

We consider the data gathering and assessment methodology to be appropriate and that the assessment has generally been carried out in accordance with good practice, and the results were supported by the evidence.

The assessment used appropriate legislation, policy and guidance. The methods for determining significance were clearly identified and are considered appropriate.

The exceptions to this are set out below:

- Fugitive dust emissions were not explicitly assessed. It is proposed that these will be addressed via the proposed Dust Management Plan (DMP). However, this PEIR should have included an evaluation using the relevant guidance, to identify potentially significant impacts and appropriate mitigation. Such assessment should be included within the ES.

- The use of ADMS to assess aircraft sources does not account for aircraft specific plume characteristics. The use of an aircraft specific model such as ADMS-airport would have been preferable. However, the use of ADMS is likely to have overestimated rather than underestimated the impacts.

- The use of transects of receptors for the roads modelling is unclear and not a standard approach. This has led to the exclusion of the road traffic contributions from the contour plots.

Baseline

We consider the baseline data and its sources to be appropriate and adequate to enable the identification of likely significant effects.

The future baseline has been assumed to be the same as the current baseline. This is considered a conservative assumption.

Assessment of effects

The assessment identified the likely significant environmental effects for all relevant operational phases. However, demolition and construction impacts have not been evaluated at this stage. Such assessment should be sought to be included in the ES.

The environmental effects have generally been assessed using an appropriate assessment methodology. However, the use of transects of receptors for the roads modelling is unclear and not a standard approach. This has led to the exclusion of the road traffic contributions from the contour plots.

It is considered that the assessment addresses the relevant types of effect associated the development.

The assessment has considered the cumulative effects with other existing and/or approved projects. It identified residential developments and included the additional road traffic they are expected to generate in the traffic model. However, no details of how this was done are given and further details on this approach are required to assess the robustness of the conclusions.

Conclusions of preliminary significance

The conclusions of the assessment are generally considered appropriate and robust, and the significance of the effects have been identified.

The assessment found that the impact of the proposed development on annual mean NO2 concentrations was slight in St Lawrence where the background is very high due to existing road traffic. It proposed mitigation measures (construction plant to meet Stage IV emission standards) for year 2. For years 6 and 20 it again found a slight impact in St Lawrence, but proposed no mitigation. For year 20 the assessment it was expected that measures to reduce road vehicle emissions over the next twenty years would lead to the airport impact being classed as negligible, but these reductions have not fed through to the assumed background concentrations, so it is not possible to verify this conclusion.

St Lawrence currently fails air quality objectives and the Council's draft policy will not permit worsening of air quality where levels already exceed legally binding limits. Therefore, the project needs to either demonstrate that the impact in St Lawrence is negligible, or propose alternative mitigation to offset the impact in St Lawrence (e.g. possible junction improvements to reduce existing traffic related NO2).

The monetisation of air quality effects (provided in section 6.13 of PEIR) could be used as a basis to calculate a contribution for Emissions mitigation payments to be agreed between the applicant and the Council.

Moderate impacts at a small number of properties close to the airport are identified, although it is recognised that currently NO2 concentrations are sufficiently below legal limits.

The small, but not insignificant, impact on the annual mean NOx objective at the major ecological sites means that it cannot be screened from further assessment. The Biodiversity chapter includes further assessment of the ecological sites. It is noted that an appropriate Habitats Regulations Assessment (HRA) will be needed for the proposed development. This will need to consider the impacts on European habitat sites of the proposed development itself, and in-combination with other plans and projects.

<u>Land Quality</u>

Scope of the assessment

The proposal within the PEIR is that an outline Construction Environment Management Plan (CEMP) will be provided with the DCO application, based on currently available information, and that a full CEMP, informed by intrusive site investigation and risk assessment, will be produced at a later stage.

All consultees make comment on the requirement for an intrusive site investigation, and the importance of the CEMP as a tool for managing risks due to land quality.

The Land Quality Assessment undertaken and reported in the PEIR 2018 comprised: a desk study, including review of existing desk study reports and two intrusive investigation reports (each for a small area of the site); a site walkover; identification of information gaps; and a geotechnical assessment. The intrusive investigations that exist cover a very small portion of the site, and there is no intrusive site investigation data for most of the site.

Assessment methodology

There is no allowance in the scheme of definitions for 'harm' such as allergic reaction, dermatitis, skin irritation, headache or nausea that might arise from exposure to contaminated soils, but which does not result in significant harm.

An assessment of effects is carried out on each receptor, and a summary of significance of effects is provided in Table 10.14. The assessment would benefit from a table showing the sensitivity of each receptor, which is currently buried in the text.

Table 10.13 provides the significance criteria, which include a site sensitivity of very high. This has not been defined – receptor sensitivities as set out in Table 10.11 are defined for high, medium and low. A definition of 'very high' sensitivity should be included in the assessment. The matrix allows for two categories of significance, these being 'significant' and 'not significant'. Only three of the matrix squares results in a significant effect, which is not consistent with other Chapters (e.g. Chapter 12, Noise). Further justification for the significance criteria is required.

The sequencing of the assessment methodology is confusing and potentially misleading for the reader. Potential environmental effects (on groups of receptors) and Mitigation Measures are discussed in Table 10.8, before receptors have been defined. Receptors are then introduced in Table 10.10. Environmental effects on receptors are then assessed in Section 10.8, variably assuming that Environmental (Mitigation) Measures are already in place. It is difficult for the reader to map back to Table 10.8 from section 10.8, as the receptor groupings are not consistent.

In consequence, it is difficult to judge whether the proposed Environmental (Mitigation) Measures are appropriate, as they are described prior to a discussion of effects. The assessment would be improved by removing Table 10.8 and including a preliminary assessment of environmental effects, pre-mitigation, identification of Environmental (Mitigation) Measures, followed by a revised assessment of the residual environmental effects and environmental significance in Table 10.14.

Baseline

A Phase 1 Geoenvironmental Desk Study is presented in Appendix 10.1, from which much of the baseline section of the assessment is derived. Reports are cited on two phases of site investigation a tank farm (the Jentex Tank Farm), located directly southeast of the airfield on Canterbury Road. A site investigation report also exists for the area of the radar mast in the north western area of the site. There are no intrusive site investigation data for the majority of the development site. Baseline soil and groundwater quality is therefore unknown. The conclusions of the Phase 1 geoenvironmental assessment (10.4.49) do not include radiological sources, although these are identified in the

preceding text. Historic and recent aircraft breaking activities have not been included in the baseline assessment, although these have been raised by the Council as requiring consideration.

The site is underlain by the Principal Chalk aquifer, overlain in places by quaternary head deposits. The baseline describes the site being underlain by quaternary deposits comprising clay and silt, whereas mapping shows these to be absent over much of the site. Clarification of the extent of superficial cover overlying the Chalk is required.

The site lies entirely within the catchment of the Source Protection Zone (SPZ) for the Lord of the Manor groundwater abstraction. This abstraction, which is a significant groundwater resource, relies substantially on an adit in the Chalk which runs below the existing runway, approximately 50m below the site. The runway and part of the site are in SPZ Zone 1, and the south-central and south-east part of the site is in SPZ Zone 2. The Chalk aquifer derives its permeability from secondary permeability (fracture flow) and is therefore highly susceptible to pollution due to rapid transport of dissolved and particulate contaminants through fracture networks. The geoenvironmental report (Appendix 10.1) is considered to understate the sensitivity of coastal water (moderate to high) which should be high due to international designations, and the ecological sensitivity, which does not include the ecological importance of Pegwell Bay.

The baseline description of groundwater is not consistent with the Hydrogeological Impact Assessment (HIA) presented in Appendix 8.1, and would be improved by using this document as a source. Groundwater flow directions are inconsistent between the two documents. Baseline groundwater quality is not described in Chapter 10, however Appendix 8.1 states that the local groundwater quality is impacted by nitrates, and organic compounds including TCE and carbon tetrachloride, both chlorinated solvents that are thought to have been in use at the airfield (see 3.3.4.1 in HIA, App 8.1). Baseline groundwater quality should be included in the baseline, and flow and quality descriptions should be consistent between Chapters 8 and 10.

The baseline does not describe the likely distribution of soil or groundwater contamination at the site, as there has been little site investigation undertaken across the site. It is considered that the identification of significant effects is hampered by a lack of intrusive site investigation data, as baseline soil and groundwater quality is not known.

The assessment proposes that the current baseline be used as a future baseline, as ‘in the absence of the Proposed Development, there are no known factors that are expected to affect the current baseline conditions’. Climate change is anticipated to affect rainfall infiltration rates and groundwater levels, both of which are likely to have a measurable effect on contaminant mobility and migration. The ES should consider the effects of climate change on the estimate of the significance of effects, and on the likely Environmental Measures that might be required to mitigate environmental effects.

Assessment of effects

The Lord of the Manor Public Water Supply (PWS) is not identified as a separate receptor. This is an omission and should be included, due to the presence of an adit which feeds the PWS directly below the runway. Specific measures may be needed to protect this receptor that would not apply to the wider aquifer.

The effects are considered in three phases; the construction phase, operational phase, and the decommissioning phase. It is not recognised that part of the airport will be operational whilst further phases of construction are undertaken, which has particular implications for protection of human health.

Combined effects are considered, but none are identified with regard to any of the receptors. The combined effects of flooding and land quality should be considered, as should the combined effects of potentially contaminated groundwater baseflow and surface run-off to drains and Pegwell Bay via the site discharge. Chapter 8 and Chapter 10 have many areas of overlap, and the combined effects should be stated explicitly. Any combined effects with Chapter 15 (Public Health) should also be identified.

Cumulative effects are not discussed; Chapter 18 states that cumulative effects will be assessed in the ES but not as part of the PEIR. Environmental effects are not described explicitly in terms of direct, indirect, secondary, transboundary, short-term, medium-term, long-term, permanent or temporary, positive or negative effects.

The following sections describe uncertainties and omissions in the assessment.

- Effects on humans:
    - The potential presence of radiological material is not acknowledged. Solvents may include chlorinated solvents, which are not mentioned specifically. The potential for asbestos to be present in soils (possibly in deliberate disposal pits of significant volume) has not been recognised.
    - Nowhere does it explicitly state that there is a potential risk to future site users arising from in-situ soil and groundwater contamination, and that these will be mitigated through site investigation, risk assessment, remediation and verification to ensure that the site is suitable for use with respect to protection of human health.
    - The assessment of effects assumes that mitigating measures can be found and implemented via a CEMP, however there is insufficient baseline data to outline what those mitigating measures might be, how long they might take, or where they may be required. Potential impacts of the measures on the phasing and design of the scheme are therefore unknown.
    - The assessment of the operational phase does not include protection of site users due to ongoing construction i.e. managing those phases of construction that occur when the airport is open to the public. Environmental measures may be required to protect site users of the operational part of the airport from construction effects.
    - Crucially, for this proposed development which has the potential to impact a significant public water supply, the human health effects of pollution of the water supply have not been assessed.
    - The assessment of the effect on human health of the permeation of drinking water supply pipes with contaminants has not been assessed.

- Effects on groundwater (Chalk Aquifer):
    - The effects of construction (including site investigations) on turbidity in the Lord of the Manor PWS have not been considered, nor have Environmental Methods been proposed to mitigate against this risk. The effects of the day to day operation of the airport and the potential for landing large aircraft on the runway to cause turbidity or instability in the adit have not been considered.
    - Foundation construction, particularly piling, has the potential to directly impact the Lord of the Manor PWS by creating pathways for contaminant transport. Foundation design should be informed by geotechnical and land quality investigations, and should be agreed with the Environment Agency. Approval of these designs by the Environment Agency should be a pre-commencement requirement of the DCO.
    - Soil and groundwater investigation and remediation activities have the potential to adversely impact the aquifer and the PWS, and these have not been considered.
    - The operational phase assessment does not include the effects of general spillages of hazardous materials across the estate, fire-fighting activities, the use of pesticides, or de-icing activities on the aquifer or PWS.
    - The report states that 'A combination of good practice and site-specific measures for the protection of the Chalk aquifer, in combination with further consultation with the EA and with Southern Water, will result in a negligible magnitude of effect'.
    - It is possible that standard approaches to groundwater protection will not be sufficient to protect the PWS, due to its location only 50m below the runway (bearing in mind that the Chalk is recharged via fractures and fissures that allow rapid transport of contaminants and suspended solids) on a site that is likely to be impacted by fuels and chlorinated solvents, and potentially by radiological material. Site investigations are required to establish the nature and spatial extent of contamination at the site. It is equally considered possible that the results of site investigations and risk assessment will result in changes to the phasing and/or design of the scheme, in order to accommodate remediation activities or to provide mitigating features through redesign. For these reasons, it is proposed that some exploratory intrusive site investigation is undertaken prior to the DCO submission, to provide further information on sources of contamination. The significance of effects can then be judged with greater certainty, and mitigating measures identified with greater confidence.
    - The effects of a plane crash on the Chalk principal aquifer and PWS are not considered and should be included in the assessment.
- Effects on Coastal Waters:
    - There is the potential to affect coastal waters as it is understood that discharge from the site will be via an existing pipe that discharges to Pegwell Bay. There is ambiguity regarding the sensitivity of the receptor. Coastal waters are stated to have high

sensitivity (10.10.2), but Pegwell Bay is stated to have moderate sensitivity (10.10.3). The national ecological designations at Pegwell Bay indicate that it is a high sensitivity receptor and should be considered as such.

    - Paragraph 10.10.10 describes how water treatment will take place on site in attenuation ponds, and water will only be pumped to the discharge pipe from these ponds once appropriate water quality standards are reached. The potential for leakage from these ponds and impact on groundwater quality has not been assessed.

- Effects on Soils:

    - The effects of a plane crash on soil quality have not been considered and should be included in the assessment. The effects of de-icing activities should also be included in the assessment.

- Effects on building and services:

    - It is accepted that the proposed measures if appropriately implemented can result in a not significant effect on buildings and services.

Conclusions of preliminary significance

The conclusions of preliminary significance are presented in Table 10.14. The conclusions are that none of the Environmental Effects identified in the assessment are significant, if the identified Environmental Measures are implemented.

It is not easy to link the information contained in Tables 10.8 and 10.9, which contains the Environmental Measures, and Table 10.14, nor to link these tables to the discussions in Sections 10.8 – 10.12. It is suggested that the sequencing of the report is altered in the DCO submission to allow the reader to be led from receptors to effects to environmental measures to preliminary significance. As it stands, the report does not allow the reader to readily assess whether all the issues that have been raised through the chapter are adequately addressed.

A weakness of the conclusions is that many of the Environmental Measures are yet undefined. It is proposed to develop a CEMP which will detail these measures, with a draft plan to be submitted with the DCO application, and a full version to be developed 'if necessary prior to commencement of works'.

The design of mitigation measures and hence the detail of the CEMP must be informed by a thorough intrusive site investigation and risk assessment. It is proposed that 'the need to complete an intrusive investigation will be secured through the DCO'.

It is considered that the former land use is likely to have resulted in potentially significant land quality impacts, particularly in the runway area where FIDO was carried out and runway foams were used. The use of chlorinated solvents and radiological materials are also potentially significant issues that may be complex to deal with. The adit under the runway which feeds the Lord of the Manor PWS is a highly sensitive receptor; protecting this receptor may require rephrasing or redesign of the scheme once the distribution of contamination is better understood. It is considered that the CEMP that will be

submitted to with the DCO application should be supported by some intrusive site investigation and assessment, even if the level of investigation is exploratory. It is considered that further information is required in order to support the conclusions of preliminary significance.

The potential for receptors to be impacted currently by land quality, and for investigation and remediation measures to be required to prevent ongoing pollution has not been assessed.
The potential for site investigation and remediation measures in themselves to pose a risk to receptors has not been assessed.

The effects of a plane crash on land quality and the Environmental Measures to be taken to mitigate risks to the identified receptors has not been assessed.

Non Technical Summary

The NTS section on Land Quality does not mention the Lord of the Manor groundwater abstraction, or the adit that lies under the runway that feeds this PWS.

The NTS does not mention the likely use of chlorinated solvents at the site, and known impact of the Lord of the Manor PWS with chlorinated solvents, nor does it mention the historic FIDO practices which may mean that there is potentially significant impact to land and groundwater quality with hydrocarbons. The NTS also fails to state how the land may be impacted by a wide range of contaminants, including radiological materials, associated with historic site activities.

'It states that the 'highest risk of contamination is associated with the risk to groundwater from the Jentex Fuel Farm site.', although in the absence of intrusive site investigation data, this assertion is not supported.

The NTS states that a finalised CEMP will be submitted with the DCO application, to include measures to manage any land quality effects. This contradicts Table 10.8 of Chapter 10 which states that 'a CEMP will be prepared and agreed following consultation with the EA and other relevant stakeholders if necessary prior to commencement of works. A draft outline CEMP will be submitted as part of the DCO application'.

The NTS states that 'An aerodrome manual will be produced for the operational phase of the proposed development and will include measures to manage effects on land quality' An aerodrome manual is however not included in Tables 10.8 or 10.14 of Chapter 10 which describe Environmental Measures and conclusions of preliminary significance respectively.

Landscape and Visual Impact

The inclusion of additional viewpoints in line with our previous comments is welcomed. The viewpoint plan submitted broadly accords with the comments in the Council's response to the PEIR, however viewpoint 5 is sited on Canterbury Road West, rather than on the A256 adjacent to the eastern extent of the site to the south of the Manston green site. The response to the Council's request in Table 11.7 of the PEIR is noted, however a viewpoint should still be provided situated to the east of the eastern extent of the site on the Haine Road, given the visibility of the airport from this area from the road and the committed residential development at Manston Green and visual receptor that will be present in this community.

The PEIR provides wireframes at all 22 locations at Appendix 11.1. These show the highly urbanising effect of the proposed development on the landscape of the district, with a significant effect deemed at multiple viewpoints at Appendix 11.3 and the particular effect of the "aircraft breakdown hangers" shown in the wireframe drawings on residential receptors at Manston, amongst other. It would assist the Council if the methodology for the production of the wireframe analysis could be provided, as this is not outlined in any of the documentation, to ensure transparency and accuracy of the display of visual effects of the development. This will also help with explaining to the community how they were produced.

As no detailed mitigation has been produced, nor has this been integrated into the Masterplan, we are not in a position to assess whether the impact on visual receptors and the landscape of the district will be acceptable or not. For example, from viewing the masterplan, no buffer or screening is proposed to be provided along the eastern extent of the site to the south of Manston Road and Manston Village, which will contribute to a significant impact on close views of the site from the village.

We note that you intend to provide only 6, 9 and 20 viewpoints as visualisations. We are still awaiting an example of the night-time visualisation example previously requested and we will use this to provide our view on which of the viewpoints require visualisation as well as night-time viewpoint assessments. As per our comments last year, no assessment of the effects of lighting from the proposed development has occurred according to the PEIR, which in turn means that night-time visualisations have not been produced for consultation. We await further information on the impact on visual receptors from this element of the development.

The PEIR states that the mitigation measures incorporated into the proposed development are stated at Table 11.11, whereas it appears these are contained within 11.13. As the submission outlines, these are generic principles which are to be incorporated into the "Manston Airport Design Principles" document which will accompany the DCO. This is at odds with Table 11.7's response to previous TDC comment, which states that the Design and Access statement sets out the Manston Airport Design Principles. No Design and Access statement is being consulted upon and from the information provided the masterplan has not been informed by the outcomes of the landscape and visual impact assessment in the PEIR. The continued lack of information creates difficulty in commenting at this stage on how the negative visual impact of the development could be limited by the design of buildings and potential embedded mitigation.

The landscape and visual impact will be considered within the Council's Local Impact Report upon receipt of the required information.

Historical Environment

No additional information regarding archaeological investigation appears to have occurred since the previous consultation. The response to the Council's comments on required trial trenching is stated as:

"Due to limitations on access for intrusive surveys, specific information requirements will be addressed when access can be obtained. The scope of further intrusive survey will be discussed with KCC, TDC and HE. An Archaeological Written Scheme of Investigation will be provided with the ES

chapter. It is recognised that given the gap in understanding, alterations to some of the project design may be required to preserve significant assets in situ in the northern grass area."

As previously outlined, given the extent of development on the Northern grass within your proposal, it is considered highly likely that you will be required to carry out your own trial trenching in this location to support your submission to the Planning Inspectorate.

Kent County Council (KCC) and Historic England have been consulted on the proposal, and these bodies are key consultees and their expertise should be relied upon.

In relation to indirect-effects from the operation of the airport, paragraph 9.6.16 identifies that the Conservation Areas of Ramsgate, Broadstairs, Minster and Acol are potential receptors of significant adverse indirect effects. The indirect effects of noise on designated heritage assets under the flightpath does not appear to have been considered within the assessment of indirect effects, rather focusing on the physical changes to the airport site, rather than changes resulting from its operation. For example, listed buildings in the flight path will be unable to change windows to provide additional alleviation from aircraft noise without potential harm to the significance of the asset. This should be addressed within the PEIR, as the report at reference 169 does not consider this type of indirect impact, rather focusing on the measure of noise impact.

Traffic and Transportation

KCC will comment on the impact from the development on the highway network, and their expertise should be relied upon.

As previously outlined, the scope of the transport assessment should include the expected housing requirement within the Proposed Revisions to draft Local Plan (preferred options) document from January 2017, including any additional housing requirement resulting from your development. We remain concerned about the potential impacts on the network surrounding the site from both construction and operational phase given the likely level of traffic generated by the proposed development, especially regarding Spitfire Way, Spitfire Junction and Manston Court Road.

The methodology for distributing trips on the network for the Transport Assessment should be based on either the KCC and TDC strategic model, or a similar strategic model compatible with the KCC and TDC built for the purpose of analysing the distribution of trips on the network . A spreadsheet model is considered inappropriate for the level of trip generation created by the project without further information on how compatible this model is with the strategic model. Please refer to KCC Highways and Transportation for further guidance.

Physical improvements to the network are alluded to within the updated PEIR, however they are only briefly outlined with no detailed plans produced. A crossroad junction proposed at the junction of Spitfire Way and Manston Road would be preferably a roundabout, however we await further information on how this revised junction would operate with the movement proposed. The project does not include the northern link from Manston Road to Westwood Cross within the site. This link forms part of the 'inner circuit' within the Thanet Transport Strategy (TTS). Given that the commercial development on the northern grass appears to serve no functional purpose to the operation of the airport to the south, this area can and should be re-designed to include this route. The project will

also be required to contribute a proportionate amount to the Manston Airport-Haine Road link in the TTS outside of the extent of the site.

Biodiversity

KCC, Natural England and Environment Agency will comment as key consultees on the impact from the proposal on biodiversity and their expertise should be relied upon.

Health and Wellbeing

The PEIR states that a number of factors contribute towards a greater potential sensitivity to health impacts in the district, with the magnitude of impact on public health dependent on the size of the change in noise or air pollution. Significant concerns are raised about the potential impact from the project at all stages on public health and wellbeing, especially regarding potential sleep disturbance from the operation of the airport.. This section of the PEIR is intrinsically linked to Sections 6 and 12 of the PEIR and the assessments made. However as the significance of this impact is yet to be quantified, with the Health Impact Assessment (HIA) yet to be carried out, we are unable to comment on the implications of the project on this matter.

The non-technical PEIR summary states that an HIA Scoping Statement has been produced, however this has not been provided for comment. It is also noted that a health forum is to be carried out in coordination with the Kent Director of Public Health. Thanet District Council should be invited to participate in this forum, given the potential significant effects suggest by the PEIR on the local population.

Given the current deficiency in information with a lack of an HIA at this stage of consultation, the Council will await further information in your submission before considering the impact of your project on health and wellbeing.

Other matters

Aircraft Teardown Hangers

The previous consultation stated the presence of an “Aircraft Teardown Facility” within your project, however provided little detail within the PEIR. This facility appears to be replaced in the new PEIR by three “Maintenance, Repair and Overhaul (MRO)” hangers to be provided over the four phases of construction, with all hangers stated as being capable of accommodating the largest aircraft (Class F). This facility is separately referred to in the PEIR as “a small maintenance repair and overhaul (MRO) facility with approximately 10 aircraft per year being dismantled and recycled”. No other information is provided, and therefore our comments in our previous consultation response remain valid. These are found below:

“*it is worth noting our concern with this proposal given the historic use of the site and enforcement action taken against similar operations previously due to potential contamination. It is imperative that more information is provided at the earliest stage to the local community about this facility and how it will operate. This should include but not be restricted to how fuels and other harmful or toxic materials will be removed from airplanes during breaking. We advise early discussions with the Environment Agency on this element of the project. On the basis of no information being provided about the*

facility, we are concerned about the need, viability and operation of such a facility within a Groundwater Source Protection Zone."

Climate Change

Environment Agency will comment as key consultees on the impact from the proposal on climate change and their expertise should be relied upon.

Major Accident and Disasters

The Council note that this section will continue to be developed for inclusion within the ES to be submitted. Initial comments are made with regard to the lack of details of the anticipated Public Safety Zones for the airport, whether the Civil Aviation Authority have been engaged at this stage on the matter, and how this impacts on the potential receptors affected by the proposed development, particular with regarding to the existing or future residential population (including committed development).

Cumulative Impact

The inclusion of the Manston Green and Eurokent sites into the cumulative effects assessment is welcomed. The assessment of cumulative impact may require additional sites for inclusion when the ES is finalised.

Conclusion

There are potentially significant detrimental environmental and amenity impacts on Thanet and its local community from the development and these have not been addressed in the PEIR. The Council remain significantly concerned about the potential impact from your proposed development on the living conditions of those residential occupiers within close proximity of the airport, those residents living under the (indicative) flight paths, especially in relation to night flights, as well as disruption to multiple schools within the district. Further survey and investigatory work is required before the full impacts of your project can be quantified.

The ramifications on the proposal on the countryside has still not been assessed adequately in terms of visual impact and potential housing need, and there is a deficiency in information relating to delivery of the project or viability over the short, medium and long term which undermines any perceived economic benefits to the district from the project.

If the DCO and compulsory acquisition is successful, you will be required to work with the Council as the host authority, when dealing with detailed matters for the project. We are extremely disappointed that you have been unwilling to enter into a Planning Performance Agreement (PPA) with Thanet District Council to allow us to ensure that adequate resources for handling the NSIP process are available and to encourage joint working between the applicant and statutory consultees.

The above comments are made without prejudice to the Council's written representation submission, adequacy of consultation and local impact report on the NSIP application.

Yours sincerely

[redacted]

Iain Livingstone
Planning Applications Manager
Thanet District Council

ANNEX 1: MANSTON AIRPORT EXAMINATION - DEADLINE 4

SHP'S COMMENTS ON RESPONSES FROM RSP TO THE EXA'S WRITTEN QUESTIONS

The table below provides SHP's comments on the responses provided by the Applicant on 15 February 2019 to the First Written Questions. As previously advised, SHP's case concentrates on issues of lawfulness, need, viability and deliverability, without prejudice to its case that other aspects of the application proposals are fundamentally flawed, as explained in SHP's Relevant Representations.

In its submission, SHP has provided detailed comments where it considers the Applicant's answers in certain cases have been disingenuous, misleading, incomplete or, at best, ill informed. Where such concerns have been raised, these have been supported by evidence contained within the comments provided in the Table below and the supporting appendices.

SHP's comments have been prepared with assistance of its advisory team, however we would note that comments prepared by York Aviation have been extracted from a standalone note that is attached as Appendix 1. York Aviation has principally commented on points of relevance to the need case and the forecasts of usage for the development that underpin the entire NSIP Justification, including the assessment of socio-economic impacts.

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Question	Topic	SHP's comments on RSP's responses
G.1.3	Thanet Local Plan – impact on employment allocations.	Despite the length of RSP's response, it does not answer the question posed. RSP's response falsely claims that annex 4 of the Updated NSIP Justification document (REP1-006) explains why the Northern Grass Land is required to support the NSIP. In fact, the Updated NSIP Justification does not do that, or attempt to do so. Despite the well-known criticisms of the extent of the proposed "associated development" on the Northern Grass Land, Annex 4 of the Updated NSIP Justification provides no evidence to justify the extent of development proposed and, in recognition, states that additional evidence will be submitted by Deadline 3, which does not appear to have been provided. In the meantime, SHP's position is set out in the updated York Aviation report, February 2019 (section 6) provided at appendix 4 of SHP's Written Representations (REP3-025). In particular, from paragraph 6.31 onwards York Aviation demonstrate the inflated and un-justified nature of the proposed business park. TDC's Local Impact report at Section 4.2 confirms the adequacy of allocated employment land at Manston Business Park, which RSP recognise has suffered from slow take up despite its proximity to the airport and its flag ship status. TDC's Local Impact report (paragraph 4.2.5) confirms that the District Council does not believe that RSP has justified its proposals for commercial development on the Northern Grass Land, particularly when the Council has made adequate provision for employment development elsewhere. The extraordinary scale of the proposed business park is grossly out of scale with any evidence of historic or projected demand and literally incredible – particularly when account is taken of Manston's poor commercial location and the experience of more limited development at much better placed locations such as East Midlands airport.
G.1.7	Thanet Local Plan – housing allocations	RSP's response asserts that there is no shortage of housing land, which is not in fact a response to the question asked.

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		The position in relation to the availability and suitability of housing land is set out in "The Case for Housing" submitted as Appendix 3 of SHP's Written Representations (REP3-025) – see in particular Section 6, which confirms that the non-availability of Manston Airport as a result of these DCO proposals has forced the District Council to allocate substantial greenfield sites in less sustainable locations on high quality agricultural land and that there are significant concerns about the deliverability of those sites.
G.1.9	Stone Hill Park Ltd (RR-1601) planning application to TDC	**<u>Current Status of Hybrid Planning Application TDC reference OL/TH/16/0550</u>** The above application was originally submitted to Thanet District Council on 31st May 2016. It was accompanied by a suite of technical reports which confirm that the proposal would not result in any significant adverse impacts that could not be mitigated. In October 2017, SHP formally submitted revisions to the planning application, reflecting on-going discussions with the Council and various statutory consultees that had taken place during the statutory consultation period. The revisions comprised a series of 'new' plans/reports to replace existing plans/reports, which were assessed in a series of 'addendum' reports to support the documentation submitted with the original application. Appendix 1 of the submitted Planning Statement Addendum includes a comprehensive detailed, point-by-point response to technical statutory consultees. The Transport Assessment Addendum in October 2017 incorporates further transport assessment work (including a full strategic model) undertaken to supplement the information provided in the original TA. It was reviewed by KCC Highways, who considered that additional clarifications and sensitivity modelling was needed and concluded that until an agreed position could be reached on necessary infrastructure in relation to the emerging Thanet Transport Strategy / Thanet Local Plan a holding objection on the application was necessary. The ES Addendum was not submitted in October 2017, as further work remained on-going with respect to ecological surveys and archaeological trial trenching. The ES Addendum was never formally submitted in support of the first application however ecological surveys and the results of ecological trial trenching on the site south of Manston Road has subsequently formed part of the submission in respect of the Revised Masterplan.

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		The October 2017 revised submission was subject to a second round of statutory consultation where additional comments and queries were raised. SHP confirmed to the Council in writing on 25th May 2018 that the team was reviewing comments raised and were in the process of preparing additional information in response and that the application should continue to be treated as 'live'. This position remains unchanged. **Current Status of Hybrid Planning Application TDC reference OL/TH/18/0660** In May 2018 a hybrid application was submitted to Thanet District Council reflecting the Applicant's enhanced vision for the site, building upon the extensive consultation undertaken on the original application. The application is supported by a full suite of technical information, including an Environmental Statement which includes all necessary ecological survey data to support the application and the results of the archaeological trial trenching undertaken south of Manston Road. In June 2018 a supplementary report by prepared by Altitude Aviation Advisory Limited entitled 'Analysis of the Freight Market Potential of a Re-opened Manston Airport' (dated January 2018) was submitted as further supporting document as part of the above planning application. In August 2018 a Financial Viability Appraisal was submitted to Thanet District Council in support of the application. The application has been subject to statutory consultation, during which a number of comments and queries were raised and the team has been liaising with relevant statutory consultees to address any technical issues raised. One matter which remains outstanding is KCC's request for archaeological trial trenching on the portion of the site north of Manston Road. As this scope of work has not been required by RSP in support of the DCO, which also includes built development north of Manston Road, the team requires confirmation from KCC regarding their formal position on RSP's DCO application before committing to undertaking these works. In accordance with the agreed PPA, SHP have committed to funding the instruction of a third party to review the FVA submitted in support of the application. We understand that Dixon Searle has been instructed to undertake this work and SHP are awaiting initial comments.

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		Since submission of the application in May 2018, the emerging Thanet Local Plan position has changed and the former Manston Airport site is no longer proposed as an allocation for housing. The 2,500 homes previously allocated on the site have been directed to sites elsewhere in the District. Accordingly, additional scenario testing is needed to assess the impact of the proposal as additional to (rather than forming part of) planned housing growth contained in the latest version of the Thanet Local Plan. This would be reflected in a Transport Assessment Addendum and Environmental Statement Addendum.
G.1.10	Detailed CVs	We note that the Applicant has provided a CV for Dr Sally Dixon, author of the Azimuth Report (APP-085). From a review of the CV, Dr Dixon does not appear to have the level of experience or expertise that would be expected of an author of such an important part of the Applicant's DCO application. Other than the work in relation to Manston for the Applicant, the most relevant experience appears to be from 2000-2001 when Dr Dixon worked at Wiggins Group / PlaneStation plc *"with colleagues to produce the Master Plan for Manston Airport"*. RSP director Tony Freudmann was a colleague (Senior Vice President, Wiggins Group) with responsibility for Manston Airport at the time, which raises questions regarding the independence of the Azimuth Report. With regard to Wiggins Group / Planestation plc, the ExA may be unaware that it was a commercial failure that collapsed into administration in 2005. The group had been in financial trouble in the years beforehand - we note below an extract from an article in Growth Business.co.uk from September 2004 (full article in Appendix G.1.10); *"Over the past ten years the group, previously known as Wiggins, has raised more money – north of around £115 million – than its actual market valuation. With this cash it built up an international chain of seven (hitherto largely dormant) airports and an assortment of property interests and assets in the UK. Apart from property disposals, it has generated little in the way of revenues, milked its investor base for all they were worth and produced gargantuan annual losses – in the past 48 months alone it has lost more than £73 million.* The CV demonstrates that Dr Dixon has had a varied career across a range of sectors and disciplines, but does not have anything like the breadth and depth of specialist experience and expertise that would be available from specialist aviation firms such as York Aviation, Altitude Aviation and AviaSolutions. The reports submitted as

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		appendices 4 and 5 of SHP's Written Representations (REP3-025) set out the credentials of SHP's aviation consultants. We would also note that Azimuth Associates appears to be Dr Dixon's own generalist freelancing consultancy. From a review of its website, Azimuth Associates does not appear to have any other employees.
AQ1.18	Table 6.15 of Appendix 6.3 (APP-044) - ATM cap	It always seemed inevitable that RSP would need to offer restrictions which would limit any consent to the scale of movements assessed in the ES. The belated offer of such a restriction, however, simply exposes the difficulties highlighted at paragraph 2.6 of SHP's Written Representations (REP3-025). In particular: • the scale of development proposed has a physical and operational capability nearly 5 times greater than the development assessed in the application and for which permission is now sought. The application proposals vastly exceed that which is necessary to meet even RSP's forecast of demand; • the actual capability of the airport now proposed by SHP is 17,170 cargo ATMs, which is below that for which the airport already has capability; and • the application fails to meet the necessary criteria for an NSIP and development consent cannot lawfully be granted.
AQ1.19	Limits on daytime flights	Comments extracted from York Aviation note (see Appendix 1): *"The question posed seeks justification for the assessed capability of the proposed cargo and passenger stands and questions whether the impacts of this level of usage have been assessed in the ES. It is clear that the claimed capability has not been assessed in the ES and the Applicant now proposes that there should be aircraft movement limits within the Noise Mitigation Plan. However, this would not be binding and could be varied by the Applicant when reviewed. The answer cross refers to calculations at OP.1.11, which provides no further insight into how the quantum of infrastructure has been justified. However, the more pertinent question is why, if this is the capability of the infrastructure, the totality of this infrastructure is required to handle the number of aircraft movements which are now proposed as the cap on activity. We address this at Section 6 of our 2019 Update Report and demonstrate that, even allowing for airlines operating at the times they prefer and for robustness and resilience, the maximum amount of development required would be around half of that applied for. "*

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CA1.4	Land Requirement – Works Nos. 15, 16 and 17	The Applicant's response does not answer the question posed. In order to meet the requirements of Section 122 (2)(a) or (b) it is necessary for the applicants to demonstrate that the land **is required** for the development or to facilitate the development or is incidental to the development. As set out above in relation to G.1.3, no justification has been put forward for the scale of the development proposed on the Northern Grass. There is literally no information provided about the need for or demand for the development proposed. The tests of Section 122 are fundamentally failed. We would also refer the ExA to the following commentary provided in the York Aviation note (see Appendix 1): *"The additional benchmarking of the requirements for such airport related uses from the Applicant that was promised by Deadline 3, and as part of the updated NSIP Justification Statement has not been provided. To assist the ExA further in understanding the limited requirement for such non-airside airport related development, we would refer the ExA to a recent report prepared for East Midlands Airport in relation to a proposed change of use of a building formerly used for cargo activities from airport related to non-airport related uses. This report (attached as Appendix A) makes clear that there is no longer demand for airport-related landside accommodation even at the UK's main air freight hub. This would strongly suggest the same would be true at Manston."*
CA1.10	Reasonable Alternatives to compulsory acquisition	We would note that the Applicant's Compulsory Acquisition Status Report (REP3-006) is incomplete and does not give an accurate account of the position. We would refer the ExA to the response given by SHP to question CA.1.17.
CA1.11	Reasonable Alternatives - Previous attempts to CPO.	The Applicant's response is partial and thoroughly mis-leading. Whilst "details" of involvement by RSP or RIC in any attempt to CPO the land, no such details are provided. More information is in fact provided in SHP's Written Representations (REP3-025) from paragraph 7.8 and TDC's response to CA 1.13 (and TDC's relevant appendices 3 and 4). Those details demonstrate that extensive consideration was given by TDC into the suitability of RIC as an indemnity partner to support a CPO. Despite the Council's political support for the re-opening of the airport, however, RIC was considered to be entirely unsuitable as an indemnity partner. As we explain in our Written Representations (REP3-025), it should be highly instructive for the Examining Authority that the district council has essentially been through the exercise now faced by the Secretary of State and concluded that compulsory acquisition could not be justified.

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CA1.12	Reasonable Alternatives - Previous attempts to purchase.	The Applicant is referring to discussions with the previous owner of the airport. SHP acquired the Airport site in September 2014.
CA1.14	Risks or Impediments - Track record of Applicant	The ExA specifically requested that the Applicant set out its track record in developing, constructing and managing nationally significant infrastructure projects, notably airports. However, rather than answer the question posed and provide the information requested, the Applicant just states that that its directors *"have significant experience in developing and managing airports"* and then provides some information about its consultants that is not related to the question. We would note that RSP director, Tony Freudmann, does have some airport experience, however the Applicant has chosen not to provide any evidence of his track record. We suspect that disclosure of the track record would not be helpful to the Applicant's case. As York Aviation comment in Appendix 1; "*the Applicant itself has no track record of successful airport operation and development in the UK. The only UK airport operated directly by the Applicant or its principals was Manston, and its owner at the time Wiggins Group (for whom Tony Freudmann was employed) and its successors all failed to secure a viable airport operation."*
CA1.15	Risks or Impediments - Airspace change / Aerodrome Certification	i. The Air Space Change process will take 2 years and there can be no certainty that an Airspace Change approval could be given that remained with the bounds of the DCO, given the limited assessment of flight swathes undertaken in the ES. It is our understanding that the airspace changes related to FASI S (to which the Applicant's Statement of Need is related) are due for consultation in 2022 and implementation in 2024-2026, so it is not clear how a reopened Manston could operate before that date. This must therefore be recognised as a material risk and impediment to the implementation of the scheme. ii. In the CAA guidance, the CAA advises that they will only engage on licensing and certification with parties that either own the land or have an agreement with the landowner. Therefore, the Applicant will be unable to start the certification process until they own the land. This has not been disclosed in RSP's submissions. The requirements are onerous, and given the concerns regarding the track record of RSP, there must be considered a material risk to the implementation of the scheme.

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		Additional comments from York Aviation note attached as Appendix 1: *"The Application Documents are predicated on the Airport's first year of operation being 2020. This is highly unlikely to be achievable. As we discuss later (F.1.6), the amount of capital expenditure now cited as required to enable the Airport to be operational strongly suggests that opening in 2020 would not be physically achievable given the expected timeframe for a DCO decision.* *In any event, it is highly unlikely that the required airspace changes could be completed in time to allow the Airport to become operational before 2022 at the earliest. This would significantly narrow the gap between the time when the Airport might become operational and the delivery of additional runway capacity at Heathrow to facilitate cargo capacity growth there. The CAA's response to Question Ns.1.24 makes clear that it would normally be likely to take at least 60-70 weeks from the initiation of the airspace change process to flight path options being defined. There then follows a CAA decision making process of at least 8 weeks. We note that the process was initiated on 14th January 2019, meaning that the earliest that the required airspace could be in place would theoretically be mid-2020, assuming no delays to the process as set out in the CAA document CAP1616, which outlines the process for delivering an airspace change. Heathrow has recently consulted on its design envelopes for achieving independent parallel approaches to its existing runways ahead of Runway 3. This consultation has just closed and Heathrow Airport expects to be able to consult on design options in 2020 and to submit its final options to the CAA in 2021 for approval, with implementation being in 2022 - https://afo.heathrowconsultation.com/wp-content/uploads/sites/4/2019/01/3625-HRW-2R-AIR-CON-1-3.1-3R-Consultation-Booklet-Update-1-AW-LR-pages.pdf. This would suggest that flightpath implementation in 2022 is the earliest possible date given the consultation requirements of the CAP1616 process, but we note that RSP has not yet commenced any of the consultation required regarding Design Principles or Design Envelopes that would be required ahead of the definition of the options and submission for approval. Furthermore, the Statement of Need, as published on the CAA Airspace Change website - https://airspacechange.caa.co.uk/PublicProposalArea?pID=112 links the change to the FASI S programme, which is a major airspace redesign exercise covering the whole of the South East of England, including inter alia the redesign of airspace required to facilitate the 3rd runway at Heathrow. It is our understanding that, because of the complex interactions between flightpaths serving all of the airports in the South East, consultation on flight path options across the full range of airports is planned to be concurrent to ensure that all of the interfaces*

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		are correctly identified. This is planned for 2022, with implementation of the new airspace arrangements in the period 2024-2026. It is entirely possible that new flightpaths for Manston could not be in place until this later date."
CA1.16	Acquiring by Voluntary agreement	The Applicant has provided a highly selective and misleading response to the ExA's question CA.1.16 (i). We would refer the ExA to the answer provided in SHP's response to question CA.1.17 (i).
CA1.36	Relevant Representations: Affected Persons – Defence Infrastructure Organisation	i. The failure to address this issue is a material risk and impediment to implementation of the scheme. The Applicant should have properly addressed this issue prior to submission of its application and ensured the relocation of the HRDF Beacon was *"an integral and significant part of the Development Consent Application"* as noted in the DIO's Deadline 2 submission. ii. As noted in its Deadline 2 submission, the DIO considers *"the applicant has rather glossed over the issues surrounding the possible relocation of the HRDF with the information that it has provided to the Planning Inspectorate".* iii. The Applicant's scheme could not be implemented without the HRDF beacon first being relocated to an acceptable location. The DIO will require that certain restrictions are placed on development around the HRDF beacon, it cannot be taken for granted that this can be achieved in a way that is acceptable to the DIO and other interested parties. It is unlikely that the DIO would accept a lease arrangement that is temporary in nature. Accordingly, this issue is a clear impediment to the implementation of the scheme.
DCO 1.1	Associated Development	The Applicant has completely failed to address the question posed. Rather than provide a *"reasoned note"* as requested by the ExA it has referred to some minor amendments made to the revised dDCO. We would also bring to the ExA's attention the Applicant's failure to meet the specific commitment given at the dDCO hearing on 10 January 2019 to provide an explanation and justification of the works that comprise NSIP development and associated development. Paragraphs 3.9 – 3.14 of SHP's Summary of Oral Submissions to ISH1 provided at Deadline 1 (REP1-022), sets out the specific commitments provided by Counsel for the Applicant. These commitments are confirmed by the recordings but, to assist the ExA, we note below an extract of paragraph 3.11;

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		"3.11 In response to a query from the ExA, Counsel for the Applicant again stated it would provide the list of what is the NSIP and what is Associated Development for Deadline 1 and the rationale would be provided for Deadline 3. The ExA then urged that the full information is provided for Deadline 1. The ExA explained that a list is useful but not as useful as an explanation of why certain works are NSIP and why other works are Associated Development. Counsel for the Applicant confirmed that it would aim to provide as much information as possible by Deadline 1." Furthermore, we have reviewed the Applicant's wider Deadline 3 submissions and can find no evidence that it has fulfilled the commitment provided in the following paragraph 18 of Annex 4 to its revised NSIP Justification (REP1-006); *"18. Having indicated the kind of occupiers that are likely to be attracted to the Northern Grass and their role in supporting the airport's operation, the Applicant will seek to provide to the Examining Authority further examples of this type of airport-related development from other UK airports and important cargo led airports in Europe and North America. This additional evidence will be submitted by Deadline 3."* We would also refer the ExA to Appendix 1: Rebuttal of NSIP Justification to SHP's Written Representations (REP3-025). This detailed document demonstrates the weakness and failures of the Applicant's arguments relating to NSIP development and associated development. SHP consider it unacceptable that, two months into the examination period, the Applicant still refuses to provide an explanation and justification of how each element of the proposed works satisfy the criteria for NSIP development or associated development. The only reasonable explanation for this disregard for deadlines set by the ExA, is that the Applicant is unable to provide justification that its proposed development complies with the relevant legislation and guidance, or that it is needed.
E1.2	The "worst case"	Comments extracted from York Aviation note (see Appendix 1): *"The Applicant's response to Question E.1.2 states that the information provided at Tables 3.7 and 3.8 of the ES represent the worst case for environmental assessment. However, as made clear in Table 3.1 of the York Aviation*

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		2019 Update Report, the information in these tables does not match other information regarding the mix of aircraft types expected set out elsewhere in the Application Documentation. In particular, Appendix 3.3. of the ES, which purports to set out the forecasts used as the basis of the environmental assessment, shows a higher proportion of Code E aircraft in the fleet mix than the data in Tables 3.7 and 3.8, which would have the effect of increasing some aspects of the environmental impact. The ExA cannot be certain, therefore, that the worst case impacts have been consistently assessed."
E1.3	Passenger Air Traffic Movements	Comments extracted from York Aviation note (see Appendix 1): *"We note that when considering the capability of the infrastructure proposed by RSP, we did not consider the capability provided by 3 tear down aircraft stands. In the absence of any clear justification for the provision of 3 full aircraft stands for such purposes, the provision of these stands simply adds to the overall degree to which there is over-provision of infrastructure even in the highly unlikely event of RSP's 'forecasts' being achievable."*
E1.5	Assessment of Strategic Site Alternatives	RSP's response does not answer the question posed. Section 5, volume 1 of the Azimuth report (APP-085) is not a review of strategic alternatives, it is a partial and outdated assessment of capacity at existing airfields. SHP's Written Representations (from paragraph 6.4) (REP3-025) provides an up to date assessment of capacity at existing airports by reference to the detailed updated analysis provided by York Aviation and Altitude Aviation. For the reasons set out there, there are a range of existing alternatives with significant current and planned capacity better located and more capable than meeting any identified need.
E1.7	Planning Statement and dDCO – EIA assessment	Please refer to AQ 1.18 in relation to the consequences of the movement cap. Whilst RSP now commits to a movement cap it does not address the gross inconsistency between the cap and the scale of facilities proposed in the application.
F1.2	The Undertaker and availability of funds	The information provided by the Applicant in response to this question does not provide the reader with any understanding of the ownership and structure of the Applicant (and its subsidiary companies) or the availability of

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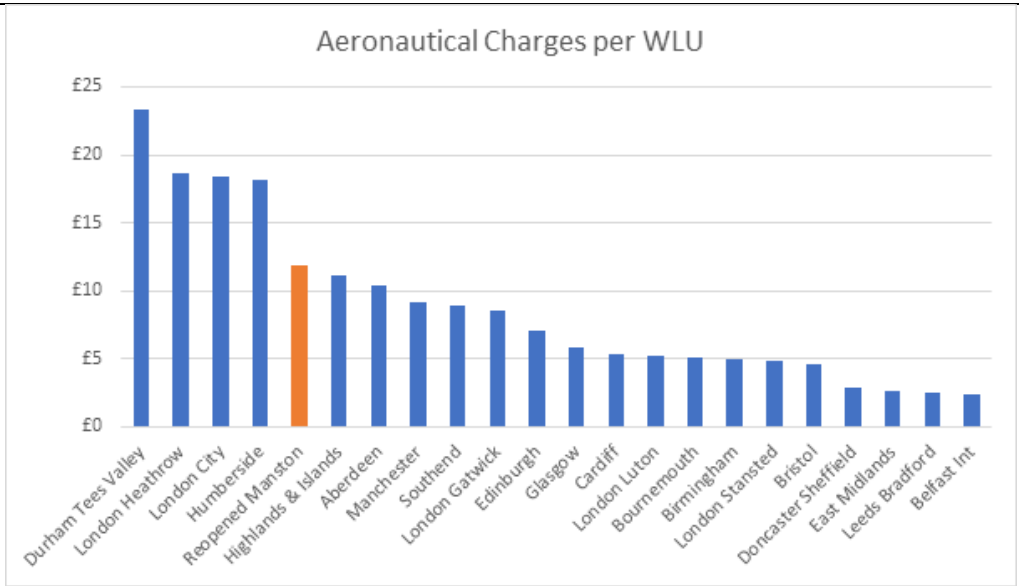
		funding. It is noted that the information contained in the appendix relates only to RiverOak Operations Ltd for the financial period ending 31 August 2017. Note 12 to the financial statements confirms *"[T]he ultimate controlling party is MIO Investments Limited, a 90% shareholder in the parent undertaking."* Despite previous assurances that it would identify its "investors", the Applicant has refused to disclose any information about MIO Investments Ltd. As the company is registered in Belize, this information (on beneficial ownership, directors, financial statements etc) is not publically available.
F1.3	The Undertaker and availability of funds - Joint venture agreement	The Applicant's response to the ExA's request to provide the Joint Venture agreement and the identities of the parties to it, is deeply concerning. The Applicant has refused to provide the information requested by the ExA on the stated basis of there being an ongoing restructure of its ownership and funding arrangements and that as a result of which the previous Joint Venture Agreement has now been terminated. This raises the very pertinent question that if the Applicant's previous Joint Venture agreement from which they were going to fund its project has now been terminated, does the Applicant currently have access to funding to complete the DCO process? The repeated requests made of the Applicant to provide details of its financial structure, its funding arrangements and the identities of its sponsors by both the Planning Inspectorate and the ExA have been ignored. This is despite the clear advice to the Applicant in the S51 letter of 14 August 2018 (PD-002) that *"the Funding Statement poses substantial risk to the examination"* The Applicant's reluctance to provide the requested information and transparency to the ExA at a point when significant Public and Private resources are being expended on the DCO is unacceptable.

F1.4	The Undertaker and Availability of funds	**ii.** The Applicant has not answered the question posed by the ExA. Instead the Applicant has provided a list of unidentified and unevidenced parties that they claim they have had discussions with at some point in the past. It would be entirely normal in a funding process that seriously interested institutional funders would be prepared to publicly provide conditional support letters at least, "letters of comfort" in relation to project finance opportunities where there was a real interest in them providing funding. It is telling, but not surprising, that the Applicant has not provided the requested information. There should be no reason that commercially redacted correspondence from all the institutions mentioned could not have been provided to the ExA. Logically, if these funders are interested in Manston a becoming successful cargo hub why would they not lend their support to the Application? The Applicant goes on to claim that their team has extensive experience in Capital Markets in both debt and equity raising. Given this experience can they point at any successful privately funded start up airport that is analogous to Manston and identify which entities have funded the development? We have not been able to identify any comparators. The Applicant seeks to further justify their continued refusal to comply with the ExA's request for detailed information with reference to statute and guidance. By providing no information at all, it is clear that the Applicant has not complied with either statute or guidance. Given the lack of evidence of any available funding there can be no certainty that if the DCO was granted that the project could be delivered, or even that the costs of the DCO process can be met by the Applicant. The Applicant's updated Capex plan whereby the costs to re-open the airport are claimed to have now increased from £100m to £186m since the Acceptance of the DCO Application is not indicative of a business or funding plan that had been fully thought through and will have material implications on both funding and project viability.

		This change in funding profile means that in order for the development to proceed (should the DCO be granted) the Applicant would have to secure committed capex funding of £186m, plus significant additional funding for land acquisition and related costs. The Altitude Aviation report included as Appendix 5 to SHP's written representations (REP3-025) set out in detail the challenges facing the Applicant. Paragraphs 13-15 of the Executive Summary, comment as follows; *"13. RSP has not provided any detailed business plan / financial forecasts that would be necessary to support either debt and/or equity raising processes. As a start-up business with no track record of performance or profitability, it should be noted that there would be a much higher threshold of information required by funders. With RSP stating that construction will be underway in 2020, it is highly surprising that this information has not been shared with the Examination* *"14. Based on the analysis of lower throughput UK regional airports and our experience of the UK airport funding market, we would expect RSP to struggle to secure material levels of debt or equity investment for its project.* *"15. Furthermore, based on our experience and taking into account the very high-level information provided on capital investment, we are of the opinion that the airport is unlikely to be economically viable even if RSP could deliver on its optimistic forecasts."* In order to recommend granting of the DCO the ExA must to be satisfied that there is a reasonable prospect of such a material amount of funding being raised and committed. This conclusion is currently impossible to reach given the lack of information provided by the Applicant and the fundamental flaws in the Applicant's need and viability cases.
F1.5	Resource Implications – Implementation of the Project Business plan / costings	The Applicant has not answered the ExA's question. What has been provided raises more questions that it answers. What the Applicant has provided is not a Business Plan. It provides insufficient details of revenue and costs to even establish the right questions to ask in relation to the project's viability. Nor does it demonstrate what levels of

		financial support/cross subsidy between the various business steams identified in the DCO Application which will be essential in considering the position with regard to Associated Development. In the absence of any assessment of the Business Case within the RSP Application Documents, York Aviation had undertaken an assessment of the potential viability of re-opening Manston Airport based on the traffic 'forecasts' that underpin RSP's proposals, notwithstanding that they lack any credibility. This was presented in section 7 of its updated report which was included as Appendix 4 to SHP's Written Representations (REP3-025). York Aviation's analysis showed that the RSP proposals for Manston Airport are not commercially viable even based on their unreasonably optimistic traffic 'forecasts' and taking a number of optimistic revenue assumptions. York further commented that *"Fundamentally, the analysis of potential viability strongly suggests that no rational private sector investor would fund the re-opening of Manston Airport on the basis proposed by RSP. The Airport was never previously a financially viable operation and we see no reason for this to be any different in future. When properly analysed, there is little prospect of the operation generating sufficient revenues to cover the costs for the investors nor deliver any returns on the investment for the foreseeable future."* We would further note that based on the Applicant's numbers in its 5th year of flight operations the reopened Manston would generate an EBITDA of £27.5m from 16,846 aircraft movements (a combination of 10,144 freight movements and 6,702 passenger movements – carrying 0.97m passengers). For comparison, East Midlands Airport (in the twelve months to the end of March 2018) had an estimated EBITDA of £18.5m (reported Operating Profit of £6.9m added back a reported depreciation charge of £11.6m). East Midlands achieved this level of EBITDA with 56,665 flights in 2017 (21,286 cargo flights and 35,369 passenger flights - carrying 4.88m passengers). How realistic can it be to assume that Manston would be 49% more profitable than East Midlands from only 30% of the flights and 20% of the passengers? We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"The Applicant has appended a summary table of income and expenditure which it claims is the Business Model underpinning the whole investment of over £300m. For the reasons well explained in the 2019 Report from Altitude*

		Aviation Advisory, this level of information will be wholly inadequate for any investor to contemplate investment in an airport, let alone such a high risk enterprise as the re-opening of Manston Airport. This cannot be considered as a Business Model without substantial further detail of the costs and revenues by specific line item (landing fees, passenger charges, freight throughput charges, handling charges, fuel income, commercial passenger income, rentals, car parking etc) and without detailed explanation and justification for the assumptions used line by line. This has not been provided by the Applicant. *Based on the information provided by the Applicant, Aeronautical Revenues per Workload Unit (WLU) are projected as £17.27 in Year 1 falling to £11.29 in Year 20. This means that on average the expected aeronautical charges per WLU are around £12 over the period. This would imply a charge per passenger of around £12, which is much too high for a Ryanair/low fares airline dominated airport, or revenue per tonne of cargo of around £120. This is over 2.5 times higher than the airport is previously achieved when operational. To the extent that the effect of low fare airlines is to reduce the contribution of passenger revenues overall, then charges for cargo operations will be higher and are more likely to be around the £180 per tonne mark assumed for Year 1 before passenger operations are assumed to commence. This would be approaching 4 times what Manston previously earned per tonne of cargo.* *It is also worth comparing these charges to those observed elsewhere at UK airports using the UK Airports Performance Indicators 2016/17 produced by Leigh Fisher. This suggests that Manston would have amongst the highest aeronautical charges in the UK, substantially above a wide range of major and established UK airports. We note particularly that charges would be 4.5 times higher than what RSP consider to be the nearest comparator, East Midlands. It is important to note that aeronautical income per WLU figures are distorted at very small airports, such as Durham Tees Valley and Humberside, which have limited commercial passenger and freight operations but more substantial general aviation activities, including in the latter case helicopter operations serving the North Sea gas rigs. In both cases, the main airline operator carrying passengers is KLM, which will be willing to pay substantially higher airport charges than a low cost airline as many of the passengers will be transferring globally at Amsterdam and paying relatively higher fares to the airline overall. The only other airports which are projected to have higher charges than RSP propose for Manston are Heathrow and London City. This illustrates the extent to which the income assumed by RSP is unreasonable as Manston could not be expected to command the level of charges levied at the UK's main hub airport or at London City Airport, with its unique position serving the City and Canary Wharf.*



As we made clear at para. 7.36 of our 2019 Update Report, charges at this level would make Manston totally uncompetitive, with the obvious implication that it would struggle to attract any users at all. Given the expected mix of traffic, it will need to charge at the levels seen at Stansted, Doncaster Sheffield and East Midlands to have any hope of attracting cargo operators and low cost airlines. Charges at this level would certainly not factor in any compensation to the airlines for switching costs or other cost factors identified by Azimuth as we discuss at para. 3.27 of our 2017 Report.

Total Revenue per Workload Unit is forecast as £27.39 in Year 1 falling to £18.82 in Year 20. This can be compared to East Midlands Airport, which is a highly successful air freight hub with passenger operations by mainly low cost airlines, which earned total revenue per WLU of £6.82 in 2016/7, the latest year for which data is available in the Leigh Fisher Airport Performance Indicators. The revenues assumed to be attainable in the 'Business Model' submitted by the Applicant are wholly unrealistic for a largely cargo/low cost airline operation. We would note that Aeronautical Revenue comparisons generally are more robust as the total revenues per WLU recorded for smaller

		airports can be heavily impacted by the extent to which broader property revenues may be included so creating a false picture of true airport related earnings. *It is unclear how the remaining revenue streams have been divided between 'Commercial Net Income' and 'Other Income' in terms of revenue from passengers and revenue derived from letting property on the Northern Grass."*
F1.6	Resource implications–Implementation of the Project	i. Again, the applicant has not answered the ExA's question. ii. The Applicant has provided a capex plan at Appendix F 1.6. However, what seems to have been provided is a very high level and un-costed bill of quantities with a summary total costs. No detail or breakdown of the underlying cost elements or components of the DCO application has been provided. No allowance has been included for the land acquisition, blight costs and noise mitigation costs. No costs have been included for the incentives and relocation costs that Azimuth clam have been accounted for in Paragraph 2.2.10 of Volume III of the Azimuth Report (APP-085). No S106 costs have been included. We would note that paragraph 15 of the Applicant's Funding Statement (APP-013) claimed it had taken expert advice from RPS on the cost estimate for the project and that the initial phase 1 costs were £100m. Given that the Applicant has managed to identify an £86m error in their initial estimated costs to re-open Manston *"following a more detailed analysis"* the requested breakdown of costs must exist and there can be no justification why it cannot provide the requested level of financial detail to the ExA. We would also note that the costs for Phases 2-4 have reduced by £80m. We would further note that the Applicant was required to respond to the s51 advice in its Deadline 1 submission (REP1-001). In response to the ExA's request to provide *"Further details of how the costs set out in the Funding Statement at paragraph 15 have been estimated"* the Applicant stated; *"The costings have been put together by a major project manager with over thirty years' experience, who has been working with key advisors from RPS, Wood, Osprey and Northpoint as well as with major construction companies."*

		The ExA will note that the Applicant elected not to disclose the material change in the project's funding requirements at Deadline 1. Perhaps it was not aware of the change in phase 1 costings at that point, however the lack of credibility and transparency in the Applicant's submissions is highly concerning. We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"We note that the Applicant has now provided an updated assessment of the capex requirements to bring the Airport back into use. Although a more detailed schedule of areas is now provided, this remains inadequate to understand the costs involved in individual elements of the project. Nonetheless, it is significant that the Applicant now acknowledges that the cost involved in bringing the Airport back into use and for the initial two phases of capital investment are substantially greater than originally stated. The Phase 1 costs have risen from £100m to £186m and the Phase 2 costs from £45m to £69m, i.e. early years expenditure has increase from £145m to £255m.* *"Of course, if the uses proposed for the Northern Grass are now assumed to be strictly airport-related, these uses would not be expected to generate significant commercial property income and so the net effect of allowing for the investment required to open up the Northern Grass is likely to materially worsen the financial position compared to more general business park uses which might have provided some element of cross subsidy to airport operations."* *"Overall, the increased upfront costs have significant implications for the cumulative cashflow based on more realistic revenue assumptions as set out in Section 7 of our 2019 Update Report, even assuming RSP's demand 'forecasts' could be realised. We have updated **Figure 7.2** from our 2019 Update Report. This shows that on a cumulative cash flow basis, the amount of funding required from debt and equity is likely to reach £250m in around Year 16 before there is any possibility for debt to start to be repaid. It is important to note that interest charges are excluded from this analysis."*
F1.7	Resource Implications – Implementation of the Project	i. Again, the ExA's request for evidence to support the Applicant's assertions that it has the capacity to raise the necessary finance has been ignored. Instead the Applicant has made some generic assertions and claims rather than provide proper evidence of capability and successful track record. We would query why the Applicant is unable, or has chosen not to, provide CVs and capability statements for its directors, in a form similar to that provided for some of the advisers in Appendix CA.1.14 – this could allow the Applicant's claims to be at least

		partially evidenced and tested. It is highly surprising that the evidence of the purported debt financing projects related to aviation development have not been shared with the examination. It is now over 6 months since the Applicant received the warning in s51 advice (PD-002) that *"the Inspectorate considers that the Funding Statement poses substantial risk to the examination of the application"*, yet it continually fails to meet the deadlines set. These failures must only increase the concerns of the Applicant's ability to raise further debt and equity finance. ii. Similarly, the ExA's request for evidence of the probability of being successful in raising the necessary funding to deliver the DCO has also been ignored. The Applicant expresses a view that the probability of successfully raising the necessary finance is "very high"- no evidence is provided for this. We would also refer the ExA to our comments on question F.1.5, where we refer to the Altitude Aviation report (Appendix 5 to SHP's written representations – (REP3-025)) and its conclusions about insurmountable challenges facing the Applicant in raising debt and equity financing. This is covered in depth in section 5 of the Altitude report. Given the Applicant's cavalier approach it would be fair to ask them the following questions; • What other "start-up" airports akin to the Applicant's proposals have been similarly funded? • What were the funding structures used? • What were the return expectations? • What level of public subsidy was provided?
F1.8	Resource Implications - Acquiring the land	i. The Applicant has confirmed that it has not provided any detail of how the figure of £7.5m has been arrived at. ii. Again, the Applicant has not provided the information requested by the ExA seeking instead to hide behind a cloak of "commercial confidentiality". However, it is noted in its answer to question F.1.13, the Applicant confirms that the figure of £7.5m included £500,000 in relation to blight cost. This leaves only £7m "allocated" to the cost of acquiring the land, and is uncertain whether this still includes an "allowance" for the costs of acquiring the Jentex land, which the Applicant is understood to have acquired at a cost of £2.3m.

		The Applicant has claimed that its property cost estimate is *"founded on the statutory compensation code position in the "no scheme world" and with appropriate planning assumptions made."* However, as stated in Appendix 6: Compensation Assessment (Avison Young) to SHP's Written Representations (REP3-025), the Applicant has completely failed to discharge its duties and has materially understated the costs associated with acquiring the land. The Avison Young report concludes as follows; *"8.1 Offers to acquire made by CBRE on RSP's behalf materially fail to discharge the promoter's duty to undertake reasonable negotiations. As identified at para 6.1 SHP's master planned, residential led, mixed use redevelopment of Manston Airport represents a realistic and deliverable scheme developed in consultation with key stakeholders. This or a similar comprehensive residential scheme represents the appropriate basis on which to assess the value of the site.* *8.2 The compensation provision made in RSP's funding statement is insufficient to meet the compensation obligations resulting from a made DCO. It is important to note that RSP's most recent offer of £20m excludes any value associated with residential development potential, demonstrating the need for RSP's funding provision and business case to be reassessed to reflect significantly higher compensation liabilities.* *8.3 Offers to acquire and the compensation budget should reflect the potential for and value associated with comprehensive redevelopment. The alternative approaches to assessing compensation such as piecemeal development do not represent an appropriate basis on which to calculate the claim. However they do demonstrate RSP's significant and material under estimate of the compensation obligations resulting from the DCO. Value assessed on any of these approaches (including comprehensive residential, piecemeal development or agricultural) significantly exceeds RSP's funding statement position and CBRE's offers to acquire.* *8.4 This material underestimate of compensation costs further undermines RSP's case that there is a reasonable prospect of its scheme being delivered, as it appears that the promoter has not taken account of the true level of the DCO's compensation obligations.*

		8.5 There is significant and concerning conflict in RSP's DCO case. It claims that special characteristics offered by the site as an airport with an extant permission and desired location are key to the business case underlying and justifying its scheme. On the other hand, it argues the site's value is minimal and does not reflect any of the claimed special characteristics. In this case, as the site is an airport with a lawful planning use as an airport, the Code requires any value associated with airport use and characteristics, as well as all other matters set out above, to be reflected in compensation." The Applicant's own so-called "business plan" submitted at Deadline 3 estimates that a reopened airport will generate an annual EBITDA in excess of £20m by its 4th year of operations rising to in excess of £50m from the land owned by Stone Hill Park. As with many aspects of its Application, RSP is trying to have its cake and eat it, as Avison Young explain in paragraph 5.5 of its report; *"Should the Panel and Secretary of State agree with the promoter's case and conclude that the DCO scheme is commercially achievable on account of the airfields claimed special characteristics, then, by implication they must also conclude that the site as it stands, with its extant certificates of lawfulness constitutes a commercially viable airport with special characteristics the market in general would attribute value to. In such a scenario, the Panel and Secretary of State could only conclude that reasonable attempts to acquire by agreement have occurred if offers to acquire have been made on the basis of the site being a viable airport with special characteristics. On the other hand, if the Panel and Secretary of State conclude it has been reasonable to undertake negotiations which apply no special value to the extent airport use and characteristics, they must also conclude that RSP's scheme proposals are undeliverable. To conclude otherwise would be illogical."* It is clear from both the Avison Young report and the RSP written offer of £20m (referred to in paragraph 8.3 and further explained in SHP's answers to the written question CA.1.17), that the Applicant's cost estimate lacks any credibility.
F1.10	Resource Implications – Blight	i. Again, the Applicant has avoided answering the question asked of them. ii. In view of the flawed advice provided by CBRE in respect of land acquisition costs, the Applicant should be required to disclose the advice from CBRE that it claims shows no blight claims are likely to be successful.

		iii. In their Application, as identified by the ExA, RSP state that they have *"drawn down £500,000 from their investors"* at the time of making the application. There can be no logical reason that this, if true, could not have been properly demonstrated to the ExA in response to the question. iv. Again, the Applicant hides behind the restructuring that is taking place. On the basis that the joint venture agreement has been terminated and the restructuring has not completed, is it the case that the Applicant has no source of funding?
F1.11	Potential shortfalls.	Again, there is no attempt to answer the question. It seems clear that the Applicant no longer has access to funding it claimed at the point the Application was made and is now refusing to either (i) identify the outgoing investors who are no longer supporting the project or (ii) the incoming investors who they claim to be negotiations with. Given, that RSP is still 90% owned by a Belize based entity this it is not in any way clear what RSP's current resources are or who is actually controlling the Applicant. Indeed, it is not clear that they have sufficient resources to complete the examination process.
F1.12	Timing and availability of funds	SHP's previous comments apply. No evidence of current funding or the ability to raise future funding has been provided. As noted in our comments on SHP's response to written question F.1.8, the Applicant has grossly understated the costs of acquiring the land. The Applicant has also failed to disclose the offer of £20m, which is wholly incompatible with the Applicant's claims regarding the level of the compulsory acquisition costs.
F1.13	Guarantee	Please refer to our comments on the Applicant's answer to written question F.1.12.
F1.14	Guarantee	The Applicant's answer fails to demonstrate how Article 9 of the dDCO provides sufficient security for SHP and others. The lack of transparency shown regarding its funding and the identity of its investors (as noted in earlier comments), demonstrates that affected parties would be offered inadequate protection by the current drafting of Article 9.

		The Applicant's project has already had a blighting effect on SHP's plans for the site for a number of years. It is unacceptable that the Applicant could be granted powers of compulsory acquisition yet not be required to provide security until it commences the development. The Applicant is effectively seeking a 5 year option to acquire the land without having to provide any security whatsoever until development commenced. As the Applicant is not a public sector body or a company of substantial (or even any) financial standing, affected parties could have no confidence that the Applicant would be in a position to grant security to cover its liabilities. Should the DCO be granted, the Applicant must be required to provide security (in the form of funds placed in escrow) prior to any decision, and such security must provide absolute certainty that sufficient funding is available to meet all the liabilities. Otherwise, the DCO powers would not comply with the European Convention on Human Rights and the Human Rights Act 1998.
F1.15	Cost efficiency and sustainability	It is notable that RSP seeks to rely upon the Airports NPS (ANPS) where it considers the NPS may suit its case but to quickly distance itself from the ANPS where its policies create a difficulty for the current application. Paragraph 4.39 of the ANPS demonstrates the Government's concern to ensure that airport investment minimises costs to airlines, passengers and freight owners – not because that is a particular requirement for Heathrow Airport but because those matters are of obvious public interest. There has been no suggestion that Heathrow Airport may not be able to raise funds for expansion. The Government's concern has been to ensure that the interests of passengers and airlines are protected. RSP's response (and its application) shows no regard for these issues. In particular, there is no assessment anywhere within the application documents how the proposed investment of £300 million would translate into landing charges for airlines (or passengers). This is perhaps un-surprising. Whilst it is impossible to believe that funds could be raised to invest £300 million in a failed airport which has no positive business case, the analysis set out by York Aviation at Section 7 of its updated response (provided as Appendix 4 to SHP's Written Representations) demonstrates (from paragraph 7.31) the likely consequences of such investment. In particular: • even taking RSP's information at face value, charges would need to very substantially exceed charges at the much better located East Midlands and Stansted airports (see paragraph 7.36);

		• if RSP's forecast demand was taken up by airlines and freight operators, therefore, the consequence would be increased costs which would adversely impact their economic performance and pass costs onto consumers; however • more realistically, the investment could never be recovered because those costs would not be paid – airlines could not be attracted to such a poorly located airport which was additionally handicapped by severe cost penalties. The claimed investment is neither sustainable nor cost efficient. We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"As we noted in our 2019 Update Report (para. 7.4), RSP has committed to adhering to the principles set out in the Airports NPS of ensuring that its development is cost efficient and sustainable so as to minimise costs to airlines, passengers and freight users, albeit we recognise that these provisions of the Airports NPS may not be directly applicable other than to consideration of the 3rd runway at Heathrow. They are, nonetheless, highly relevant to the consideration of whether any airlines would actually choose to operate from Manston. The answer given by RSP is that "The Business Model is predicated on being able to offer airport users competitive terms." However, as we have demonstrated in Section 7 of our 2019 Update Report and in commenting on the response to Question F.1.5 above, this is far from the case and the anticipated revenues in RSP's Business Model are far in excess of what users would be willing to pay. There are two possible outcomes; either airlines will not operate to Manston and the expected passenger and freight volumes will not materialise, or the revenues earned will be materially less than set out in the submitted Business Model. Either way, the implication is that the development will not be cost efficient or viable and the operation is highly unlikely to be sustainable, as was the case with previous attempts to operate a commercial airport at Manston. Although the answer claims that there will be net benefits to users, these benefits have not been set out or quantified anywhere in the Application Documents."*
F1.16	Economic licence?	Comments extracted from York Aviation note (see Appendix 1): *"The economic licensing regime referred to in the Airports NPS applies only to Heathrow and Gatwick currently. The application to other airports is subject to market power assessment. Based on our assessment of the likely market for Manston it is not plausible to assume it would attain a position of substantial market power."*

F1.17	CAA Regulatory Process	Comments extracted from York Aviation note (see Appendix 1): *"It is important to note that the provisions of the Civil Aviation Act 2012 apply principally in relation to the economic licensing of airports with substantial market power. As this will not apply to Manston, the process of seeking an economic licence will not apply. In the response, the Applicant appears to confuse the process of applying for an Aerodrome Licence/EASA Certificate with the separate requirements of the Civil Aviation Act 2012.* *Schedule 8 of the Civil Aviation Act 2012 makes provision for airports with a turnover of greater than £1 million in two consecutive years to obtain a certificate conferring the status as a Statutory Undertaker. RSP will not be able to apply for such a certificate until they have been operational for 2 years and can demonstrate that the turnover threshold has been exceeded."*
F1.18	Other costs	We would refer the ExA to our comments on the Applicant's responses to F.1.8 and F.1.10. The Applicant has made a number of assertions which claims are supported by *"advice from CBRE"* yet has not submitted any reports from CBRE to support its claims. This *"advice"* that the Applicant purports to rely on has been shown to be deeply flawed, and the entirety of the CBRE advice must be submitted to the examination so that its merits can be properly assessed.
LV.1.31	Design – customs, immigration and security	The Applicant made reference to the CAA certification process. We would note that the CAA will not be able to progress the Certification process until the Applicant can demonstrate that it is the landowner or has an agreement with the landowner. It is noted that the Applicant is seeking the ability to compulsorily acquire land up to 5 years after a grant of a DCO, which raises serious questions about when it would propose to start the Certification process.
ND1.1	Planning Statement - Airport's Commission	The Applicant's response is partial and mis-leading. The CAA's response to questions helpfully provides the submission made on behalf of Manston Airport to the Airports Commission, which proposed that Manston should be identified as a major freight airport –a proposition that was not accepted by the Airports Commission. These matters are dealt with at paragraph 2.21 of the updated York Aviation report provided as Appendix 4 of SHP's Written Representations (REP3-025).

		We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): "*The response to this question claims that the Airports Commission did not consider the potential role that Manston might play as a freight airport. In its response to the ExA's questions, the Civil Aviation Authority helpfully provides the submission made by the previous operator of the Airport to the Airports Commission. It is clear here that the proposition submitted by Manston was for a major freight airport (point b) of the submission, which we note was written by the Aviation Strategy and Policy Consultancy now part of Northpoint and one of RSP's current advisers. In the light of this, it is not credible to suggest that the Airports Commission did not consider Manston other than in terms of a role in meeting passenger demand. It is also disingenuous to say that the Airports Commission's Interim Report and shortlisting did not consider freight as benefits to freight users were extensively discussed throughout the Commission's Interim Report (Section 3) and formed part of the consideration of benefits, albeit these could not be specifically quantified (AC Interim Report, para. 3.100). The inclusion of air freight benefits as part of the Commission's Sift criteria is made clear at para. 3.7 of their Guidance Document 02: Long Term Capacity Options: Sift Criteria May 2013. Whilst there may have been further submissions on air freight by TfL on behalf of the Mayor of London (Ramboll/Oxford Economic Report Impacts on the Air Freight Industry, Customers and Associated Businesses 2013) later in the process, it is clear that the Airports Commission gave full consideration to the implications for the air freight sector in its shortlisting process.* *The proposal that Manston could act as a major freight airport to relieve congestion at the other airports was not followed through/rejected by the Airports Commission, which only mentioned Manston as a possible reliever airport for General Aviation (see our 2019 Update Report para. 2.21). RSP have added reference to passenger capacity in square brackets to quotation from Appendix 2 to the Airports Commission's Interim Report. This is not correct and seeks to mislead the reader. The quotation needs to be read in context of proposition submitted by the operator of Manston which put forward a major freight role.* *The Applicant also makes reference to the recent policy support for all airports making best <u>use</u> of their existing runways alongside the development of a 3rd runway at Heathrow. This policy still requires the case to be made for each specific airport. As we make clear in our 2019 Update Report (paras. 2.16, 2.17), this requires a realistic assessment to be made of the usage of each runway and the benefits deriving from that usage which can be balanced with any environmental harm that might arise. The policy cannot be taken in isolation without considering*

		the extent to which there are net benefits from the level of usage proposed. The policy does not support safeguarding runways in perpetuity against some prospect of future use."
ND1.2	Draft Government Aviation Strategy	The Applicant's response is incomplete. It fails to report that the freight analysis in the Green Paper identifies the role of Heathrow, East Midlands and Stansted in meeting freight demand (and stresses the key role that night flying plays in the air freight industry). Again, this matter is accurately reported in the updated York Aviation report (paragraph 2.18), provided at Appendix 4 of SHP's Written Representations (REP3-025).
ND1.3	Assessment of Strategic Site Alternatives NTS	Please see SHP's comments above in relation to E1.5 – exactly the same applies here. We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"We note that the answer given here simply refers back to previously submitted Azimuth material. If the ExA had considered this sufficient, we presume that the question would not have been put. It is clear that the Applicant has not given adequate consideration of the alternatives for handling demand for air freight services across the UK."*
ND1.4	Alternative Sites	Similar considerations arise in relation to RSP's response to this question. The response fails to provide accurate updated information about available capacity at existing airports, the significance of which is explained at Section 8 of SHP's Written Representations (REP3-025). We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"The Applicant's response completely fails to mention the clear position of Government that the requirement for more air freight capacity will principally be met by the provision of the new Northwest runway at Heathrow and through greater use of existing facilities, principally at East Midlands and Stansted. The analysis of the contribution of Heathrow at Section 5.2 of Azimuth's Vol I appears to proceed from the assumption that the new capacity will principally be used for low cost airlines offering little bellyhold capacity. This is completely at odds with the Airports NPS, which especially sees the 3rd runway as offering the potential for more global connectivity, including to points not currently served, and a doubling of capacity for air freight. Specifically, the Government sees the 3rd runway at Heathrow as: "expected to lead to more long haul flights and connections to fast-growing economies, helping to*

		secure the UK's status as a global aviation hub, and enabling it to play a crucial role in the global economy" (Airports NPS, para. 3.18). It is these flights that will enable Heathrow to double its freight handling capability. *Azimuth erroneously adopt a set of criteria for considering alternative airports in terms of their own asserted requirements for a freight focussed airport. The need for a new freight focussed airport is unsubstantiated by evidence, as we make clear in Section 4 of our 2019 Update Report. In our 2017 and 2019 reports, as well as our 2015 Report for TfL and the Freight Transport Association that Azimuth persist in wrongly interpreting, we make clear that the principal alternative likely to be used for any cargo that could not be accommodated at the Heathrow hub is bellyhold capacity at alternative airports."*
ND1.5	Airfreight Capacity	Comments extracted from York Aviation note (see Appendix 1): *"Examination of the Air Cargo World article cited by Azimuth at footnote 5 strongly suggests the information provided relates to rates for scheduled and bellyhold cargo in the run-up to Christmas. This is a transient phenomenon associated with the shipment of goods for Christmas. In any event, even if freight rates for bellyhold rise on a temporary basis, this may still be below the equivalent cost of a dedicated freighter operation as we set out at para. 4.7 of our 2019 Update Report. Given the difference in cost of dedicated freighter operations, these would not solve the problem. We note that the article at Footnote 6 makes clear that this problem was not just confined to the UK or Europe but affected routes between the Far East and the US suggesting that the high seasonal freight rates are a global issue rather than specific to the air freight sector in the UK. Increased bellyhold capacity at Heathrow is likely to be an effective means of ameliorating the seasonal issue in terms of freight rates to and from the UK."*
ND1.6	Bellyhold's Dominant position	Comments extracted from York Aviation note (see Appendix 1): *"This response seeks to compare the situation at Frankfurt with that at Heathrow in terms of the number of freighter services operated/the proportion of freight handled on dedicated freighter aircraft rather than bellyhold. The proportions for Paris and Amsterdam are also stated. These four airports are the principal hub airports in Europe. The context for the greater number of dedicated freighter aircraft operated to these airports is easily explained by the difference in bellyhold capacity offered for sale to non-European points at each of these airports.*

		Based on the Official Airline Guide database (OAG), the tonnage capacity offered in bellyholds of departing passenger aircraft in the week beginning 4th March 2019 was: • *Heathrow - 41,275 tonnes* • *Paris - 25,382 tonnes* • *Amsterdam - 20,707 tonnes* • *Frankfurt - 17,122 tonnes* *The relative share of freight carried in dedicated freighter aircraft is in inverse proportion to the amount of bellyhold capacity available at each of the airports.* *An important feature of these hub airports is that they have well developed freight forwarding infrastructure concentrated around them given the global connectivity offered by the hubs and the national airlines based there. This consolidation is driven in the first instance by the hub connectivity offered in the bellyhold of passenger aircraft but the existence of the freight forwarding and consolidation centres makes these airports the first choice for dedicated freighters to operate to the extent required to supplement any gaps in the network of bellyhold services available. These conditions are not replicable at other non-hub airports, other than for express freight/integrator operations for which Germany like the UK has specialist airports where such operations are based. Leipzig and Cologne serve as hubs for such operations in the same way as East Midlands serves as the UK main integrator hub. It is notable that, despite handling 44 million passengers a year with major global connections, Munich Airport only handled 3,807 freighters in 2018, despite Bavaria being a major manufacturing economy. This only serves to highlight the special circumstances which make Frankfurt attractive for dedicated freighter operations, notwithstanding its night closure period, and so long as it has available slots. Just as with Heathrow, the attraction of Frankfurt for freighter handling is simply not replicable elsewhere in Germany.* *There are also important scale factors that apply to the position of Germany in terms of the total air freight market:* • *the economy is around 30% larger than the UK;* • *of which manufacturing's share is over 20% compared to 9% in the UK;*

		• *the population is around 25% higher than the UK driving imports* *Hence, it is unsurprising that the need for air freight capacity is greater to and from Germany than to and from the UK. Furthermore, Germany's central location within Europe means as it acts as a distribution hub for much of Central Europe, well beyond its borders, in a manner that the UK could not hope to replicate. Hence, given the more limited bellyhold capacity available at Frankfurt, the need for more dedicated freighter operations is hardly surprising. The fact that they choose to operate to Frankfurt despite the night closure period is a sign of the power of the hub.* *When the economic factors are properly considered, alongside recognition of the special characteristics that give rise to demand for cargo services to major national hub airports, the relative performance of Frankfurt and Heathrow is easily explained. The UK is currently adequately served by the existing combination of bellyhold capacity and freighter capacity available at Heathrow, East Midlands, Stansted and other existing airports, as shown in Figure 4.7 of our 2019 Update Report. The situation at Frankfurt is simply not a relevant comparator with the key requirement being increased global connectivity at Heathrow that the 3rd runway will provide rather than an increase in capacity for dedicated freighter aircraft at a remote location."*
ND1.7	Diversion outside the south-east.	Comments extracted from York Aviation note (see Appendix 1): "*This response continues to rely erroneously on our work for TfL and the FTA. We previously corresponded with Dr Dixon of Azimuth Associates regarding their misinterpretation of this work (see correspondence attached at Appendix A.) Azimuth's response explains our use of a gravity model approach to look at how any excess demand for air freight capacity might be dispersed in the event of there being a shortage of capacity across the main London airports. What the response fails to recognise is that the expected distribution of any air freight which could not use the London airports (see page 23 of our report for TfL and the FTA attached as Appendix B) was based not solely on access times but on the attractiveness of alternatives in terms of bellyhold and freighter capacity available. The share of the main European hubs is, thus, a reflection of the relative strength of their networks including bellyhold capacity, offering capacity at competitive freight rates; a competitive position that Manston would simply not be able to replicate. A dedicated freight airport would be expected to intercept no more than a small fraction of any displaced demand.*

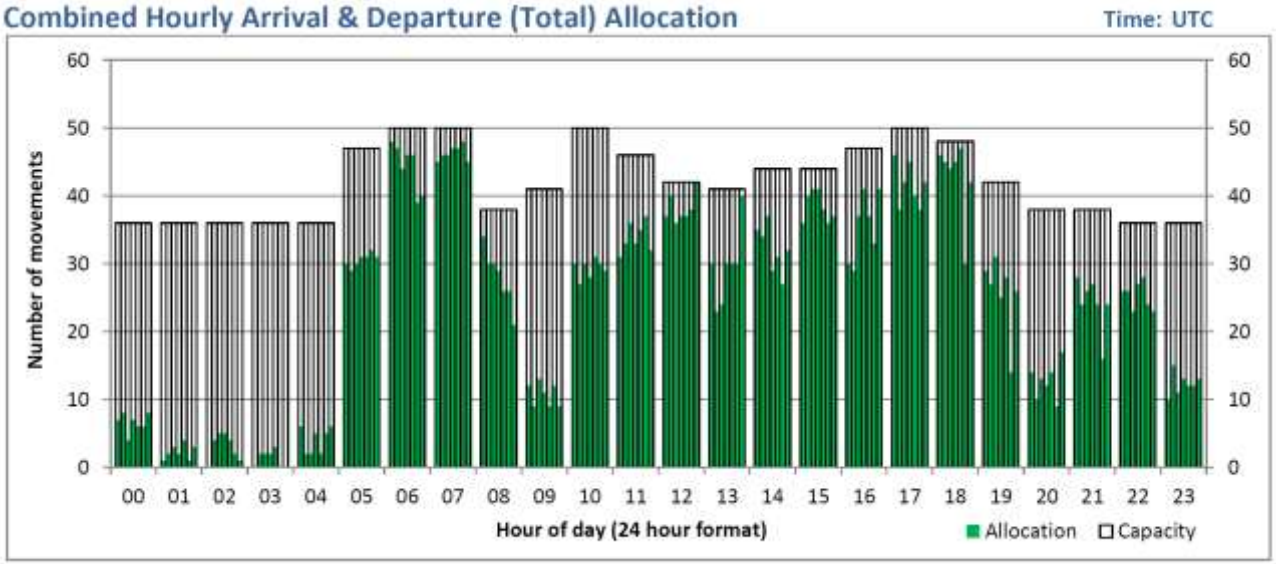
		The response goes on to wrongly ascribe diversion to Europe to lack of facilities at UK regional airports but the real issue is bellyhold capacity on long haul services coupled with the structural focus of the forwarding and consolidation sector adjacent to the main hub airports, including Heathrow. Manston would not address this structural issue, which is, indeed, one of the main reasons why Manston would fail. It should be noted that Heathrow is addressing the congestion in its cargo centre (See para. 4.21 of our 2019 Update Report) and there is no evidence that other UK airports have suffered from equivalent congestion issues such as to impact on their attractiveness."
ND1.8	Truck times compared with East Midlands and Stansted	Comments extracted from York Aviation note (see Appendix 1): "*We would note that the response perhaps wrongly assumes, as Azimuth does throughout its reports, that air freight using the London airports is necessarily destined for London and the South East only. This table of comparative journey times set out in the response might be relevant for the fresh fruit and flowers market that Manston used to handle and might recapture if the price charged to airlines was low enough but it is not relevant for the bulk of cargo that Manston would need to attract if it were to seek to achieve the share of the UK market asserted by Azimuth. Our analysis, set out in Figures 4.4 and 4.5 of our 2019 Update Report show how widely dispersed across the UK the market for air freight is. Our analysis would suggest that only around half of UK air freight is destined for or originates in London and the South East but, despite this, regional airports handle only 23% of freight tonnage. This analysis would point to at least 1/3 of freight using London airports as having an origin or destination elsewhere in the country. Hence, the relevant journey times are not to specific distribution centres serving London (such as Sainsbury's local distribution centres) but to Heathrow where much of the total UK air freight is consolidated into economic loads and to the 'Golden Triangle' for UK distribution in the vicinity of East Midlands and the M1/M6 junction. Manston has no real advantage in the former case and is not an option in the latter. We would suggest that the contour maps provided by the Applicant in the appendices only serve to make this point.* *This response also contains the extraordinary claim that Stansted does not have a dedicated freight facility. The cargo facilities at Stansted are described at https://www.stanstedairport.com/about-us/cargo/. This states that Stansted has a 'World Cargo Centre' with 55,000m^2 of warehouse and office space. This facility is currently split over two warehouse units, the larger of which has been in operation since before 2000 with the second being added around that time. The second and smaller unit has been recently been extended and it is clear that Stanstead has significant space safeguarded adjacent to the cargo facilities and cargo aprons to expand further. Stansted's*

		dedicated cargo stands can simultaneously accommodate 4 x A380, 3 x B747-8F, 1 x B747-400F and 1 X B767-300 or up to 15 smaller code C aircraft. The scale of facilities is substantial as illustrated in the satellite picture below.".
ND1.9	Integrator Model	Comments extracted from York Aviation note (see Appendix 1): *"We note the explanation given regarding the difference between express freight or integrator operations and the more general air freight model. There is no evidence that the UK needs a dedicated freight hub for general air freight given the substantial bellyhold capacity available at Heathrow and growing bellyhold capacity at UK regional airports. Any growth in freighter aircraft movements in the UK in recent years is almost entirely within the integrator model."*

ND1.10	Capacity proportions	Comments extracted from York Aviation note (see Appendix 1): *"It is important to note that the table reproduced in the Azimuth Reports from the DfT's 2017 UK Aviation Forecasts reflects the position on the basis that no additional capacity is provided at any of the London airports. To a large extent, the identified constraints relate to passenger capacity defined in planning conditions. The table takes no account of consented increases in passenger capacity at Stansted, the third runway at Heathrow and any other capacity developments in the pipeline. Hence, this chart is of no relevance to considering the extent to which there would be capacity for more freighter movements across the London airports.* *Part ii) of the response contains another extraordinary statement that little additional terminal or runway capacity has been added at UK airports for decades. This appears to ignore the development of a second runway at Manchester, Terminal 5 at Heathrow, expansion at Gatwick and Stansted, Luton's expansion to 18 million passengers a year. The response claims that Manston is required because further expansion elsewhere will take time. However, as we have identified in our 2019 Update Report, there is no immediate shortage of air freight capacity. Even on the basis of the table referred to at i) of the answer, Stansted Airport would not be expected to be full until 2040 by which time R3 at Heathrow will have been in place for some time."*
ND1.11	Bellyhold versus freighter	Comments extracted from York Aviation note (see Appendix 1): *"The Applicant gives another extraordinary response that most freighter movements do not operate to a timetable and are ad hoc based on demand. This is wrong and misleading. Integrator operations all operate to timetables but these are not usually published in a central database. At Frankfurt, 18,000 of the 28,000 dedicated freighter movements in 2018 operated to a published timetable; of the rest, we would expect a substantial proportion to have been integrator movements also operating to a timetable but not published as such. The published freighter schedule is already in place for much of the next 12 months with over 15,000 movements are already timetabled (see timetable information extracted from OAG at Appendix D). The number of scheduled freighter movements in the UK is lower at over 7,000 dedicated freighter movements already scheduled for the next 12 months. It is important to note that the schedule will not be complete for the winter scheduling season (from Nov) at this point in time, so the final total of annual scheduled freighter movements will be greater.*

		In the response, Azimuth Associates wrongly interprets the increase in cargo tonnage between Frankfurt and China as indicating an increase in trade. This is not necessarily so. Similarly, the Manchester study looked at increased cargo export figures from Manchester Airport once Hainan Airlines commenced the operation of a passenger flight offering bellyhold capacity but, whilst exports flown from Manchester to China increased, the total of UK exports fell negating the effect of any increase in exports flown to/from Northwest England. It is also relevant to note the Cathay Pacific example cited in our 2019 Update Report (para 4.19), where a dedicated freighter operation was replaced by bellyhold capacity as a more cost effective operation. The ability to carry bellyhold freight is integral to a route's viability but the overall route economics enable cargo capacity to be sold at a lower rate per tonne than dedicated freighter operations (see 2019 Update Report para. 4.7). *The thrust of this response ultimately describes ad hoc freighter operations, which are largely charter operations, which made up around 36% of all freighter movements in the UK in 2017, i.e. c.19,000. Of these, over half are within the UK. This again serves to indicate the small scale of the market from which Manston hopes to attract a share.* *We have addressed the low probability of Manston attracting operations by Amazon's dedicated freighter fleet in our Update Report at para. 3.10."*
ND1.12	Freighter demand	Comments extracted from York Aviation note (see Appendix 1): *"We note that the sample routes used in the freight rate graph do not relate to the UK. Indeed the market where rates show the most volatility is Hong Kong-North America where there is no suggestion that lack of airport capacity drives rates higher. The volatility in the rates on the European markets illustrated is less. Even so, the range of volatility looks to be around 2.5x, less than the 4.5x estimated cost differential of using a dedicated freighter compared to bellyhold capacity. Hence, these examples do not provide evidence that there is a role for dedicated freighters to be operated, even on an ad hoc basis at times of seasonal demand. Any relief role for Manston as asserted is likely to be limited.* *The Heathrow quotation referenced in the response points to the need for more bellyhold capacity on passenger routes, which R3 will permit, rather than a need for dedicated freighter aircraft."*
ND1.13	Freight at Stansted	Comments extracted from York Aviation note (see Appendix 1):

		"Much of the response simply repeats material already contained in the Azimuth Reports. As we have addressed in some detail in both of our reports, Azimuth's interpretation of UK air freight statistics is flawed and betrays a lack of understanding of the market dynamics. The fact that the UK is now experiencing strong air freight tonnage growth suggests that the performance of the sector is less related to congestion and more to underlying economic factors. There has been no shortage of capacity for freighters at airports other than Heathrow, specifically Stansted and EMA so, if anything, any restrictions in freighter growth reflect Heathrow specific issues, rather than a general constraint, which Manston cannot address any more than the already well established airports. As we have pointed out in response to ND.1.6 above, the reason that a greater proportion of freight is carried in dedicated freighter aircraft at the Frankfurt hub is a result of the substantially lower volume of bellyhold capacity available rather than any constraint on dedicated freighter operations at Heathrow. *In terms of whether Stansted operates under capacity constraints for cargo aircraft, the Applicant tries to infer from growth in passenger aircraft movements (ATMs) and a fall in cargo ATMs that this can only be due to passenger aircraft crowding out cargo aircraft. First of all, as we have pointed out in response to ND.1.8 above, Stansted operates with dedicated freight aprons and so there is no conflict between the stand occupancy requirements of low cost carriers and those of cargo carriers. The quotation from Schiphol appears entirely irrelevant in this regard. The Applicant wrongly uses the initial raw slot demand at Stansted in the answer to ND.1.18 to suggest that Stansted Airport is more constrained than it actually is. The correct information to use is the pre-season allocation of slots which we illustrate below for Summer 2018 taken from the Airport Coordination Ltd Pre-Season Report https://www.acl-uk.org/wp-content/uploads/2018/03/STN_S18_SOS.pdf.*



The graph above shows the actual spare runway capacity to accommodate additional freighter movements at Stansted at the start of the summer season in 2018. As can be seen there is ample spare capacity for additional ad hoc freighter movements to be scheduled if required (the already timetabled operations will be included in the chart).

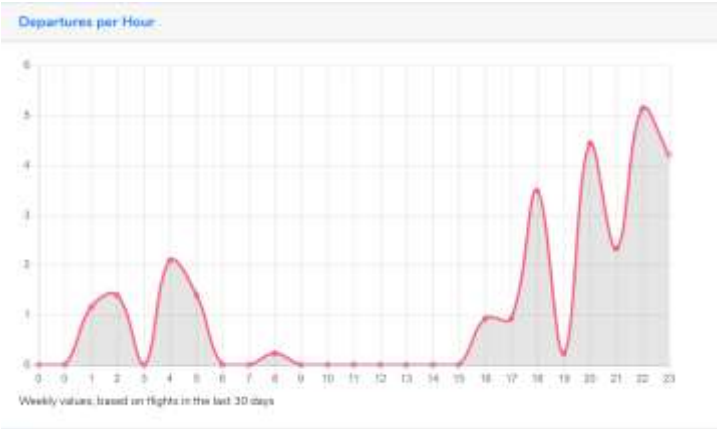
The response also cites the recent Steer 2018 report for Airlines UK (see para. 4.6, 4.16-4.19 of our 2019 Update Report) in relation to recent airfreight growth to and from the UK compared to faster growth across Europe and, whilst acknowledging that this may be in part due to underlying economic factors, attempts to assert that it is someway due to constraints on dedicated freighter operations at Stansted. The evidence shows this to be simply nonsense."

ND1.14	DfT freight forecasts	Comments extracted from York Aviation note (see Appendix 1): *"The Applicant has appended to this response its correspondence with the Department for Transport. Unsurprisingly, Azimuth Associates repeats its view that the Department's assumption that there will be no growth in dedicated freighter movements to and from the UK is wrong. Contrary to what is inferred in the response, the Department has not promised to produce a forecast of dedicated freighter movements, notwithstanding the current growth in cargo tonnage. What the Department actually said was: "The Department is currently revaluating air freight policy as part of the developing Aviation Strategy, and you may have seen last July's Call for Evidence and the recent (April 2018) Next Steps response documents which set out some initial options……..We take your suggestion of conducting more detailed modelling of air freight on board and will consider it along with the other suggestions we have received as part of the strategy." It is evident from the section on the Supporting Freight at paragraphs 4.45 to 4.50 of the Green Paper that the Department has not taken up the suggestion that detailed forecasts of dedicated freighter movements should be produced. Rather as covered in earlier responses, the Department has placed particular emphasis on the role of the existing airports Heathrow, East Midlands and Stansted and stressed the expected doubling of air freight capacity at Heathrow. In the context of the emphasis that the Department is placing overall on ensuring that the UK has sufficient airport capacity in the right places to support the broader economic growth agenda, it is inconceivable that they would not have factored into their analysis of the capacity requirements, as set out in the October 2017 UK Aviation Forecasts, the need for more dedicated freighter aircraft if they believed it to be a likely requirement. In our discussions with the Department, we are not aware of any intention to produce forecasts of freighter aircraft movements in the near future."*
ND1.15	Easy Midlands capacity	Comments extracted from York Aviation note (see Appendix 1): *"In this response, the Applicant attempts to assert that capacity for dedicated freighter aircraft at East Midlands Airport (EMA) is somehow constrained by capacity. At 76,000 annual aircraft movements in 2018 according to CAA Airport Statistics, EMA has ample spare runway capacity. A single runway can typically support well over 200,000 aircraft movements a year before significant constraints start to arise. The Airport's 2015 Sustainable Development Plan (https://live-webadmin-media.s3.amazonaws.com/media/2934/ema-sdp-2015-land-use.pdf) identifies land and facilities to support 10 mppa (up from 4.9 mppa) and 1.2 m tonnes of cargo (from 360,000 tonnes). The forecast*

		tonnage is 700,000 tonnes by 2040, which the Applicant appears to have incorrectly construed as a capacity constraint. Land is clearly zoned for expansion in Cargo East and West as illustrated below. *The reason why the EMA plan places emphasis on meeting integrator demand is because this is where there is demand for growth in dedicated cargo services. More general freighter movements could be accommodated if there was demand. Given the position of the Airport next to the East Midlands Gateway logistics park (https://www.slp-emg.com/c/location.php), it is highly unlikely that further expansion of cargo facilities at the Airport would be refused. Specifically policy EC4 of the North West Leicestershire Local Plan supports growth at the Airport in line with its Master Plan (subject to environmental assessment):* *"**Policy Ec4 – East Midlands Airport*** *(1) The growth of East Midlands Airport will be supported provided development that gives rise to a material increase in airport capacity or capability:* *(a) Is limited to that necessary to support an airport capable of handling up to 10 million passenger and 1.2 million tonnes of cargo per year; and*

		(b) Incorporates measures that will reduce the number of local residents affected by noise as a result of the airport's operation, as well as the impact of noise on the wider landscape; and *(c) Incorporates measures to ensure that local air quality satisfies relevant standards; and* *(d) Is accompanied by improvements in public transport access to the airport and other measures that will reduce the level of airport-generated road traffic (per passenger); and (e) Will protect and enhance heritage assets within the vicinity of the airport."* *In the light of this policy support, it is simply unreasonable to assert that EMA operates under any real or prospective constraint on its air freight operations for the foreseeable future.* *The Applicant claims that it has taken the potential for EMA to increase from 360,000 tonnes of cargo to 1 million tonnes in its forecasts. It is totally unclear how this scale of growth has been factored in (see Figure 4.7 of our Update Report) as the Applicant's methodology for forecasting freight movements and tonnage is totally opaque."*
ND1.16	Night flights and integrators	Comments extracted from York Aviation note (see Appendix 1): *"In this response, the Applicant claims night flying by integrators due to passenger flights crowding out movements during the day. This is patently untrue as the pattern of operation at EMA shows (see Table 3.2 of our 2019 Update Report).* *The response goes onto claim that it is not proposed for Manston to have an integrator base, yet the information provided in Appendix 3.3 to the ES shows that 48% of freighter aircraft movements in Year 20 (more in the earlier years) are expected to be operated by the integrators DHL or Fedex, including feeder flights by small aircraft which clearly implies the expectation of an integrator hub operation. At 8,327 integrator movements in Year 20 (as shown in the ES), Manston would be expecting to operate around 60% of the total number of integrator flights at East Midlands. By any measure, this implies some form of base or hub operation. Such an operation would only be possible if the airlines could operate a similar pattern of day/night movements as seen at EMA, as we outline at paras. 3.37-3.44 of our 2019 Update Report. Even if the operation was on a non-based basis, the pattern of day night movements would be very similar as it should be noted that EMA operates partly as a hub but also as a spoke*

		to DHL's main operation at Leipzig. These movements would have to operate with timings based on late evening arrivals from the main hub and early hours' departures. *The Applicant should be asked to clarify as a matter of urgency the intentions regarding integrator operations as, if these movements are removed from the forecasts, the number of predicted freighter aircraft movements is below the threshold for an NSIP (see para. 3.46 of our 2019 Update Report)."*
ND1.17	Trucking	Comments extracted from York Aviation note (see Appendix 1): *"The respondent does not actually answer the question posed. The answer deals with trucking of food, which is not an indication of high value air freight potential. As explained in Section 4 of our 2019 Update Report, trucking of freight between hubs is an integral part of the air freight system. The DfT figures referred to by the Applicant are travelling under an airway bill and will meet required delivery times for the high value/low weight model. Such freight is not a separate category of air freight and would normally be considered as part of the general air freight sector -see Steer Report for Airlines UK (http://airlinesuk.org/wp-content/uploads/2018/10/Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Report-v22-Oct-2018-b-SENT.pdf) para 2.8ff for a description of different types of freight operation. This explains that the role of trucking is integral to general air freight handling (paras. 2.17-2.19 and not of itself any indication of capacity constraints but is simply a manifestation of how the market works."*
ND1.18	Stansted operations at night	Comments extracted from York Aviation note (see Appendix 1): *The answer refers to Stansted's previous passenger cap of 35 mppa but fails to recognise that this has been increased to 43 mppa. The response again confuses the DfT's 2017 presentation of the limiting capacity at each airport as being a movement limit not a passenger limits. It is clear from reading the DfT 2017 UK Aviation Forecasts, specifically Tables 63, 64 and Fig 7.4 (as reproduced at Fig 2 of Azimuth Vol I), that the limits reflected, particularly for Stansted, are based on passengers. Table 66 of the DfT UK Aviation Forecasts 2017 shows clearly that Stansted's peak forecast number of ATMs is 212,000 ATMs, i.e. the Airport is not projected to fully use its consented movement capacity of 274,000 ATMs, of which the limit for cargo flights is now 16,000 per annum as per new permission, i.e. 60% growth in cargo flights above current levels. It is simply wrong to assert any form of imminent constraint on the overall number of freighter aircraft movements at Stansted. The concept that MAG is favouring low cost airlines*

		over freight at Stansted is pure speculation and without any foundation. Nor would air traffic control delay freighter operations to favour passenger flights but they would adhere to air traffic flow management slots as issued by Eurocontrol based on filed flight plans. In truth, there is no evidence that freighter operations are restricted at Stansted. Any short term fall in freight tonnage is almost certainly coincidental and related to underlying economic factors. As illustrated in response to ND.1.13, Stansted has recently extended its cargo facilities, which it would not have done so had it intended to force out freighter activity. *As we have noted in response to ND.1.13 above, the Applicant uses the Stansted raw demand graph rather than the correct allocation chart. There is currently plenty of spare runway capacity at the times when the freight operators want to fly.* *We have looked at the times when the airlines currently want to fly (on the basis that there is no evidence that airlines are currently constrained from operating at the times they wish by any current capacity constraint at Stansted). The full details are given in Appendix E. Summary graphs are shown below:* ***Fedex*** 

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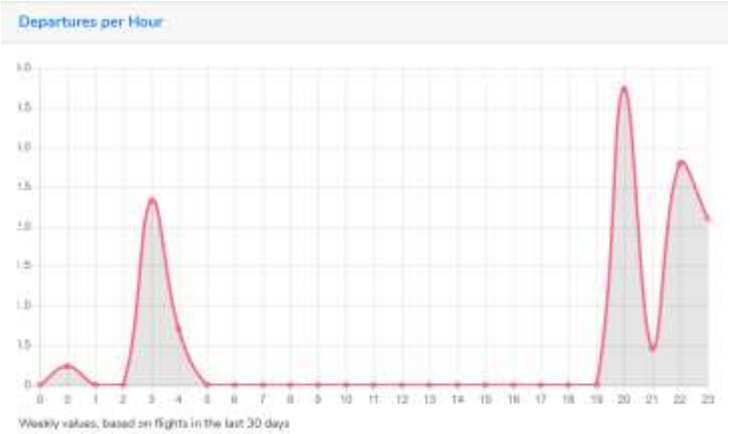
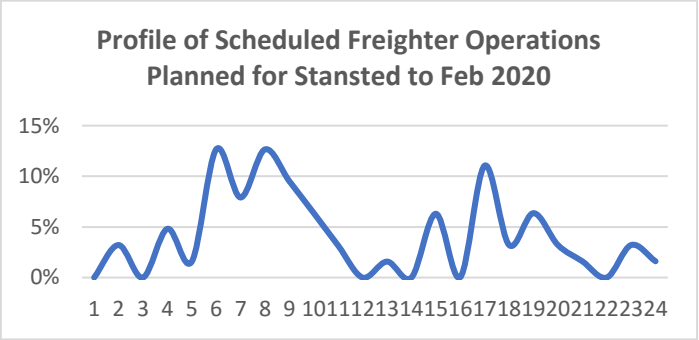


Scheduled Freighter Operations



It is clear that the integrators operate primarily at night with c.36% of all departures at night and a similar pattern for scheduled freighter operators. In overall terms, we estimate that around 45% of all non integrator freighter aircraft movements at Stansted operate with either an arrival or departure in the night period. If these operators

		had to move from Stansted due to the effect of night constraints, they would only do so to an airport that could provide the flexibility to maintain current schedules, i.e. for Manston to be a candidate it would require to be able to operate a substantial number of night flights, well in excess of the proposed night quota in the Noise Mitigation Plan. *The situation at Amsterdam has also been misinterpreted by the Applicant. The 80% use it or lose it rule for slots has been in place under EU Regulation 95/93 for many years. This means that systematic off-schedule operations by any airline may result in some airlines losing their grandfathered slots and, with an airport at its overall annual movement limit, alternatives at a different could not be allocated as would have been the case before the limit was reached. This is not some new rule aimed at cargo carriers specifically but a part of EU law."*
ND1.19	Heathrow capacity	Comments extracted from York Aviation note (see Appendix 1): *"It is interesting to note that the Applicant does not expect the position of most freight at Heathrow being carried bellyhold in long haul passenger aircraft to change once R3 opens. In terms of the balance of slot usage with R3, it is Government policy that the use of R3 should be focussed particularly on securing global connectivity and in ensuring improved regional domestic connectivity through the ringfencing of some slots (see Aviation Strategy Green Paper para. 3.52). On this basis, the Applicant's estimate of 85,000 of new slots being for long haul services is almost certainly conservative but would still represent an increase of c.50% in global connectivity compared to 2018 (c.175,000 long haul flights based on OAG data). The current bellyhold capacity offered for sale at Heathrow on long haul routes is c. 14 tonnes per sector on average (OAG). On this basis, 85,000 additional flights would equate to 1,200,000 tonnes, i.e. taking Heathrow to the 3 million tonnes total. It should be noted that this is a throughput estimate not a formal constraint so the tonnage achieved could be higher. Contrary to assertions made by Azimuth in its reports, newer aircraft types carry more tonnage per flight meaning that the future bellyhold capacity is likely to be greater on average per aircraft than today. Hence, Heathrow might well achieve more than 3 million tonnes of cargo once R3 is operational. We have extracted bellyhold tonnage capacities being offered for sale on average by aircraft type on 28th Feb 2019 to illustrate the high capacity offered by some newer types, in particular the Boeing B787:*

<table>
<tr>
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<table>
<tr><th>Type</th><th>Bellyhold Tonnage</th></tr>
<tr><td>Airbus A330</td><td>11.0</td></tr>
<tr><td>Airbus A340</td><td>12.7</td></tr>
<tr><td>Airbus A350</td><td>20.0</td></tr>
<tr><td>Airbus A380 Passenger</td><td>20.2</td></tr>
<tr><td>Airbus Industrie A330</td><td>13.5</td></tr>
<tr><td>Airbus Industrie A350</td><td>20.0</td></tr>
<tr><td>Boeing 737 Passenger</td><td>5.4</td></tr>
<tr><td>Boeing 747 (Passenger)</td><td>15.2</td></tr>
<tr><td>Boeing 757 (Passenger)</td><td>7.1</td></tr>
<tr><td>Boeing 767 Passenger</td><td>13.9</td></tr>
<tr><td>Boeing 777 Passenger</td><td>23.2</td></tr>
<tr><td>Boeing 787</td><td>38.2</td></tr>
</table>

We would also highlight that the Boeing industry reports, on which Azimuth seek to place substantial reliance throughout their reports, quotes lower (belly) hold capacity growth on passenger aircraft of 6% in their World Air Cargo Forecast 2018-2037 (Executive Summary page 7) so Azimuth are simply wrong to speculate that the ability to carry bellyhold is reducing not increasing.

We would reiterate para. 2.15 of our 2019 Update Report that Heathrow with R3 provides for growth for 31 years."
</td>
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<tr>
<td>ND1.20</td>
<td>Additional capacity at Heathrow</td>
<td>Comments extracted from York Aviation note (see Appendix 1):

"This response seems to proceed from the premise that Heathrow could only attain 3 million tonnes of cargo per annum through extensive introduction of freighter flights. As we have demonstrated in response to ND1.19, this is easily deliverable from bellyhold capacity. Once again, the response is littered with speculation about the need to demolish Terminal 4 to provide more cargo aircraft stands, which is without substance. The fact that slots to use R3 may be released incrementally is not an issue as the release will be in line with demand.
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		The Applicant again claims that it has taken account of growth in air freight capacity at Heathrow in its forecasts for Manston. Once again, this is totally opaque in the methodology. Our assessment (see Section 3 of our 2019 Update Report) is that there will be ample spare capacity. *The remainder of the response asserts that, notwithstanding growth in capacity at Heathrow and elsewhere, there will be 400,000 tonnes of freight by 2050 which will require a dedicated freighter operation. This appears to be estimated by growing the current tonnage on dedicated freighters at the London airports by c.2% p.a. However, it does not follow that this freight would not be better suited to using the increased belly hold offer from Heathrow with a 3rd runway. As we have pointed out at paras. 4.4 and 4.19 of our 2019 Update Report, there is clear evidence of airlines discontinuing dedicated freighters when increased bellyhold capacity is available. Comparisions between Heathrow and Frankfurt (see ND.1.6) reinforce the point. Freighters, other than integrator operations and a small number of niche ad hoc/charter operations, fill the gap when bellyhold is not available rather than being a distinct market as the Applicant's response appears to suggest."*
ND1.21	Gatwick – Applicant's Experience of Freight Operations	The Applicant has again not answered the question directly. The Applicant claims that members of its team have extensive experience in relation to the management and operation of freighter cargo, giving Viscount Aviation and Northpoint Aviation as examples. However, in its answer to question CA.1.14, the Applicant states that these parties are being relied upon for *"developing and constructing the airport"* but make no reference to either Viscount Aviation or Northpoint being employed/contracted to assist with operating the airport. The Applicant has provided no evidence that it, or any of its directors, has experience or expertise in freight operations. In its answer to CA.1.41, the Applicant only notes that, should the DCO be granted, it would make appointments to manage the operations. It is highly revealing that the Applicant again fails to mention the track record of RSP director, Tony Freudmann, in relation to freight operations.
ND1.22	Road congestion at East Midlands	The Applicant's response describes well the reasons why EMA is the main UK freight hub. It is ideally located to serve the UK as a whole, including the south-east. For the reasons set out above (in our comments to the answer to question ND.1.8) it is wrong to assume that all goods are destined for London or the south-east.

		In this respect, some parallel can be drawn with the location of Strategic Rail freight interchanges (SRFI). For similar reasons, existing SRFI are concentrated in the East Midlands (DIRFT) and East Midlands Gateway, whilst additional proposals for SRFI are principally concentrated also in the East Midlands (current proposals at East Midlands Intermodal Park, Northampton Gateway and Rail Central at Northampton). Rail hubs have similar locational requirements and a similar reliance on the road network. Alleged traffic issues in the East Midlands have not deterred either the success of East Midlands Airport or of rail freight interchange development. By contrast, there has only been one proposal for a rail freight interchange in Kent. The Kent International Gateway proposal was dismissed at appeal by the Secretary of State in August 2010 (reference APP/U2235/A/09/2096565). The sub-optimal location (near Maidstone) was one of the factors weighing against the proposals. The Secretary of State's conclusions included the following: *"the Secretary of State agrees with the Inspector that the policy intends that sites should be well located to serve both the London and south-east markets, but that the location of the appeal site is plainly well below optimum with respect to the London market. He agrees that this reduces significantly the policy supports that the proposal should otherwise be afforded by the Strategic Rail Authority's SRFI policy. (paragraph 29).* *…The Secretary of State agrees with the Inspector's reasoning and conclusion that there needs to be some reasonable assurance that the development would indeed function as the appellants suggest…He agrees (with the Inspector) that he cannot be reasonably assured that sufficient traffic from Europe would be attracted to the site to make onward journeys by rail to other regions of the UK viable, and thus nor can he be reasonably assured that the proposed development would function as an SRFI."* (paragraph 30). Each proposal, of course, is different and rail has different characteristics from air freight. Nevertheless, the Secretary of State found that a site located significantly closer to London was not well located as a freight hub to serve London, let alone the wider south-east or the UK as a whole. We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"Again, this answer appears to assume that freight is necessarily destined for Central London. Whilst this may be true for urgent documents carried by the integrators, is it not the case for the vast bulk of air freight. Otherwise, the Applicant's answer describes well the reasons why EMA is the main UK freight hub."*

ND1.23	Brexit friction	Comments extracted from York Aviation note (see Appendix 1): *"We do not dispute that a 'No Deal' Brexit could lead to delays at the border for trucks in the short term until new systems and processes are put in place.* *However, the bigger issue with a 'No Deal' Brexit is likely to be the overall impact on the economy. Forecasts suggest that the economy could be up to 9.3% smaller than it would otherwise be in the event of 'No Deal' (https://www.bbc.co.uk/news/uk-politics-46366162). There would simply be less demand for freight transport so reducing any market that Manston might avail of. This is likely to be a much more significant factor in terms of the prospects for dedicated freighter operations at Manston than short term issues of customs clearance at the Channel crossings."*
ND1.25	Bellyhold versus freighters	Comments extracted from York Aviation note (see Appendix 1): *"The advantages of dedicated freighter operations cited by the Applicant come at a cost which few shippers of general cargo are willing to pay. There is always an economic trade-off between time and cost so, for most air freight, the hub and spoke system works well as it does for passengers. Whilst Azimuth quotes Boeing 2016 World Air Cargo Forecast as saying 80% of cargo between Asia and Europe used dedicated freighters, the latest Boeing 2018 report (referred to earlier) shows this proportion has fallen to 75%. Hence, it is completely wrong for the Applicant to claim that there is not a general trend to a reducing share of cargo carried on dedicated freighter aircraft. The trend is clear and relates to the overall cost effectiveness of transporting goods. Boeing, in its 2018 report, stresses that dedicated freighters tend to concentrate on the main trade routes whilst bellyhold and hubbing provides the global reach. This contrasts with the view of the Applicant that somehow dedicated freighters offer more flexibility to get goods from A to B.* *The response appears to cling to the belief that decline in freighter use is due to the lack of a dedicated freight airport, citing Leipzig and Liege as having few passengers and seeking to dismiss East Midlands and Stansted as freight airports because they handle more passengers than Leipzig and Liege. At 4.9 mppa, East Midlands is still a relatively small airport in passenger terms and remains able to focus largely on freight. It is frankly ludicrous to*

		liken East Midlands Airport to Amsterdam Schiphol, which handled over 71 million passengers and nearly 500,000 ATMs in 2018. *Reference again made to the potential for Amazon dedicated freighter operations. It is important to understand the purpose of Amazon's freighter operations in the context of the US market. The operation of their own aircraft is about feeding their distribution centres to keep them stocked with product https://aviationweek.com/commercial-aviation/amazon-air-seen-little-threat-incumbent-package-carriers. The circumstances in the US are very different and distances in the UK much shorter so delivery times can be met from depots in the centre of the country without the same need to fly between distribution centres."*
ND1.26	Stansted and East Midlands constraints and capacity.	Comments extracted from York Aviation note (see Appendix 1): *"This answer again seeks to draw comparisons between Stansted, East Midlands and Amsterdam Schiphol Airports. We note that this answer correctly quotes the planning conditions at Stansted which were inaccurately cited earlier in the Applicant's responses. The response also states that constraints at East Midlands will be overcome when the new UPS handling facilities are operational. Whilst these facilities will enable UPS to grow to a scale to match DHL, we are not aware of any evidence that activity at East Midlands has been constrained to date."*
ND1.27	Decrease in cargo ATMs	Comments extracted from York Aviation note (see Appendix 1): *"The response continues to assert that the decline in dedicated freighters in the UK is due to day and night time slot constraints. This is not borne out by experience at the UK's unconstrained airports albeit this may have been a factor, in part, at Heathrow. However, to the extent that there has been any constraint at Heathrow, this has not manifested itself in growth in dedicated freighter movements elsewhere, despite both Stansted and East Midlands having ample spare capacity. There is no reason why the re-opening of Manston would make any difference to the clear trend.* *It should be noted that globally Boeing (2018) forecasts growth in freighters operating globally of 70% but 100% growth in freight. This suggests a global decline in the freighter share of the market of at least 17.5% over 20 years (and more if capacity of dedicated freighter aircraft were to increase relative to increase in bellyhold capacity). The*

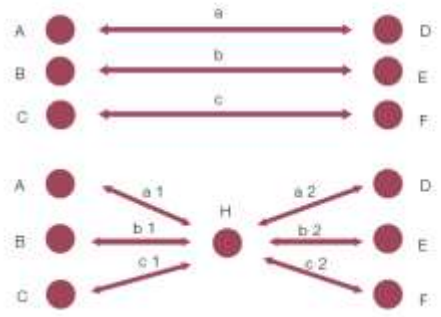
		decline in freighter operations is likely to be strongest in markets where there is strong growth in bellyhold capacity, as would be the case with a 3rd runway at Heathrow."
ND1.28	Forecast daytime flights at Manston	Comments extracted from York Aviation note (see Appendix 1): *"This response again says that the focus of Manston will not be on integrator operations, yet such operations make up 48% of the Year 20 freighter movements (more in the early years) as set out in Appendix 3.3 of the ES. The Applicant appears not to understand its own evidence. The response says that other than the integrators, dedicated freighter operators do not depend on night flying. However, our analysis of non-integrator freighter operations at Stansted (see ND.1. 18) shows around 45% of operations were dependent on a night movement when either arriving or departing. Hence, the ability for airlines to operate a substantial proportion of their flights at night would be essential to Manston being able to attract such operations."*
ND1.30	Avia Solutions conclusions on viability	Comments extracted from York Aviation note (see Appendix 1): *"This response is wrongly dismissive of the work of Aviasolutions for Thanet District Council (see Section 6 of our 2017 Report). The response also refers erroneously to a footnote on page 14 of Avia's 2017 commentary on Local Plan Consultation Responses, whereas the question refers to Aviasolutions earlier 2016 Report. As we point out in our 2017 Report (paras. 6.8 and 6.16), Aviasolutions correctly interprets our report for TfL and the FTA in 2015. Despite having been told in 2017 that they were misconstruing the meaning of the analysis contained in this report (see ND.1.7), the Applicant clings to its erroneous interpretation of our 2015 Report and quotes in this answer a claimed freight capacity shortfall of 2.1million tonnes without any new runway or capacity across the London airports as the basis for its claim that Aviasolutions got it wrong. Our views and those of Aviasolutions do not diverge as the Applicant claims, they are in essence the same. The Applicant's view is where the error lies.* *It is important to note in relation to the role of trucking in the market that this is a matter of cost as well as speed. Dedicated freighter services would not address this issue.* *The Applicant continues with further criticisms of the Aviasolutions analysis and claims that out of date data has been used because Southend Airport is excluded from the analysis. As any experienced aviation consultant would be aware, Southend has not been included in the CAA Departing Passenger survey in the whole period since 1990,*

		albeit it is being surveyed in 2019. Whilst we noted the Aviasolutions work in our 2017 Report, we have conducted our own analysis of the market from first principles. The Applicant asserts that, somehow, the performance of Manston will be different and claims to use more up to date data than used by Aviasolutions. However, this is not so as much of the analysis set out in the Azimuth Reports relies on data and analysis used by the Airports Commission in 2013-2015 and fails to take into account subsequent developments and decisions. Once again, the answer states that the London system will be full by 2030 but, as pointed out numerous times in our Reports and responses, this relates to the circumstance where a 3rd runway is not built at Heathrow. *Given that the question from the ExA relates to the Aviasolutions 2016 Report which did specifically address viability, it is important to note the conclusion of that report:* *"7.3.9. Conclusion - The asset would require significant long term investment but would only generate a marginal return on the capital invested. These returns are also predicated on a large number of external variables over which the owner of Manston Airport has limited influence. It is AviaSolutions' view that based on this scenario there is no viable long term prospect of an economically viable airport being established at Manston."*
ND1.31	Stansted capacity	Comments extracted from York Aviation note (see Appendix 1): *"This answer largely repeats earlier answers (ND1.18) that MAG has made a strategic choice to favour passengers over freight at Stansted. Nowhere in Section 5.1 of Azimuth Volume I does it quote MAG as saying it prefers passengers over freight, albeit Azimuth construes this to be the case. Paras 2.52, 2.53 of the Stansted Airport Ltd (STAL) Planning Statement (https://www.uttlesford.gov.uk/media/7748/Stansted-Airport-application-planning-statement/pdf/35__Planning_Statement__final_.pdf) for its recent planning application makes clear there are substantial aspirations for cargo growth:* *"2.52 Today, Stansted is the third largest air freight centre in the UK, handling around 10% of the UK's air cargo market. In 2017, 260,000 tonnes of freight, worth over £12bn, were handled on c.12,000 dedicated freighter flights. This helps connect local firms, small and medium sized enterprises in Essex and hi-tech companies in Cambridge, to global markets. In addition to dedicated air freight, the flights of DHL, FedEx, UPS and Royal Mail provide London with an express cargo hub for time critical, often overnight, deliveries.*

		2.53 Long haul services, such as those recently announced to the Middle East and North America, also bring trading benefits through the capacity to carry air freight. Belly-hold cargo is an important factor in maintaining the viability of long haul services, as well as giving local businesses easier access for importing or exporting goods. This new cargo capability will complement the existing 'all freight' services to, for example, Memphis and Qatar." *It is important to note, however, that STAL anticipates that more long haul scheduled services will be the principal means to drive throughput of cargo.* *We would further note in response to the Applicant's answer that there is no evidence that there was ever a shortage of capacity at Manston nor that its limited operations in the past were due to any shortfall in facilities. The past performance was reflective of market realities, which have not fundamentally changed."*
ND1.32	Imports and exports	Comments extracted from York Aviation note (see Appendix 1): *"This response claims there were no facilities for handling outbound export cargo at Manston, which is absolutely incorrect.* *The response also restates unsupported expectations of cargo services by type of airline. As we note at para. of our 2019 Update Report, several of the airlines listed as operating in Appendix 3.3 to the ES do not have dedicated freighter aircraft in their fleets. To assist the Examining Authority, we have included the fleet lists of these airlines (from ch-aviation) at Appendix F. Freighter aircraft are denoted by an (F). We have included Qatar Airlines in the list where it is evident that they do operate a young fleet of freighter aircraft but for the reasons we outline, they are highly unlikely to operate to Manston.* *We have addressed the shortcomings of the Business Model at F.1.5."*

ND1.33	Markets for Manston	Comments extracted from York Aviation note (see Appendix 1): *"This answer again is based on there being a shortage of capacity for dedicated freighter operations across the London airports. As we have demonstrated, this is not so.* *Elsewhere the response is muddled as, whilst it correctly identifies the potential of import of flowers from Africa, it claims that the UK will be importing consumer goods from Pakistan and exported clothing. This does not appear to be rational given the relatively limited clothing manufacture in the UK and limited consumer goods exporting from Pakistan. The response is also unclear about China and implies that it would be a market for exports rather than the majority of trade currently being imports. In any event, there is no evidence that these markets or goods would be candidates for using dedicated freighters and would more likely seek bellyhold capacity (the experience at Manchester Airport with Hainan Airlines and Cathay Pacific would rather tend to prove this point.) We do not believe that the majority of these goods would be of such an urgent nature as to justify dedicated freighters, other than the fresh flower market that Manston historically handled."*
ND1.34	Location of Manston	Comments extracted from York Aviation note (see Appendix 1): *"This answer continues to proceed on the basis that most air freight is to and from London. For the reasons already explained (see Section 4 of our 2019 Update Report), this is not the case."*
ND1.35	Perishables	Comments extracted from York Aviation note (see Appendix 1): *"It is not clear where the figure of 394 perishables flights per year comes from? The ES data at Appendix 3.3 shows 444 such flights (Cargolux from Africa/Nairobi in Year 20). Once again, there is lack of clarity of the basis upon which the application has actually been assessed, with different figures being quoted in different parts of the documentation."*

ND1.36	KLM	Comments extracted from York Aviation note (see Appendix 1): *"The answer wrongly cites the proportion of KLM passengers within the total passenger forecast. This does not answer the ExA's question as to what proportion would be hubbing at Amsterdam. The answer given appears to mean that the route is assumed to carry 75,000 passengers per annum and does not grow through the period. This would equate to c.52 passengers per flight on average based on the 1,456 movements shown in Appendix 3.3 to the ES. KLM's smallest aircraft, the Embraer175 jet, has a capacity of 88 pax, implying a load factor of 60%. This is below a sensible viability threshold which we have assessed as 80% as an initial minimum rising to 88% (2019 Update Report para. 5.29). KLM's network wide load factor is 89.1% in 2018 (https://news.klm.com/klm-2018-traffic-results/) so the route is unlikely to be viable on the basis set out by the Applicant. We note that the response claims that there have been updated discussions with KLM in Feb 2019. We would not dispute that the airline may have expressed interest in recommencing the service but this may well depend on the support package available from RSP and from local authority stakeholders to support the re-introduction of the service.* *By way of comparison, our forecasts suggest that, if operated, the route could support 111,000 passengers in Year 20 with 67% connecting in Amsterdam. This would be roughly on a par with the number of passengers carried from Durham Tees Valley to Amsterdam in 2018."*
ND1.37	Frankfurt	Comments extracted from York Aviation note (see Appendix 1): *"Part i) of the response fails to address the implications of limits on night flying on the prospects for Manston. In practice, the answer given simply demonstrates that a busy passenger schedule during the day is not an impediment to effective freighter operations as the Applicant has elsewhere tried to argue would be the case at Stansted. For the reasons we have set out at ND.1.6, to the extent that freighters are willing to confine their operations to day time hours at Frankfurt, this reflects the power of the hub and air freight consolidation at Frankfurt which would not be replicable at a small remote airport like Manston. Frankfurt is able to leverage its market power in the air freight sector in the same way as Heathrow."*

ND1.38	Trend to Bellyhold	Comments extracted from York Aviation note (see Appendix 1): *"The response says that bellyhold freight is only cheaper where "demand outstrips supply". This is economically irrational as normally prices rise as demand outstrips supply. We have explained at ND.1.6 why Frankfurt has more dedicated freighter capacity than Heathrow. In terms of convenience for shippers, bellyhold is a more flexible option precisely because it uses hubbing to connect multiple points. Box 2b from the Airports Commission Interim Report 2013 illustrates the point. Hubs increase connectivity compared to point to point services.* **Box 2b: What are aviation hubs and how do they work?** In a hub-and-spoke model, airlines and alliances focus their route networks on one or more key airports which maximise connecting opportunities for passengers. For example, an airline that operates direct services between three pairs of airports (A-D, B-E, and C-F) could instead route its flights via a hub (H) as shown below. This creates more route options, with passengers travelling from any airport in the network now able to access five different destinations (six, including the hub itself). Furthermore, the additional passengers transiting through the hub make it more viable for the airline to add new routes at that airport or increase frequencies on existing routes, bringing further connectivity benefits. On the other hand, such a model may incentivise airlines to replace some thinner direct routes with routes that involve a transfer, which is less convenient from the perspective of those passengers who travel on this particular route. 

		Dedicated freighters are inherently less flexible for shippers in terms of getting freight from A to D, E and F etc, and are a more expensive option. Hence, freighter services are being replaced as more bellyhold capacity comes on stream, other than on an ad hoc basis for special loads which can only be justified in limited circumstances. *This answer again makes reference to our 2015 Report for TfL and the FTA. The quotation cited makes clear that we were referring to constraints biting on bellyhold capacity at London not on capacity available for dedicated freighter operations. We have made clear to Azimuth for some time that they have been misrepresenting the conclusions of our 2015 Report.* *The Applicant asserts that e-commerce is creating a market for pure freighters to secure delivery times but this only works along narrow corridors of very dense demand. To the extent that such freighters are required (and there is little or no evidence that this is so in the UK context), there are choices as to how to serve London given the availability of capacity at Stansted today."*
ND1.39	Realism of Forecasts	Comments extracted from York Aviation note (see Appendix 1): *"The response claims that because of pent up demand for more freighters, movements at Manston will grow quickly. However, as noted earlier, over half of the initial movements are shown at Appendix 3.3 of the ES to operated by an integrator, which contradicts earlier statements that Manston will not be an integrator base. Hence, if an integrator base is not to be a feature at Manston (as we strongly believe), it is difficult to see where the initial growth might come from.* *In essence, this answer repeats much of the circumstantial material from earlier answers, including speculation about future operations at Stansted despite clear evidence of investment in increased air freight facilities there. Air freight operations from the dedicated facility do not impede the fast turnaround of low cost airlines, rather these airlines choose not to carry freight themselves as this would slow down their turnaround times.* *We would also note that when operating long sectors, Ryanair does not seek to operate 4 rotations within a day. All low cost airlines target their last arrivals late in the evening, with aircraft on the ground overnight."*

ND1.40	Mail	Comments extracted from York Aviation note (see Appendix 1): *"The answer says that mail flights are not included as they would require night operations. Again, this is different from the information shown at Appendix 3.3 of the ES which shows 770 annual movements on postal services with Boeing737 aircraft (4.5% of total freight movements). Once again, the information provided by the Applicant is contradictory."*
ND1.41	Number of freighter movements	The Applicant/Azimuth's response demonstrates a fundamental lack of understanding of the UK freight market. This consistent lack of understanding is highlighted throughout the York Aviation and Altitude Aviation Reports, which were included as Appendices 4 and 5 to SHP's written representations (REP3-025). We would note that the ExA's question did not clarify that the estimate of 18,000 given in RR-1601 related to **daytim**e non domestic cargo ATMs in England and Wales 2017. It therefore excluded both the estimated night time cargo ATMs and domestic cargo ATMs. We would note to the ExA that domestic cargo ATMs are flights between two UK airports, with each flight counting as 2 ATMs in the CAA statistics. In its response to the question, the Applicant states that the figure of 18,000 was *"incorrect"*, and quoted CAA statistics that were *"nearly three times that figure"*. As the RR-1601 clearly set out the methodology on how the number of 18,000 was estimated, we are surprised that the Applicant has not addressed the question posed and simply referred to statistics for total cargo ATMs in the UK. The data is not comparable, however this blurring, and highly selective use, of statistical evidence is also consistent feature of the Azimuth Reports. Whilst we agree that Table 6 of the CAA statistics shows a total of 53,628 UK cargo ATMs, this figure includes a significant number of both (i) domestic cargo ATMs (>21,000) and (ii) EU and International ATMs from/to UK airports outside England and Wales (>3,000), something the Applicant and/or Azimuth either does not understand, or has chosen not to disclose. The claim that *"Almost all other ATMs are non-domestic since air freight is rarely used to move cargo within the UK (figures include Scotland and Northern Ireland)"* is literally an incredible statement for an aviation consultant to make, given the availability of CAA data that shows this claim to be wholly inaccurate. It demonstrates a gross

		misunderstanding of the current market and serves as an example of why the assertions made in the Azimuth Report are not credible. There is no single Table in the CAA statistics that provides a summary of cargo ATMs and the geographies they fly to/from. Therefore, to assist the ExA, we have included a detailed summary of the CAA statistics for 2018 as Appendix ND.1.41. In summary these CAA statistics show; 1. Analysis of the monthly Table 6 statistics shows there were 53,628 cargo ATMs in 2018 for UK reporting airports (i.e. excluding Channel Islands and Isle of Man). This table does not break down whether the ATMs are domestic or involve movements to/from the EU or Other international locations. To understand this, one must analyse Table 5 of the CAA statistics, something the Applicant or Azimuth has clearly failed to do. 2. Table 5 provides a breakdown of total flights to/from EU, International and Domestic locations. It then breaks this down into passenger movements, with the difference between the total number of movements and the passenger movements equalling cargo movements. 3. By analysing the Table 5 data, it is easy to see that there were 54,987 commercial movements that were not passenger related. Whilst this is 1,274 higher than the number shown in Table 6, we have assumed that all are cargo ATMs to be cautious in line with guidance provided by the CAA. 4. The detailed analysis shows that of the 54,897 cargo ATMs; a. 21,170 were domestic cargo ATMs (please note there only 10,585 actual flights as each flight counts as 2 ATMs); b. 26,046 were EU ATMs; c. 7,681 were International ATMs. 5. Therefore, there was only a total of 33,727 non-domestic cargo ATMs in 2018 for the whole of the UK. This is nowhere near *"almost all"* of 53,628 as claimed in the Applicant's answer. 6. The Appendix ND.1.41 provides further analysis of the CAA statistics relating to airports in England and Wales (i.e. Scotland, Northern Ireland and Island airports ATMs have been stripped out). The key points to note are; a. There were only 30,337 non-domestic cargo ATMs (23,536 EU and 6,801 International); b. 58% (17,463 ATMs) relate to East Midlands Airport and 17% (5,292 ATMs) relate to Stansted airport; c. The remaining 25% (7,582 ATMs) are spread across the next 5 largest airports (Heathrow, Birmingham, Luton, Manchester and Newcastle).

		7. We would note that the CAA does not publish data on the split between day and night flights. To better understand the level of night flight activity, SHP acquired flight data for one month (March 2018) for each of East Midlands and Stansted airports. This provided granular details of the flight movements, flight operators and times of arrivals and departures. When the analysis of the March 2018 is extrapolated for a full year to December 2018, it demonstrates the following; a. c.57% (8,711 ATMs) of non-domestic cargo ATMs at East Midlands airport are estimated to be night flights; b. c.37% (2,735 ATMs) of non-domestic cargo ATMs at Stansted airport are estimated to be night flights; c. the combined estimate of non-domestic night flights at East Midlands and Stansted airports is 11,446 ATMs; d. Therefore, assuming cautiously that there are no night flights at any other airports, then there were estimated to be only 18,891 <u>daytime</u> non-domestic cargo ATMs in England and Wales in 2018. This is calculated by deducting the 11,446 ATMs in 7c above from the total of 30,337 ATMs set out above in 6a (6a being the sum of 4a and 4b). This figure of 18,891 ATMs is directly comparable with the 18,000 referred to in RR-1601, and reflects both a more detailed granular review of the CAA statistics and the updated numbers for 2018. The CAA statistics are all factual and available to view on its website by any member of the public. It is therefore difficult to comprehend how the Applicant and its adviser can display such an ignorance of the composition of UK cargo market. We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"We note that the question did not highlight that the estimate of 18,000 non-domestic cargo ATMs for England and Wales was for day time ATMs only. Total non-domestic freighters in 2018 were 30,338 according to CAA Airport Statistics. 18,000 movements represents a robust estimate for the total number of non-domestic freighter ATMs across England and Wales. What is significant is that only 6,801 of these freighter movements were outside of the EU in 2018, yet Azimuth forecast Manston handling 2,746 such flights in its first year of operation rising to 4,698 in Year 3 (70% share of static market) and 7,785 by Year 20 based on the sector length and movement data in App 3.3 to the ES. This is simply not credible.*

		The answer again claims that passenger flights will displace daytime freighters at EMA. The Applicant's assertions about capacity constraints at East Midlands are hardly borne out by the recent (18th Feb) notification by the Airport that it intends to build 1.4 hectares of apron for additional cargo activity (3-5 aircraft dependent on size) adjacent to the new UPS facility using its GPDO powers. https://www.leicestermercury.co.uk/news/business/ups-gets-green-light-114m-1277726 https://plans.nwleics.gov.uk/public-access/applicationDetails.do?activeTab=documents&keyVal=PNHJVCLR0L300. This suggests that to the extent that there is demand for additional freighters to serve the UK, EMA is already committed to providing the infrastructure required to handle them. It also would strongly suggest that growth is being driven by the integrator sector as the facility is adjacent to the new UPS distribution centre under construction. Of course, we are told elsewhere that it is not intended that Manston will be used by integrators."
ND1.42	DfT forecasts	In its answer, the Applicant states that the *"DfT is planning to produce a UK forecast for dedicated freighters"* and that that this forecast *"should be in line with industry forecasts that show considerable projected growth".* This would appear to be yet another assertion from the Applicant / Azimuth that is not evidenced. The correspondence from the DfT (as set out in the Applicant's Appendix ND.1.14) does not support these assertions and only goes as far as to comment that; *"We take your suggestion of conducting more detailed modelling of air freight on board and will consider it along with the other suggestions we have received as part of the strategy."* We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"The Department for Transport (DfT) may not forecast freighter movements in detail but they have made a reasoned assumption based on the evidence that there is unlikely to be growth. In the context of considering the need for more airport capacity to ensure that aviation supports economic growth (see Airports NPS and Aviation Strategy Green Paper), it is not plausible to suggest that DfT would seek to understate the need. Contrary to what is stated in the response, the e-mail from the Department does not say that it is planning to produce a forecast for dedicated freighters using UK airports. What the DfT says is that it will take on board the suggestion that forecasts should be produced and consider this as part of the development of a new Aviation Strategy. The recent Aviation Strategy*

		Green Paper does not take up the suggestion nor indicate that any forecasts are in prospect. It is our understanding that such forecasting work is not underway. The remainder of this response is pure speculation."
ND1.43	2003 White Paper	Comments extracted from York Aviation note (see Appendix 1): *"This response refers to the reference to Manston on the 2003 Future of Air Transport White Paper. We have addressed this at paras. 2.19 and 2.20 of our 2019 Update Report."*
ND1.45	Negotiations with operators	It is particularly notable that, even at this time, RSP cannot identify and evidence genuine interest from airlines, integrators or freight forwarders to occupy or use a re-opened Manston airport. Whilst the forecasts set out in Appendix 3.3 of the Environmental Statement name individual operators and assume they will commit to Manston, none have provided that commitment. However, this is not surprising. As explained in paragraph 6.26 of SHP's Written Representations (REP3-025), York Aviation identified a number of material issues (e.g. the stated airline does not operate freighter flights) with airlines that account for 90% of the aircraft movements projected by RSP for Manston in the first year of operation and over 80% in Year 20.
ND1.46	Airports NPS	In answering the question, the Applicant provides an incomplete and highly misleading summary of the position. We would bring the following to the ExA's attention to the following. It is clear that neither the Airports National Policy Statement nor the draft new Aviation Strategy to 2050 provide any explicit policy support to re-open Manston. In the Airports Commission Interim Report (2013) Manston was only mentioned once in relation to its "potential" as a reliever airport (Annex 2: Assessment of Long Term Options). There is no explicit support for Manston. The new draft London Plan provides no explicit support for Manston. Manston is not even mentioned. The Applicant refers to a KCC position statement from July 2015 and a prior document from 2014. Neither document is provided in the appendices. Rather than being the position statement, which was issued in March 2015 (see below), the Applicant appears to be referring to a vote that was taken by KCC members on 16 July 2015.

		A motion was advanced by Cllr Roger Latchford asking members to support the following statement; *"is imperative that this council show absolute support to both reinstate and operate Manston as an Airport, not only to regenerate East Kent but to provide the extra capacity required by the aviation industry not withstanding any extra capacity for an expansion of Gatwick."* As the minutes (attached as Appendix ND.1.46 (a)) demonstrate, the motion was not passed. Instead, an amended statement was passed by KCC which resolved that; *"we the elected members of KCC wish it to be known that we fully support the continued regeneration of Manston and East Kent* ***and will keep an open mind on whether that should be a business park or an airport, depending upon the viability of such plans*** *and their ability to deliver significant economic growth and job opportunity."* In its answer, the Applicant appears to have removed the wording in bold (i.e. *"and will keep an open mind on whether that should be a business park or an airport, depending upon the viability of such plans").* In view of the specific question asked by the ExA, this omission risks misleading the reader into concluding KCC were explicitly providing its support for the reopening of Manston as an airport. It once again demonstrates that evidence submitted by the Applicant cannot be accepted at face value. The Applicant also failed to disclose that in March 2015, Kent County Council published a position statement on Manston Airport – *"Manston Airport under private ownership: The story to date and the future prospects."* The full document is attached as Appendix ND.1.46 (b), however and extract of its conclusions on page 12 is given below; *"The truth is that Manston has failed over a prolonged period of time to run as a commercially successful airport.* *Kent County Council gave strong support to various investors but the reality of commercial aviation at Manston Airport led to very significant losses. In fact, in the 16 years since it was taken into privately ownership it has incurred losses by those who have tried to operate it in excess of £100 million.*

		The objective now must therefore be to make sure that we have owners who want to do exciting things on the site and that the land is not left abandoned. *Bristow Group had chosen Manston as its location for the regional search and rescue base; when the airport closed the company decided to locate that base at Lydd. Kent County Council is pleased that this vital service will still be located in Kent. Lydd Airport is also starting a substantial investment programme to extend its runway and construct new aviation facilities.* *Surely it is now time to look at a B Plan for Manston. The driver must be to seize the best opportunity to create a significant number of new jobs and bring prosperity into East Kent.* *RiverOak has not managed to convince Thanet District Council that there is a viable business plan. We believe the new owners have got a credible plan and the financial ability to create substantial numbers of new jobs which will bring prosperity and economic growth to East Kent."* Reference is made to the East Kent Growth Framework – the East Kent Growth Plan – Final Draft Report (2017). The ExA should be aware that no support whatsoever is given to Manston as an airport. The reopening of Manston as an airport is not even mentioned in the report. Lastly, the Applicant refers to the Thanet District Council local plan. As set out in detail in section 4 of SHP's written representations (REP3-025), the position is far more nuanced than presented by the Applicant. The members did not support the position recommended by its officers to allocate the site for mixed use development, however the draft Local Plan recognises the Council's evidence base, namely that airport operations at Manston are very unlikely to be financially viable. Nevertheless, it explains that the Council is proposing not to allocate the airport site for any specific purpose in the draft local plan but is removing policy EC4 that restricted use to aviation related purposes. We would also refer the ExA to the following extracts from the York Aviation note (see Appendix 1): *"This response simply repeats generic support for growth in the air transport sector. Policy still expects the specific need to be demonstrated for any development at an airport even within the principle of making best use of runways, other than in relation to Heathrow and the 3rd runway to which the Airports NPS applies. As we have noted in our*

		2019 Update Report (para. 2.21), any support for Manston within the Airports Commission work was as a reliever airport for local uses, business and general aviation."
Ns1.24	Airspace change process	*Please refer to comments on question CA1.15.*
OP1.3	Aerodrome certificate	In its response, the Applicant claims that the Aerodrome Certificate application will remain within the bounds of the DCO application and that the process is expected to commence in the latter part of 2019. We would highlight that the guidance is clear that the CAA will only progress discussions on a licence or certificate if it is satisfied that an Applicant is able to prove that it has control over or access to the land it wants to be licensed/certified as an aerodrome. The guidance further notes that *"the applicant must either be the landowner or have the permission of the landowner to use the site as an aerodrome, with rights to control the aerodrome under the terms of a lease or other operating agreement."* Accordingly, the Applicant would need to be the owner of the site or have an agreement with SHP, before it could progress an application.
OP1.4	Defence Infrastructure Organisation Safeguarding	We would note that the Applicant's answer does not address the concerns expressed in the Defence Infrastructure Organisation's Deadline 2 submission where it noted that the relocation of the HRDF Beacon has to be *"an integral and significant part of the Development Consent Application".* We also note that the DIO's comment that "*the applicant has rather glossed over the issues surrounding the possible relocation of the HRDF with the information that it has provided to the Planning Inspectorate"*. As is clear from some of our comments above, this does not appear to be an isolated event.
OP1.7	Safety - PSZs	i. The Applicant is wrong in stating the forecasts do not indicate a date by when PSZs may need to be implemented. It rightly asserts that the DfT's current policy is that PSZs should be established at airports which have more than 1,500 ATMs per month and are expected in due course (or more specifically, within 15 years hence) to exceed 2,500 ATMs per month.

		The Applicant attempts to justify its failure to consider PSZs by making reference to the CAA statistics that show all 32 airports that have a PSZ average more than 1,500 ATMs per month, with the exception of Doncaster. However, as the CAA statistics for 2017 show, many of the airports with PSZs have significantly less than an average of 1,500 **commercial** ATMs per month. They are required to have PSZs as the criteria includes both Commercial movements and Non Commercial Movements. Therefore, it is not appropriate to only consider the forecasts for dedicated freighters and passenger ATMs. The Applicant must have regard to the other ATMs (including the 5,840 non-commercial ATMs it has assumed in its forecast – 16 per day per paragraph 12.7.39 of the Environmental Statement - Volume 2 (APP-034)), which it has not done in its answer. Should the Applicant's application be approved by the Secretary of State, then under the Applicant's forecasts it would exceed 1,500 total movements per month (including the non-commercial movements e.g. training flights and business aviation) during the third year of operations, and would be forecast to exceed 2,500 movements in an average month (even ignoring seasonality) within 15 years. Notwithstanding the lack of credibility of the Applicant's forecasts, it is entirely reasonable to expect the Applicant itself to stand behind them. It is an inescapable fact that the effect of the Applicant's forecast being realised would be a requirement for PSZs to be put in place. As PSZs place significant burdens and restrictions on adjacent landowners and owners of residential dwellings that are affected (e.g. the Manston Green development and the existing Nethercourt estate), it is imperative that the modelling should be carried out now to understand what the effects of its development are and to have these consulted upon. As no mention was made of PSZs in any of the Applicant's consultation or application documents, any affected parties are likely to be completely unaware of the potential consequences of the Applicant's project. Whilst the proximity of residential properties to the end of the runway already makes Manston a very specific case, it is also important to note that the safety record of cargo aircraft is materially worse than passenger aircraft and this will impact on the PSZ requirements. For example, Boeing analysis shows that Cargo aircraft accounted for c25% of hull loss accidents (37 of 159) in the 10 years to 2015 despite only accounting for 8% of the Global Fleet (per Boeing data (https://cdn.aviation-safety.net/airlinesafety/industry/reports/Boeing-Statistical-Summary-1959-2015.pdf)).

		ii. The Applicant advises that it has no plans to undertake modelling. As its own forecast shows PSZs will be required within three years of opening (as total ATMs including non-commercial movements would exceed 1,500 ATMs per month), this modelling should have been undertaken, the impacts fully assessed and those affected parties given the opportunity to make appropriate representations ahead of the DCO application being submitted. iii. In view of the higher risks associated with cargo aircraft, it is difficult to consider circumstances where the PSZs would not materially affect residential properties such as the large Nethercourt Estate located less than 1.5km to the east of the runway.
OP1.8	PSZs	The Applicant has not considered PSZs and claims that PSZs should be included as a constraint in the local plan. As the Applicant correctly states, PSZs will result in a policy that requires a general presumption against most kinds of new development and against certain changes of use and extensions to existing properties within the PSZs. The Applicant's position is that it appears to accept that other landowners, residents, and occupiers could be materially affected by the effects of RSP's project. However, the Applicant has chosen to remain silent on the issue of PSZs in its consultation and application documents, despite being advised of this requirement during the statutory consultation by SHP. We would note that reference is made to PSZs on pages 384, 422, 423,452 and 518 of the Consultation Report (APP-075) but this issue has not been addressed by the Applicant.
OP1.11	Air Traffic Movements (ATMs)	We would note that the Applicant has accepted in its answer that Works No. 10 and 11 do not have the purpose or effect of increasing capability to handle cargo ATMs. These works cannot therefore be considered NSIP development. This is in line with the evidence provided in Appendix 1: Rebuttal of NSIP Justification to SHP's written representations (REP3-025).
OP1.16	Bird strike hazards	The Applicant accepts that the ES has not assessed or taken account of bird strike hazards from an operational perspective. This is despite this omission being explained in responses to the statutory consultation. We would also note that on page 510 of its Consultation report (APP-075), the Applicant claims bird strike had been assessed in its ES. There are also further references on pages 430 and 444, where the Applicant has not taken on board comments (which were made by SHP) regarding the failure to consider the risks of bird strike.

SE1.2	Adverse Tourism Impacts	Comments extracted from York Aviation note (see Appendix 1): *"This answer asserts that there would be a 45% increase in staying visitors in the local area as a consequence of the Airport handling passenger flights. The calculation appears to be based on the assumption that 25% of 1.4 million passengers will stay overnight in the local area. It is important to note that 1.4 mppa passengers is only 700,000 people making an outward and a return journey. Based on the route network proposed for Manston, we would expect the vast majority of passengers to be outbound leisure largely from the local catchment area (as we set out in Section 5 of our 2019 Update Report). Only the routes to Amsterdam and Dublin might be expected to attract a material proportion of foreign visitors, and these routes make up 22% of our passenger forecast. Given that the Applicant's passenger forecast is overstated and, even assuming half of the passengers on these two routes were foreign resident, the impact on local staying visitors (other than connected with the possible ad hoc cruise charters) would be no more than ¼ of that suggested by the Applicant on the most optimistic basis that all of these passengers remained in the local area. "*
SE1.5	Job creation	Comments extracted from York Aviation note (see Appendix 1): *"This section provides little in terms of new information and, in fact, highlights some additional flaws in the Applicant's analysis. We refer the ExA to the analysis in our 2017 and 2019 reports.* *Direct employment – EMA is not an unreasonable comparator but as previously stated the figures for East Midlands are inflated by significant non-airport related employment on the Pegasus Business Park. We do not believe that this has been taken account of. The application of productivity growth only from Year 11 is illogical given the explanation provided. We would in fact expect productivity growth to be higher in the early years as an airport is getting established and growing as companies are able to benefit from rapid growth in economies of scale.* *Indirect/Induced Employment – this still does not address the issue of what study area is actually being examined and, hence, whether multipliers adopted are appropriate.*

		Catalytic – we remain of the view that these multipliers are too high in the context of the operation of Manston, the surrounding area and the extent of alternatives. Again, there is still no consideration of the study area involved and the influence of this on any catalytic multiplier. *In relation to construction labour available locally, while it would appear that RSP is seeking to make appropriate partnerships locally in terms of new entrants to the market, there is little evidence that they have considered how to work with existing construction firms operating in the area to try to ensure opportunities are recognised by and accessible to these firms.* *The appendices provide some more detail on the breakdown of on-site employment. It is difficult to comment further on these, particularly as it is not the breakdown of employment that is at question here but the overall scale, which is ultimately linked to the demand forecasts. However, in relation to freight employment, in particular, we note that no source for the employment density assumptions is provided and there may be double counting between the employment directly by the airport company and third party employment in this activity. Overall, this makes it difficult to comment on their validity or otherwise.* *We would, nonetheless, make the following observations:* • *if there are 507 direct airport employees related to cargo handling, what do the other 1,250 employed by other companies do? This appears to be based on the assumption of 50% express freight use (i.e. integrators), which again contradicts the other statements made in response that there will be no integrators operations based at the Airport.* • *600 employees in MRO/aircraft dismantling is excessive. The demise of the Monarch Engineering heavy maintenance operation illustrates the problems in the market. http://www.travelweekly.co.uk/articles/320450/hundreds-of-jobs-lost-as-former-monarch-maintenance-arm-collapses. This operation employed 250 staff across two sites at Luton and Birmingham, excluding the line maintenance activities. These latter are associated with maintaining aircraft operations at busy airports so would not need to be replicated in hangarage at an airport like Manston.*

		• *If there are 40 staff employed in the FBO, what are the other 50 GA related staff. 40 staff in an FBO are likely to be excessive given the limited business aviation market in the vicinity of Manston given its remoteness from London?* • *Why would there be 50 staff associated with surface transport located at the Airport?* *Overall, we continue to believe that the employment density at Prestwick remains the most relevant comparator, noting that this includes Ryanair heavy maintenance activity and so may overstate the number of potential jobs if heavy maintenance or dismantling could not be attracted to Manston."*
SE1.6	Job transfers	Comments extracted from York Aviation note (see Appendix 1): *"This answer claims that there would be no displacement of activity from any other airport and that all the demand that Manston would attract would be unmet demand. This is at odds with claims in the Azimuth Report (see F.1.5 above) that consideration of the costs of switching operations for the airlines and forwarders has been taken into account, which would imply that at least some proportion of the 'forecast' demand is expected to have switched (been displaced) from elsewhere.* *For the reasons we have demonstrated, there is little or no unmet demand for additional dedicated freighter services to/from the UK and other airports have sufficient spare capacity to accommodate any requirements. Hence, given that the economic effects have, in essence, been quantified by Azimuth at the national level, given the multipliers used, the displacement effects relating to demand attracted to Manston that might otherwise have used Stansted or East Midlands in particular have to be accounted for."*
SE1.10	Imports/export profile	Comments extracted from York Aviation note (see Appendix 1): *"This answer simply reiterates Azimuth figures. No supporting evidence provided as to what export markets it is intended to serve or why the profile would be different from previously seen at Manston in terms of the import export balance (see our response to ND.1.32). The reference appendix is missing from the bundle but assumed to be FRAPORT report on activity in 2018 referred to elsewhere. The cited quote does not say anything about whether this was growth in imports or exports."*

SE1.13	Job forecasts	Comments extracted from York Aviation note (see Appendix 1): *"We have commented on the employment assumptions at SE.1.5. The employment estimates provided by the Applicant are not robust for the reasons given in our 2017 and 2019 Reports. This is particularly so in terms of the local employment implications."*
SE1.15	Uncertainty	Comments extracted from York Aviation note (see Appendix 1): *"We note that the question relates to the robustness of the assessment in terms of whether the 'worst case' has been identified. In so far as this question relates to the consequential implications of the levels of employment for the requirement for additional housing in the local area, this does represent very much of a 'worst case' as national level employment is construed as being realised locally.* *However, in terms of balancing of environmental costs and benefits, the overstatement of employment and GVA impact (see para. 3.54 of our 2019 Update Report) will mean that the balance may not have been correctly struck within the environmental assessment."*

ANNEX 1: MANSTON AIRPORT EXAMINATION - DEADLINE 4

APPENDICES TO SHP'S COMMENTS ON RESPONSES FROM RSP TO THE EXA'S WRITTEN QUESTIONS

Document Order	Document Name
1	**Appendix 1: York Aviation Note on Applicant's Deadline 3 Responses to Questions from the ExA**
2	Appendix 1 (A): Market Overview Demonstrating Market Demand for Office Space at East Midlands Airport and the Locality
3	Appendix 1 (B): Correspondence between York Aviation and Azimuth Associates regarding Azimuth Associate's inappropriate use and reliance on York Aviation's previous work for the Freight Transport Association (FTA) and Transport for London (TfL)
4	Appendix 1 (C): Extract of page 23 of York Aviation's report for TfL and the FTA
5	Appendix 1 (D): Frankfurt Flight Timetable extracted from Official Airline Guide database (OAG)
6	Appendix 1 (E): Stansted Airport Freighter Operations Data
7	Appendix 1 (F): Extract of fleet lists (from ch-aviation)
8	**Appendix G.1.10: Article on Planestation plc (September 2004)**
9	**Appendix ND.1.41: Detailed analysis of 2018 CAA statistics on cargo Air Traffic Movements**
10	**Appendix ND.1.46(a): Minutes of Kent County Council meeting held on 16 July 2015;**
11	**Appendix ND.1.46(b): KCC report "Manston Airport under private ownership: The story to date and the future prospects" (2015).**

APPENDIX G.1.10

Article from Growth Business website on Planestation plc (previously Wiggins Group)

https://www.growthbusiness.co.uk/planestation-turnaround-from-hell-198/

Planestation: turnaround from hell

1 Sep 2004

Losses of £73 million, an ousted management team and huge overheads are just three of the factors that have plagued airports and property group Planestation – yet one entrepreneur is now aiming to make the business profitable.

'I don't think I've got an easy job, that's for sure,' is how Martin May, one of the UK's foremost turnaround practitioners, describes the task before him at troubled airports and property group Planestation.

To anyone who has a passing knowledge of this group, his comments will smack of extreme understatement, because, up till now, Planestation has been one of the most woeful ventures ever to grace the London Stock Exchange.

Over the past ten years the group, previously known as Wiggins, has raised more money – north of around £115 million – than its actual market valuation. With this cash it built up an international chain of seven (hitherto largely dormant) airports and an assortment of property interests and assets in the UK. Apart from property disposals, it has generated little in the way of revenues, milked its investor base for all they were worth and produced gargantuan annual losses – in the past 48 months alone it has lost more than £73 million.

The group was only saved from complete collapse at the turn of the year when no less than £46 million was raised from City institutions to repay an almost equal amount of mezzanine finance that was accruing interest at 28 per cent (yes, we're not lying, twenty-eight per cent!). After this fundraising, chief executive Oliver Iny walked the plank. He was shortly followed by the chairman, Richard Bernays and non-executive director Lady Rona Delves Broughton.

Knowledge is strength

Even for May, who has engineered a few spectacular turnarounds over the past ten years, transforming Planestation into a proper business represents something of a special task. But he exudes charm and calm in equal measure and says he is 'excited', not perturbed, by the challenge ahead.

'I know my strengths and weaknesses, as all chief executives should. I am not good at business development, I am not a specialist in any particular sector. What I am good at is fixing things.'

Fixing things is indeed his forte. Since leaving a global packaging specialist in the late 90s May has worked wonders at a very diverse selection of companies. Among his most successful commercial reinventions has been Gresham Computing, where he transformed the loss-making, indebted venture into a profitable re-financed concern within six months.

His most recent project has been Cape, where he is still chairman. He joined in June 2002 after it had leaked so much cash its shares had bombed and debts were topping £50 million. Now, it is trading profitably, its debts are negligible and, in response, the shares have soared tenfold.

A meticulous 12-month plan

Says May, 'in distressed business you meet many similar problems. There are always immediate cash concerns, the incumbent management are very often "blockers" of change, margins are weak and staff morale is non-existent.

'When I come on board I engender a 12-month time- and task-orientated plan to get the ship afloat. It's about real business goals, revenue generation and management inspiration.'

For May, the first quarter in his standard recovery plan is all about 'stopping unnecessary spending immediately'. He also identifies non-core assets that can be off-loaded for much needed cash.

The next three months is then about establishing 'short-term corporate and financial goals' to ensure that by the third quarter 'management changes are in place and a temporary platform built to start developing a viable future strategy'. The last three months of his first year is then devoted to 'really making a step change to take the business forward'.

Hard medicine

The first six months at Planestation have, by and large, followed this philosophy to the letter. 'When I first arrived here I realised that the commercial "vision" of the previous management was merely vapour. Like many failing concerns, it was truly a lifestyle business. It was full of hobbies.'

To reinforce the point he highlights the fact that annual head office costs were no less than £7.8 million. This figure included the £600,000 it cost to lease Planestation's wonderfully indulgent Georgian offices on London's grandiose Berkeley Square. Head office costs have been slashed and the group has relocated to a small space at the back of the building. The rest is being sub-let.

Another 'pet project' he put to the sword was the previous management's harebrained attempt to build a 1.4-mile-long grandstand (designed by leading signature architect Lord Foster) at its property site in East London. This was part of its overall plan to build a 'London City Racecourse'. Says May, 'A total of £2.8 million was spent on this design, which, unsurprisingly, failed to get planning permission.'

Beyond cost-cutting

On the finance front, a £5 million cash injection was completed recently, with most of the new investors being tempted in by May's new realism and much progress has been made on the actual business.

Of the group's seven airports, three have been designated core and revenues are at last beginning to tumble in.

At Kent International, Planestation's flagship asset, passenger services are finally up and running following the launch of Europe's newest airline, EUJet. Planestation invested £2 million for a 30 per cent stake in this airline. Two planes are operating, and the plan is to have seven on the go by next year. The other major development at this site was the final completion of a Border Inspection Post (one of only eight in the UK). This, it is hoped, will become a serious destination for those shipping fresh produce and other cargo into the UK.

At the group's Lahr airport in Germany's Black Forest, charter flights are landing and taking off and plans are afoot to increase cargo capacity. Over in the US, Planestation's plans to take holiday-makers from the UK and Europe to Florida are developing rapidly.

Property solutions

As for its property division, May is in negotiations to sell the group's residential property interests in Liverpool. Many now reckon that due to his patience, he is likely to reel in more than the £9 million previously mooted by

analysts. In Oxfordshire, a future residential development is at the planning stage and in East London, a revised (and more sensible) proposal for a racetrack has been resubmitted. £30 million, say commentators, is what could be raised over the short- to medium-term from three-to-four sites.

Says May, 'When I came here, we were spending money to no particular end. Last year, we spent £11 million maintaining dormant airports. The previous year, £13.5 milion. It wasn't too hard to work out that revenue generation built on a scaleable business model was what was needed.'

Ever the pragmatist, May acknowledges much remains to be done. 'I am a sensible businessman. I'm taking one step at a time. The board here has collective goals and every individual employee here has personal goals. We are still not profitable but the days when this company was an acquirer of assets and a stealer of ideas is over. Our target is to be cash neutral by March next year. I intend to make it.

APPENDIX ND.1.41

SUMMARY AND ANALYSIS OF CAA STATISTICS ON CARGO ATMS IN 2018

CONTENTS

1. Executive Summary

2. 2018 Cargo ATMs by UK Reporting Airport – Total ATMs
    - Table 1: Consolidated monthly data from Table 6 of the CAA's UK Airport statistics

3. 2018 Cargo ATMs by UK Reporting Airport – Geographic split of ATMs
    - Table 2: Consolidated monthly data from Table 6 of the CAA's UK Airport statistics

4. Analysis of consolidated monthly data from Table 5 of the CAA's UK Airport statistics for 2018
    - Table 3.1: Cargo ATMs by region (England and Wales, Scotland, Northern Ireland and Islands) showing number of ATMs that are to/from a domestic airport, an EU airport or other International airport;
    - Table 3.2: Cargo ATMs by Mainland England airports showing number of ATMs that are to/from a domestic airport, an EU airport or other International airport;
    - Table 3.3: Estimate of Daytime Cargo ATMs by Mainland England airports showing number of ATMs that are to/from a domestic airport, an EU airport or other International airport.

Notes

1. Domestic ATMs are flights between 2 UK reporting Airports. As each flight has 1 take-off and 1 landing each flight counts as 2 ATMs in the CAA data.
2. The CAA has confirmed that all non-passenger ATMs included in Table 5 numbers should be treated as Cargo ATMs. The total of cargo ATMs shown in Table 5 are 1,274 higher than that shown in Table 6. We have flagged this discrepancy to the CAA and await a response.

1. Executive Summary

1.1 This Appendix has been prepared to assist the ExA's understanding of market for dedicated cargo aircraft in the UK and provide evidence to support SHP's comments on the Applicant's response to question ND.1.41.

1.2 Table 1 in section 2 *" 2018 Cargo ATMs by UK Reporting Airport – Total ATMs"* provides an analysis of cargo ATMs at UK reporting airports for 2018 based on data in Table 6 of the CAA statistics. In the Applicant's response to the question ND.1.41 it has correctly quoted the total number of cargo ATMs at UK reporting airports as 53,628.

1.3 However, as the evidence will show, the other claims made by the Applicant/Azimuth demonstrate a fundamental lack of understanding of the UK cargo market.

1.4 Table 2 in section 3 *"2018 Cargo ATMs by UK Reporting Airport – Geographic split of ATMs"* clearly demonstrates that the claim that *"[A]lmost all other ATMs are non-domestic since air freight is rarely used to move cargo within the UK (figures include Scotland and Northern Ireland)"* is wholly inaccurate. The CAA data shows that there were 21,170 domestic cargo ATMs in 2018.

1.5 The analysis in section 4 *"Analysis of consolidated monthly data from Table 5 of the CAA's UK Airport statistics for 2018"* demonstrates that the Applicant's claims that the figure of 18,000 was *"incorrect",* and reference to CAA statistics that were *"nearly three times that figure"* were highly misleading. The detailed analysis sets out the methodology and provides the evidence to support the estimate of c. 18,891 <u>daytime</u> non-domestic cargo ATMs in England and Wales in 2018.

1.6 60% of these ATMs are concentrated at East Midlands and Stansted airports with a further 34% across Heathrow, Birmingham and Luton airports (our analysis of flight data for East Midlands and Stansted suggests a majority these flights are by integrators*). Notwithstanding this, we are being asked by the Applicant to suspend all rational thought and accept that a reopened Manston would capture 5,252 (c.30%) of all these EU and international ATMs in its first year of operation, increasing to nearly 9,700 ATMs (51% share) in its third year of operation.

** It is widely accepted that market for cargo ATMs is dominated by integrators, however there is no publically available information that provides a segmentation analysis of the market by airline operator. We are currently in dialogue with the CAA, and hope to be able to procure CAA data that can be presented to the ExA, which will further demonstrate the very limited size of the market being targeted by the Applicant.*

2. 2018 Cargo ATMs by UK Reporting Airport – Total ATMs.

The table below provides an analysis of cargo ATMS at UK reporting airports for 2018. The analysis is based on the consolidated monthly data from Table 6 of the CAA's UK Airport statistics for 2018 (please note that the CAA will imminently publish its full year data for 2018, which is expected to result in some minor changes to the data as errors are corrected following detailed review by the CAA).

The CAA data shows a total of 53,628 cargo ATMs* at UK reporting airports in 2018.

** Please refer to Note 2 on first page for explanation of variance of total Cargo ATMs shown in Table 5 and Table 6 of CAA statistics.*

Table 1

Airport	Table 6 Data Total Cargo ATMs
ABERDEEN	1,488
BARRA	1
BELFAST INTERNATIONAL	3,368
BIRMINGHAM	2,537
CARDIFF WALES	1
DONCASTER SHEFFIELD	147
DURHAM TEES VALLEY	3
EAST MIDLANDS	22,219
EDINBURGH	5,031
EXETER	492
GATWICK	
GLASGOW	634
HEATHROW	2,972
HUMBERSIDE	137
INVERNESS	111
ISLAY	1
ISLES OF SCILLY (ST.MARYS)	745
KIRKWALL	58
LANDS END (ST JUST)	883
LIVERPOOL (JOHN LENNON)	28
LUTON	1,585
MANCHESTER	680
NEWCASTLE	329
PRESTWICK	675
SOUTHAMPTON	17
SOUTHEND	
STANSTED	9,478
STORNOWAY	
SUMBURGH	
TIREE	7
WICK JOHN O GROATS	
OXFORD	1
UK REPORTING Airports	**53,628**

3. 2018 Cargo ATMs by UK Reporting Airport – Geographic split of ATMs

The table below provides an analysis of cargo ATMS at UK reporting airports split between ATMs to / from domestic airports, EU airports and International Airports.

The analysis is based on the consolidated monthly data from Table 5 of the CAA's UK Airport statistics for 2018. Please note that the CAA will imminently publish its full year data for 2018, which is expected to result in some minor changes to the data as errors are corrected following detailed review by the CAA.

The CAA data shows that the total of 54,897 cargo ATMs* at UK reporting airports in 2018 were split;

- EU: 26,046 ATMs
- International: 7,681 ATMs
- Domestic: 21,170 ATMs (note this is only 10,585 flights as each flight counts as 2 ATMs)

** Please refer to Note 2 on first page for explanation of variance of total Cargo ATMs shown in Table 5 and Table 6 of CAA statistics.*

Airport	Table 5 Data EU Cargo ATMs	Table 5 Data International ATMs	Table 5 Data Domestic ATMs	Table 5 Data Total Cargo ATMs
ABERDEEN	1	501	1,107	1,609
BARRA	-	-	1	1
BELFAST INTERNATIONAL	668	11	2,689	3,368
BIRMINGHAM	1,908	10	806	2,724
CARDIFF WALES	1	-	-	1
DONCASTER SHEFFIELD	41	106	-	147
DURHAM TEES VALLEY	2	-	1	3
EAST MIDLANDS	13,304	1,978	7,123	22,405
EDINBURGH	1,088	-	3,943	5,031
EXETER	-	-	492	492
GATWICK	-	-	-	-
GLASGOW	402	1	283	686
HEATHROW	1,916	1,052	4	2,972
HUMBERSIDE	-	137	-	137
INVERNESS	-	-	111	111
ISLAY	-	-	1	1
ISLES OF SCILLY (ST.MARYS)	-	-	816	816
KIRKWALL	-	-	58	58
LANDS END (ST JUST)	-	-	883	883
LIVERPOOL (JOHN LENNON)	27	-	1	28
LUTON	1,382	202	1	1,585
MANCHESTER	468	1	211	680
NEWCASTLE	317	-	12	329
PRESTWICK	351	367	24	742
SOUTHAMPTON	11	1	7	19
SOUTHEND	-	-	-	-
STANSTED	4,159	3,314	2,588	10,061
STORNOWAY	-	-	-	-
SUMBURGH	-	-	-	-
TIREE	-	-	7	7
WICK JOHN O GROATS	-	-	-	-
OXFORD	-	-	1	1
UK REPORTING Airports	**26,046**	**7,681**	**21,170**	**54,897**

4. Analysis of consolidated monthly data from Table 5 of the CAA's UK Airport statistics for 2018

4.1 Cargo ATMs by region (England and Wales, Scotland, Northern Ireland and Islands) showing number of ATMs that are to/from a domestic airport, an EU airport or other International airport.

Region	EU	International	Domestic	Total
Mainland England & Wales	23,536	6,801	11,247	41,584
Mainland Scotland	1,842	869	5,468	8,179
Northern Ireland	668	11	2,689	3,368
Islands	-	-	1,766	1,766
	26,046	7,681	21,170	54,897

4.2 Cargo ATMs by Mainland England airports showing number of ATMs that are to/from a domestic airport, an EU airport or other International airport;

Mainland England Airports: Total Cargo ATMs				
Airport	EU	International	Domestic	Total
East Midlands	13,304	1,978	7,123	22,405
Stansted	4,159	3,314	2,588	10,061
LHR	1,916	1,052	4	2,972
Brimingham	1,908	10	806	2,724
Luton	1,382	202	1	1,585
Manchester	468	1	211	680
Exeter	-	-	492	492
Newcastle	317	-	12	329
Doncaster	41	106	-	147
Other	41	138	10	189
	23,536	6,801	11,247	41,584

4.3 Estimate of Daytime Cargo ATMs by Mainland England airports showing number of ATMs that are to/from a domestic airport, an EU airport or other International airport.

Mainland England Airports: Estimated Daytime Non-Domestic Cargo ATMs				
Airport	EU	International		Total
East Midlands	5,721	851		6,571
Stansted	2,637	2,101		4,738
LHR	1,916	1,052		2,968
Brimingham	1,908	10		1,918
Luton	1,382	202		1,584
Manchester	468	1		469
Exeter	-	-		-
Newcastle	317	-		317
Doncaster	41	106		147
Other	41	138		179
	14,431	4,461		18,891

The estimate above is based on adjusting the ATMs at East Midlands and Stansted airports to remove estimated night flights. SHP reviewed flight data for one month (March 2018) for each of East Midlands and Stansted airports. This provided granular details of the flight movements, flight operators and times of arrivals and departures. When the analysis of the March 2018 is extrapolated for a full year to December 2018, it demonstrates the following;

1. c.57% (8,711) of non-domestic cargo ATMs at East Midlands airport are estimated to be night flights;
2. c.37% (2,735) of non-domestic cargo ATMs at Stansted airport are estimated to be night flights.
3. the combined estimate of non-domestic night flights at East Midlands and Stansted airports is 11,446 ATMs;
4. Therefore, even assuming that there are no night flights at any other airports, there were estimated to be only 18,891 daytime non-domestic cargo ATMs in England and Wales in 2018.

Agenda item

Motion for Time Limited Debate

- Meeting of County Council, Thursday, 16th July, 2015 10.00 am (Item 24.) (ieListDocuments.aspx?CId=113&MID=5816#AI31234)

Manston

Proposed by Mr R Latchford, OBE and seconded by Mr M Heale

"In the light of the progress and determination of Government in support of Manston, it is imperative that this council show absolute support to both reinstate and operate Manston as an Airport, not only to regenerate East Kent but to provide the extra capacity required by the aviation industry not withstanding any extra capacity for an expansion of Gatwick.

The current opportunity clearly demonstrates that no subsidy is required from KCC and it is important that KCC reflect the aspirations and the will of the people we represent.

We the elected members of KCC wish it to be known that we fully support the restitution of Manston as a Regional/International Airport in line with Government Policy."

Minutes:

(1) Mr Latchford moved and Mrs Wiltshire seconded the following motion:

"In the light of the progress and determination of Government in support of Manston, it is imperative that this council show absolute support to both reinstate and operate Manston as an Airport, not only to regenerate East Kent but to provide the extra capacity required by the aviation industry not withstanding any extra capacity for an expansion of Gatwick.

The current opportunity clearly demonstrates that no subsidy is required from KCC and it is important that KCC reflect the aspirations and the will of the people we represent.

We the elected members of KCC wish it to be known that we fully support the restitution of Manston as a Regional/International Airport in line with Government Policy."

Mr Dance moved and Mr Holden seconded the following amendment :

"Delete *"In the light of"* in the first paragraph to *"people we represent"* in the second paragraph.
Delete "*restitution of Manston as a Regional/International Airport in line with Government Policy*" in the third paragraph and replace with: "*continued regeneration of Manston and East Kent and will keep an open mind on whether that should be a business park or an airport, depending upon the viability of such plans and their ability to deliver significant economic growth and job opportunity.*"

Therefore the amendment proposed read as follows:

"We the elected members of KCC wish it to be known that we fully support the continued regeneration of Manston and East Kent and will keep an open mind on whether that should be a business park or an airport, depending upon the viability of such plans and their ability to deliver significant economic growth and job opportunity."

(3) Following a debate on the amendment as set out in paragraph (2) above, the Chairman put the amendment to the vote and the voting was as follows:

For (64)

Mrs A Allen, Mr M Angell, Mr M Balfour, Mr A Bowles, Mr D Brazier, Mrs P Brivio, Mr R Brookbank, Mr C Caller, Miss S Carey, Mr P Carter, Mr N Chard, Mr I Chittenden, Mrs P Cole, Mr G Cooke, Mr G Cowan, Mrs M Crabtree, Ms J Cribbon, Mr A Crowther, Mrs V Dagger, Mr D Daley, Mr M Dance, Mr J Davies, Mrs T Dean, Dr M Eddy, Mr J Elenor, Mrs M Elenor, Mr T Gates, Mr G Gibbens, Mr R Gough, Ms A Harrison, Mr M Harrison, Mr M Hill, Mrs S Hohler, Mr S Holden, Mr P Homewood, Mr E Hotson, Ms S Howes, Mr A King, Mr J Kite, Mr G Koowaree, Mr R Long, Mr G Lymer, Mr T Maddison, Mr S Manion, Mr A Marsh, Mr M Northey, Mr P Oakford, Mr J Ozog, Mr L Ridings, Mr W Scobie, Mr C

Simkins, Mr J Simmonds, Mr C Smith, Mr D Smyth, Mrs P Stockell, Mr B Sweetland, Mr N Thandi, Mr R Truelove, Mr M Vye, Mrs C Waters, Mr J Wedgbury, Mrs J Whittle, Mr A Wickham, Mrs Z Wiltshire

Against (7)

Mr M Baldock, Mr N Bond, Mr L Burgess, Mr B Neaves, Mr T Shonk, Mr A Terry, Mr M Whybrow,

Abstain (0)

Amendment carried

(4) Following a debate, the Chairman put the following substantive motion to the vote:

"We the elected members of KCC wish it to be known that we fully support the continued regeneration of Manston and East Kent and will keep an open mind on whether that should be a business park or an airport, depending upon the viability of such plans and their ability to deliver significant economic growth and job opportunity."

The voting on the substantive motion was as follows:

For (60)

Mrs A Allen, Mr M Angell, Mr M Balfour, Mr A Bowles, Mr D Brazier, Mrs P Brivio, Mr R Brookbank, Mr C Caller, Miss S Carey, Mr P Carter, Mr N Chard, Mr I Chittenden, Mrs P Cole, Mr G Cooke, Mr G Cowan, Mrs M Crabtree, Ms J Cribbon, Mrs V Dagger, Mr D Daley, Mr M Dance, Mr J Davies, Mrs T Dean, Dr M Eddy, Mr T Gates, Mr G Gibbens, Mr R Gough, Ms A Harrison, Mr M Harrison, Mr M Hill, Mrs S Hohler, Mr S Holden, Mr P Homewood, Mr E Hotson, Ms S Howes, Mr A King, Mr J Kite, Mr G Koowaree, Mr R Long, Mr G Lymer, Mr T Maddison, Mr S Manion, Mr A Marsh, Mr M Northey, Mr P Oakford, Mr J Ozog, Mr L Ridings, Mr W Scobie, Mr C Simkins, Mr J Simmonds, Mr C Smith, Mr D Smyth, Mrs P Stockell, Mr B Sweetland, Mr N Thandi, Mr R Truelove, Mr M Vye, Mrs C Waters, Mr J Wedgbury, Mrs J Whittle, Mr A Wickham.

Against (13)

Mr M Baldock, Mr H Birkby, Mr N Bond, Mr L Burgess, Mr A Crowther, Mr J Elenor, Mrs M Elenor, Mr R Latchford, Mr B Neaves, Mr T Shonk, Mr A Terry, Mr M Whybrow, Mrs Z Wiltshire.

Abstain (0)

Substantive motion carried

(6) RESOLVED that we the elected members of KCC wish it to be known that we fully support the continued regeneration of Manston and East Kent and will keep an open mind on whether that should be a business park or an airport, depending upon the viability of such plans and their ability to deliver significant economic growth and job opportunity.

March 2015

Manston Airport under private ownership:

The story to date and the future prospects

Position statement

Published by Kent County Council

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Introduction

For decades Kent County Council has made great efforts to develop aviation at Manston Airport.

Manston, with its proud history as a front-line Battle of Britain aerodrome, has long been a symbol of Kent's determination in the face of adversity.

But our desire to stimulate and grow Manston was not the result merely of nostalgia or sentimentality.

For decades we have been aware of the commercial potential of Manston's long, 2,700 metre runway. For decades we have championed Manston's proximity to London. For decades we have argued that Manston was a sleeping giant: a regional and national asset.

Our 2012 policy document 'Bold Steps for Aviation' made all this clear and promoted the development of Manston to the the Government as an alternative to building a controversial new runway in the Thames Estuary.

Our support for Manston has not merely consisted of kind words and encouragement. We have invested substantial sums of public money.

We have made substantial investments in both road and rail infrastructure to improve access to Manston and East Kent.

Our record in supporting Manston is plain to see and we are proud of it.

It was disappointing and regrettable to learn that all our hard work and investment, and the hard work of the various companies that had tried to make flying profitable at Manston, had failed.

Manston's story began in 1915 when it was a small grass airfield operated by the Admiralty. Now a new chapter is about to begin that will bring new jobs and new prosperity to East Kent. It will be our duty to encourage, guide and nurture to help ensure this happens.

This document sets out the story of Manston Airport over the last 16 years, from its sale by the Ministry of Defence to the present day. We also consider the future, which we are confident will be bright.

Hansard 28th April 2014

Robert Goodwill, Parliamentary Undersecretary of State at the Department of Transport

'Whatever the result of efforts to secure such a resolution (on Manston), the government are unable to intervene directly, as we believe that UK airports and airlines operate best in a competitve and commercial environment. It is therefore for individual airports to take decisions on matters of future economic viability'.

Chapter one

The last 16 years of private ownership

Since the Ministry of Defence sold RAF Manston in 1998, the airport has never made a profit and has never delivered on its promise of jobs for the area. When the airport closed on 15th May 2014 144 people were employed there.

Since 1998 three companies have tried and failed to run Manston as a viable business. The Wiggins Group, with its start-up low cost carrier EUJet, launched scheduled flights to twenty one destinations in Europe in 2004 but collapsed into administration in the summer of 2005 leaving 5,400 passengers stranded. Its fleet of five 108-seat Fokker 100 jets were repossessed by Debis Air Finance.

Infratil Limited, which bought Manston from the administrators in 2005, lost between £40 - £50 million over the next nine years attempting to achieve passenger numbers of over a million per annum. The highest number of passengers was 50,000. Similarly its ambitious plan to grow freight traffic failed.

Lothian Shelf (417) Limited, a company owned by Mrs Ann Gloag, bought Manston for £1 in November 2014. In the next 4 months the airport made revenue losses of £100,000 per week plus significant capital losses.

Mrs Gloag's decision to sell the airport was based on an assessment that these losses could not be sustained. Mr Trevor Cartner and Mr Chris Musgrave acquired 80 per cent of the company in order to provide space for a wide range of businesses, with a focus on attracting companies in the manufacturing sector, as well as the provision of housing, shops, schools and community facilities.

Chapter two

The Wiggins era 1998-2005

In 1998 Wiggins Group acquired Manston Airport for £4.75 million. Its company accounts show that between 1999 and 2002 the company reported losses of £8.6 million, with a further loss of around £2 million reported over the next two years.

In January 2004 Wiggins Group renamed itself Planestation and later that year Planestation bought 30 per cent of airline company EUJet.

In September 2004 EUJet operated flights to destinations across Europe. That year Planestation's losses were £73 million and the company had to borrow £46 million at an interest rate of 28%. In December Planestation bought the remaining 78 per cent of EUJet.

In its busiest month in early 2005 the airport carried 62,709 passengers. EUJet's aim had been to handle over 750,000 passengers per annum but the company became insolvent and went into administration.

In July 2005 all EUJet operations were suspended along with all non-freight operations.

Mr Tony Freudmann had overseen Manston's transfer from an RAF base to a commercial operation. He was Senior Vice President of Wiggins Group between 1994 and 2005. He was 'let go' by Wiggins in February 2005. He is now the spokesman for the RiverOak consortium.

The Wiggins Group and Planestation failed in their ambition for Manston to become a successful international airport; but even then, more than 10 years ago, they also had ambitions for property development on the airport site, in collaboration with property developers MEPC plc.

Chapter three

INFRATIL 2005-2013

Infratil Limited is a successful company listed on the New Zealand stock exchange with the primary purpose of investing in electricity distribution, public transport and ports. The company was established in 1994 with NZ$50m of capital. At the time it acquired Manston and Prestwick airports it controlled assets worldwide in excess of NZ$ 4.4 billion.

Following Wiggins' demise, Infratil Limited bought Manston Airport from the Administrator for £17 million in August 2005.

In addition to Manston, Infratil also owned Prestwick, Flughafen Lubeck, Wellington and Auckland Airports. Its master plan for Manston (published in November 2009) envisaged building a new passenger terminal to accommodate up to 3 million passengers per annum. It also envisaged building a parallel taxi way to the runway and an increase in the freight and passenger aprons. At the time of publishing its plan the airport was handling 32,000 tonnes of freight per annum. The master plan envisaged freight growth of between 4% and 6% per annum to equate to approximately 167,000 tonnes of freight per annum by 2018. It also planned on developing corporate jet facilities with an executive terminal.

In 2009 the airport was handling fewer than 50,000 passengers per annum. Infratil forecast that by 2014 this figure would rise to 527,000, by 2015 to 1,268,000 and by 2033 to more than 4.7 million passengers per annum. In 2009 the airport employed approximately 100 people, some full time and some part time. Infratil forecast that they would be employing more than 500 staff by 2014, 2,800 by 2018 and 6,150 by 2033.

When the airport closed in May 2014 there were 144 people employed at Manston Airport.

In 2012 Infratil announced that Manston and Prestwick airports were for sale.

In each year that Infratil Limited owned Manston it incurred losses of more than £3 million per annum and wrote off the purchase price of £17 million.

> As at 31 March 2013 Infratil's investment in the UK's airports had a book value of $20m and over the year a further $12m was contributed to meet costs. Their sale price crystallised a net economic cost of $32m."
>
> ***(Infratil financial results 2013-14)***

In 2013 KLM started passenger flights to Schiphol Amsterdam. However, over its 12 months of operation its seventy eight seat Fokker planes were less than half full (42 per cent of capacity). KLM operations at Manston made no significant financial contribution to the cost of running the airport.

In November 2013 Infratil Limited sold Manston Airport and the associated liabilities to a company controlled by Mrs Ann Gloag for £1.

Chapter four

Manston Skyport Limited 2013-2014

Mrs Ann Gloag originally approached Infratil with a view to buying both Manston and Prestwick airports, which were being sold as a package. However, Infratil set a deadline for their sale in order to stem their losses. When the Scottish Government bought Prestwick for £1 Mrs Gloag agreed to buy Manston also for £1.

From the discussions that Kent County Council had had with her and her team we believed that she had every intention to maintain and grow the aviation business at Manston Airport.

She gave a press interview with the Isle of Thanet Gazette on 8 August 2014 to dispel the myths and uncertainty that had been widely propagated by campaign groups opposed to the subsequent closure of the airport.

"Can you please outline the reasons behind your decision to close the airport?"

"The prospect of new passenger and freight opportunities failed to materialise and the scale of the losses meant that there was no credible prospect of the airport becoming profitable."

"Would you have bought it if you'd known you would have to close it just months later?"

"I wanted to make it a success and I didn't buy it to close it. Our whole team worked tirelessly to secure new business for the airport but no new operators considered it a viable option. It was only when our aviation team arrived at Manston that we started to discover the scale of the problems."

"Why did you reject RiverOak's offers to buy it?"

"They were introduced to us as a potential buyer and in good faith we entered into discussions with them. However, we had serious concerns from the outset about the way RiverOak conducted their business with us. We are aware of the £7 million figure that has been made public by RiverOak. For clarification, the structure of their offer meant the final amount would have been considerably less. They also failed to provide any business plan to back up their claims of future employment or to reassure us that their bid offered commitment to maintain it as an operational airport."

Prestwick airport made a pre tax loss of £10 million in its final year of ownership under Infratil.

After buying the airport for £1 the Scottish government said it could take a number of years for taxpayers to see a return on public investment in Prestwick.

It announced a £10 million commitment towards 'operating costs, repairs backlog and improvements to the terminal building.'

Prestwick is continuing to lose £1 million a month.

Chapter five

Support given to Manston by Kent County Council over the past 16 years

Kent County Council's support of Manston as an airport over the last 16 years has been unwavering.

Transport infrastructure

Kent County Council has made or enabled substantial transport and infrastructure investment for the benefit of Manston and the surrounding area.

In 1997 Columbus Avenue was constructed on the north side of the airport at a cost of £1.52 million. These infrastructure works were funded through the European Regional Development Fund and the Single Regeneration Budget.

In 1998 Kent County Council completed the A299 Thanet Way extension of the M2 through to Ramsgate.

In 2000 Kent County Council completed the Ramsgate Harbour Approach Road and in 2009 the Euro Kent link road.

The A256 dualling was completed in 2012 and £87 million was invested in the East Kent Access Road in 2013.

Kent County Council is in the planning stage of the £6.7 million Westwood relief scheme to help growing businesses at Westwood and Manston.

Network Rail has just announced the commencement of its £11 million scheme to reduce journey time between Ramsgate and Canterbury; Kent County Council is contributing £4.5 million to the cost of this upgrade. Kent County Council has also committed £12 million to a new Thanet Parkway Station near Manston.

Business premises;

In Spring 2006 Kent County Council acquired the undeveloped area of Manston Business Park, amounting to some 40 acres of developable land, from the Administrator of Planestation plc for £5.35 million.

Manston Business Park and the EuroKent sites subsequently became the key holdings of a joint venture between Kent County Council and Thanet District Council.

By 2015 Manston Business Park has seen the development of industrial units which will be occupied by start-up and small developing businesses.

Support for aviation

In its discussion document Bold Steps for Aviation (May 2012) Kent County Council supported the increased use of Manston Airport and stressed its potential to make a significant contribution to aviation in the UK.

"In Kent, Manston has the potential to make a significant contribution [to the UK's aviation capacity], providing excellent communications to European destinations and reduced flight times.

In addition:

- Over the years Manston has received more than £1million in financial assistance from Kent County Council. When EUJet commenced its flights in 2004 Kent County Council bought a 1.5% shareholding in EUJet Ops Limited.
- In 2007 Kent County Council provided financial assistance to enable the start of charter flights from Manston to Virginia USA, although these flights were discontinued shortly thereafter.
- Between May 2004 and May 2005 when EUJet Ops Limited was acquired by Planestation Limited, Kent County Council acquired options to buy further shares. Planestation Limited was however put into liquidation and the council's investment had no further value.
- When KLM expressed an interest in starting scheduled flights to Amsterdam, Kent County Council provided £100,000 to Visit Kent, the tourist agency which provided marketing and tourism support.

Support offered to investors at the airport

In March 2013, when Infratil were seeking aviation buyers for the airport, Kent County Council distributed a note offering to help new investment at Manston Airport through:

- Financial assistance from the Regional Growth Fund
- Use of land owned by Kent County Council adjacent to the airport
- Expediting the new Thanet Parkway station
- A Route Development Fund to increase the number of passengers
- Working with airlines and train operating companies to achieve integrated ticketing
- Discussing with Ministers to seek assistance from Government. Kent County Council's offer to any investor with a viable business plan remains open, although to date we have received no take up.

Helping to find a new airport operator

Kent County Council met PWC, the agents selling the airport, with a view to helping find a viable new owner/operator. Over 18 months discussions were held with thirty interested parties including low cost airline operators and private investors, many were introduced to PWC by Kent County Council.

In the event, two of the shareholders of Discovery Park Limited made an approach to Mrs Ann Gloag which subsequently led to their purchase of the airport.

Chapter six

What do we know about RiverOak and its proposal for a compulsory purchase order?

RiverOak was introduced to Kent County Council by Mr Tony Freudmann. Subsequently the Leader of Kent County Council invited representatives of RiverOak to meet to discuss their plans for the airport. RiverOak declined, saying that their plans were confidential. The invitation to present their business plan to the council has been repeated on several occasions: RiverOak has always declined to do so.

RiverOak Investment Corp LLC was established in January 2001 in Delaware USA to manage *'niche focussed real estate investments for institutional entities that are strategically driven, including private and public pension funds.'*

Its CEO is Mr Stephen DeNardo.

The RiverOak website states *'within a time frame that spans nearly 4 decades of business experience, Steve DeNardo has successfully been involved in all phases of real estate investment, development and management. His focus and interest has been on the management and turnaround of troubled assets.'*

RiverOak's Chief Investment Officer is Mr George Yerrall. The website says: *'He is in charge of sourcing and analysis of investment opportunities and the execution of investment and asset management strategies.'*

In its statement to the UK Airports Commission (The Davies Commission) RiverOak described its strategy for Manston as handling 250,000 tonnes of cargo per annum by 2030, 500,000 tonnes of cargo per annum by 2040 and 750,000 tonnes by 2050. It also described its long term strategy to include 'aircraft maintenance, repair and teardown operations.'

RiverOak also stated that by summer 2017 at the earliest they would plan to re-open passenger services *'if appropriate contracts can be agreed with suitable carriers.'* They would also re-establish Manston as a key diversion airport, capable of providing emergency resilience to the wider South East airport system.

In an interview on 12 May 2014 with Paul Francis of the KM Group Mr DeNardo was asked *'How did RiverOak become involved in the bid to buy the site from Mrs Gloag?'*

Mr De Nardo replied; *'We have been active in searching for opportunistic transactions in both the UK and Ireland, We have an extensive network of contacts in both and one of our contacts made us aware of the Manston situation.'*

He was also asked *'How did you team up with Annax Aviation whose Chief Executive Tony Freudmann has become spokesman for your bid?'*

Mr DeNardo replied: *'Our contacts put us in direct discussion with Tony Freudmann who we knew had both operational experience at the airport and had made an attempt to purchase the airport.'*

Following Mrs Gloag's refusal to accept an offer from RiverOak to buy Manston Airport, RiverOak then approached Thanet District Council with a view to the council making a Compulsory Purchase Order of the airport in favour of RiverOak. Thanet District Council concluded that a decision on a CPO could not be made until:

- Thanet District Council had commissioned an independent feasibility study on the future viability of a going concern operational airport.
- Any prospective airport owner/operator submit a viable business plan and also enter into an indemnity agreement that would cover any exposure to all costs placed upon Thanet District Council.

Thanet District Council commissioned Falcon Aviation whose report was considered by the Council's cabinet on 31st July 2014. The report identified *'no business plan with a credible investment plan of less than 20 years is likely to provide the commitment necessary to rebuild confidence. From an investor's standpoint, the payback period might be as long as 50 years. The level of investment would have to be significant (£100m's) and there are never any guarantees of success.'*

Throughout Thanet District Council's consideration of a CPO it has been advised by its Section 151 Officer that it appears evident that the airport will not be successful if it reopens and attempts to operate in the same configuration as it has done previously up to its closure.

The advice to Thanet District Council's cabinet was that invitations should be issued to parties willing to enter into an indemnity agreement capable of delivering the twenty year business plan.

During the course of Thanet District Council's processes, on 17 July 2014, Kent County Council unanimously adopted the following motion;

"Kent County Council supports the actions taken so far by Thanet District Council to retain Manston as a regional airport. We recognise the value that a regional airport brings to East Kent and are disappointed at its closure. Kent County Council will explore with Thanet District Council ways in which it can support proposals to retain Manston as an airport." The original Motion proposed by Mr Cowan (Dover Town, LAB) and Mr Truelove (Swale Central, LAB) was replaced by the above, proposed by Mark Dance (Whitstable, CON).

In supporting the amended motion the Leader of Kent County Council said "Thanet District Council's approach is now such that they are going to carry out and have already commissioned, an independent study as to the viability of running the airport as a going concern or not. Nobody knows the conclusion to that, as I said on the radio this morning, after 16, 17, 18 years of Manston, everybody has just lost money. So what is the market telling you? And it will be interesting to see what the independent viability report concludes. And Thanet District Council are absolutely right in doing that. If it does suggest there is viability they will then ask for expressions of interest from people to come forward who have the ambition to do exciting things at Manston in running it as an airport, or not. And if there are some exciting propositions, or if we had an owner that is reluctant to do anything exciting, which again we don't know, we will then make the decision as to whether or not to support the CPO process. And it is premature to have that decision now, which is why we can't support your original motion which was asking for an open ended commitment to support Thanet and their CPO, no matter what. I want to see, and hope, that there are exciting propositions that come forward, with good people, that have got the money to do exciting things. And we will have to wait and see as to whether that's the case, and then we will review our position."

In an endeavour to support Thanet District Council, on 1st September Kent County Council's Director of Governance and Law wrote to Thanet District Council's' Monitoring Officer to remind them of our offer to assist the council. The Monitoring Officer replied: ' We need to do the evaluation of any Expressions of Interest first before we can begin to assess what legal support might be needed moving forward and whether any of that support would need to be commissioned from Kent County Council. We are not in a position to make any decisions until we have the result of this, but I will be more than happy to consider making such an approach at the appropriate time.'

Kent County Council has never been approached by Thanet District Council for the help offered.

Unsuprisingly, **as a result of this**, on 11 December 2014 Thanet District Council recieved a cabinet report detailing the outcome of its excercise to seek an indemnity partner for the compulsory purchase of the airport and a comprehensive and viable business plan. The following was decided:

'That no further action be taken at the present time on a CPO of Manston Airport on the basis that the council has not identified any suitable expressions of interest that fulfil the requirements of the council for a CPO indemnity partner and that it does not have the financial resources to pursue a CPO in its own right.'

The conclusions made by the council's Section151 Officer were that *'The information provided does not provide assurances which would satisfy him that a valid expression has been put forward and he is therefore unable to recommend moving ahead with this proposal. Although the issues here are emotive Members should excercise extreme caution before seeking to move forward with any proposal which is at odds with advice from its officers, particularly where there are likely to be* ***significant risks*** *which would affect the council at a fundamental level.'*

As the Falcon report, Thanet District Council's feasibility study and the advice from the council's 151 Officer show, the financial risks of a compulsory purchase of the airport were unacceptable.

Chapter seven

What do we know about Discovery Park Limited and its directors?

The new owners of Manston, Chris Musgrave and Trevor Cartner, have a strong track record in taking over large difficult sites following the demise of earlier uses and regenerating them to create jobs and bring economic benefits to the wider area.

Ten years ago they acquired Wynyard Park in Billingham after Samsung had announced that it was closing its operations there. They have now created 2000 jobs and have attracted £200million of private investment at Wynyard Park.

Seven years ago they invested in the advanced manufacturing manufacturing park (a joint venture betweeen the University of Sheffield, Boeing, British Aerospace and Rolls Royce) to build seventeen units for local small and medium size enterprises associated with aerospace research and other advanced manufacturing on the site of the former Orgreave colliery. In 2013, when the site was fully occupied, they sold their investment.

In 2012 they acquired Discovery Park from Pfizer after Pfizer had announced that they were closing down all their operations there and were planning to demolish the buildings at the site. When Pfizer made this announcement they employed 2,200 staff all of whom were subject to redundancy notice. By March 2015 700 of the Pfizer jobs have been retained and a further 1,700 jobs have been created by more than 100 new tenants on the site. Currently total job numbers are in excess of 2,400 and Discovery Park is on track to deliver more than 3,000 new jobs.

Trevor Carter and Chris Musgrave plan to transform the 800-acre site at Manston with a £1 billion redevelopment, over a 20-year period, into a mixed-use scheme helping to create more than 4,000 jobs. They will be announcing more details over the next few weeks.

Conclusions

The truth is that Manston has failed over a prolonged period of time to run as a commercially successful airport.

Kent County Council gave strong support to various investors but the reality of commercial aviation at Manston Airport led to very significant losses. In fact, in the 16 years since it was taken into privately ownership it has incurred losses by those who have tried to operate it in excess of £100 million.

The objective now must therefore be to make sure that we have owners who want to do exciting things on the site and that the land is not left abandoned.

Bristow Group had chosen Manston as its location for the regional search and rescue base; when the airport closed the company decided to locate that base at Lydd. Kent County Council is pleased that this vital service will still be located in Kent. Lydd Airport is also starting a substantial investment programme to extend its runway and construct new aviation facilities.

Surely it is now time to look at a B Plan for Manston.

The driver must be to seize the best opportunity to create a significant number of new jobs and bring prosperity into East Kent.

RiverOak has not managed to convince Thanet District Council that there is a viable business plan. We believe the new owners have got a credible plan and the financial ability to create substantial numbers of new jobs which will bring prosperity and economic growth to East Kent.

Paul Carter, Leader of Kent County Council:

"I would like to make it abundantly clear that in my 10 years as Leader of Kent County Council I have done everything in my power to help and support the economy of East Kent. I believe that this document demonstrates and evidences exactly that."

Myth busting questions and answers

1. ***What is Kent County Council's stance on Manston Airport? At first you supported a CPO process but now you are supporting a business park – is this not inconsistent?***

Promoting job creation, supporting business growth and generating economic prosperity for the residents of East Kent is - and always has been - Kent County Council's primary objective. Kent County Council (KCC) has never deviated from this.

The closure of Manston Airport was met with deep disappointment at County Hall. Any viable proposal from an aviation company with sufficient financial backing to run Manston as an airport would have been strongly supported by Kent County Council as our debate at the July council meeting made clear. No viable proposal was presented to Kent County Council or TDC.

The sale of Manston to the Discovery Park Team Musgrave and Cartner in September offers substantial private sector investment to support job creation and economic growth for Thanet. Cartner and Musgrave have a strong track-record at Discovery Park with 1,700 new jobs since 2012.

2. ***How can you say no viable proposal came forward? Didn't RiverOak say they would pay the full asking price?***

Kent County Council asked RiverOak if we could see their business plan. RiverOak has consistently refused to let us see any details on the grounds they are commercially confidential. TDC took a decision that the information supplied by RiverOak to it was insufficient to support a Compulsory Purchase Order.[1] We have therefore concluded that RiverOak's plan is not viable. Representatives of Mrs Ann Gloag explained to the Transport Select Committee why Mrs Gloag refused to accept the offer from RiverOak.[2]

[1] **http://democracy.thanet.gov.uk/documents/b10075/Supplementary%20Agenda%202%2031st-Jul-2014%2019.00%20Cabinet.pdf?T=9**

[2] **http://parliamentlive.tv/Event/Index/d4330491-c83e-4204-a339-28a011b42071**

3. ***Did you promote Manston to the best of your abilities to attract a new investor when the closure was announced? Is it not true that Manston has unique infrastructure with the longest runway in England and superb transport links?***

Kent County Council has taken every opportunity to support and promote the use of regional airports such as Manston. The authority's discussion document Bold Steps for Aviation, written in 2012, makes our position abundantly clear, showing Kent County Council has lobbied central Government to prioritise Manston above other proposals, such as the establishment of a Thames Estuary Airport.

Our support for Manston is evidenced by our substantial investment in transport infrastructure making Manston more accessible to a greater potential customer base, including investing in the East Kent Access Road, a new railway station, and improving the rail infrastructure. The Regional Growth Fund has been made available to companies with plans to increase employment.

Since the Minister of Defence privatised the airport there have been three private owners of Manston Airport: Wiggins, Infratil, and Ann Gloag. Despite ambitious plans to increase passenger numbers and freight operations, each of these has sustained significant financial losses totalling over £100 million.

When Manston Airport was put up for sale, Kent County Council introduced PWC (the marketing agents for Infratil) to 30 potential buyers from around the world (including RyanAir) none of whom in the event decided that they could make the airport profitable.

Myth busting questions and answers

4. *What offers of support were made by Kent County Council to Thanet District Council to assist them with their CPO process?*

We very much supported Thanet District Council in the potential for a CPO subject to the outcome of their independent feasibility study and submissions by indemnity partners.

At the Leader's request, Kent County Council's Director of Governance and Law offered to help Thanet District Council in the CPO process. TDC responded in writing saying *"We need to do the evaluation of any Expressions of Interest first before we can begin to assess what legal support might be needed moving forward and whether any of that support would need to be commissioned from KCC. We are not in a position to make any decisions until we have the result of this, but I will be more than happy to consider making such an approach at the appropriate time."*

The offer of support was repeated several times by the Leader at different meetings with Iris Johnston.

5. *Who now owns Manston? Is it Mr Cartner, Mr Musgrave, Ann Gloag?*

The company that owns Manston Airport has three shareholders; Mr Cartner (40%), Mr Musgrave (40%), and Mrs Gloag (20%). This information has been provided to the Select Committee by solicitors acting for Mr Cartner and Mr Musgrave.

6. *How could the Leader of Kent County Council support Mr Cartner and Mr Musgraves' purchase of the site? I have heard Wynyard Park is in debt and promised to supply thousands of jobs and only a proportion have been realised.*

Information provided to Kent County Council shows that Wynyard Park is currently debt free. Under Mr Cartner and Mr Musgraves' ownership, Wynyard Park has created more than 2000 jobs and attracted £200million of private investment. Publications which have asserted that this is incorrect have been served with a letter from a firm of solicitors specialising in libel.

(NOTE: It is quite normal for development companies to carry debt/bank borrowings on their balance sheet. The key is sensible debt to value ratios).

7. *How can you be excited by the new proposition by Cartner and Musgrave if you have seen no plans? What are the plans?*

The new owners issued a press release when they acquired Manston Airport outlining their intention to create more than 4,000 jobs and a £1 billion redevelopment. They will be announcing more details in the next few weeks.

At the time when Mr Cartner and Mr Musgrave outlined these plans to the Leader of Kent County Council, the planning consultants had not yet completed the master plan so no document was handed over. However, a fairly detailed description of what was envisaged was discussed. The plans include a new sports centre and the financial backing of the Spitfire museum, as well as plans to bring advanced manufacturing to the site.

8. *How can Kent County Council ignore its democratic mandate? Haven't you seen the petitions showing that the people of Thanet want an airport?*

The Save Manston Campaign was invited to County Hall to present its petition. However when representatives of the group arrived they had not brought it with them. All letters and emails from objectors have received replies. We have also received letters of support re the closure.

9. *When have you met Ann Gloag or her colleagues and what was the purpose of each meeting? Are the minutes available? Was a change of use discussed?*

Elected members and officers of the council met Ann Gloag and her company representatives on a number of occasions before and after she bought the airport. The purpose of the meetings was to establish what were her intentions for bringing jobs and new investment to Kent and to sustain a viable airport.

Myth busting questions and answers

At a meeting on 14 March 2014 when we were expecting an update on progress, much to our suprise we were told confidentially that given the scale of losses it had been decided to notify staff the following week that a redundancy process was necessary.

Subsequently a meeting was held on 3 July 2014 to discuss with Ann Gloag what she intended, and she explained she was discussing a possible sale but that the details were commercially confidential.

10. Why have you appeared to support Ann Gloag when she obviously bought the site to turn it into a housing development and never intended to operate an airport? Have you a vested interest? Did you not say you wanted a housing development last year?

Mrs Gloag told us that it was her intention to run Manston Airport as a commercial venture and that was why she hired aviation specialists to put in place a strong business plan for aviation and support the implementation. She also retained the previous Managing Director of Manston, Mr Charles Buchanan. She told us subsequently that it was only when she was advised that the airport could not be made viable, and that the losses of £100 thousand per week could not be sustained, that she decided that the airport must be closed.

During our discussions, a change of use of the airport was not discussed although we did touch on alternative uses for parts of the airport site such as aviation hangar space, servicing and maintenance. The Leader of the Council has no private business interests in the Manston site and will not benefit personally from any proposal relating to the development.

11. Thanet does not need more business parks. Existing local business parks are struggling to attract businesses and are over 50% empty.

When Pfizer announced closure of its R&D facility at Sandwich it was a common view that all the buildings would need to be demolished and the site could not be redeveloped.

Mr Cartner and Mr Musgrave have successfully applied for planning approval for a multi-use development to include commercial, retail and housing: the site is currently over 50% reoccupied by commercial users and there are now 2,400 jobs. It was their success with Discovery Park that persuaded them of the potential at Manston, and they already have a number of substantial potential tenants.

HM Land Registry

Official copy of register of title

Title number K803975

Edition date 28.02.2019

This official copy shows the entries on the register of title on 20 Mar 2019 at 10:05:00.

This date must be quoted as the "search from date" in any official search application based on this copy.

The date at the beginning of an entry is the date on which the entry was made in the register.

Issued on 20 Mar 2019.

Under s.67 of the Land Registration Act 2002, this copy is admissible in evidence to the same extent as the original.

This title is dealt with by HM Land Registry Nottingham Office.

A: Property Register

This register describes the land and estate comprised in the title.

KENT : THANET

1 The Freehold land shown edged with red on the plan of the above Title filed at the Registry and being London Manston Airport, Manston Road, Manston, Ramsgate.

NOTE 1: The land coloured green on the title plan is not included in the title.

¬NOTE 2: As to the part edged and lettered A in red on the title plan, so much of the land lying above the subsoil as consists of highway maintainable at the public expense is excluded from the registration.

2 (21.05.1991) As to the land edged and numbered 64 in blue on the title plan there are excluded from this registration the mines and minerals excepted by the Conveyance dated 31 March 1924 referred to in the Charges Register in the following terms and the land is subject to the following rights reserved thereby:-

"Excepting and reserving to the Vendor in fee simple out of the Conveyance hereby made all mines and minerals of every description below a depth of Two hundred feet from the present surface of the land hereby conveyed with liberty to the Vendor his heirs and assigns and all persons authorised by him or them to win work and carry away the same but so nevertheless that the Vendor his heirs and assigns shall not enter upon the surface of the said land for the purpose of working the said mines or minerals which shall be worked or gotten by means of underground workings only and PROVIDED always that the Vendor his heirs or assigns shall pay to the President his successors or assigns adequate compensation for any damage or injury to the surface or to any buildings on the surface of the said land occasioned by the working of the said mines or minerals the amount of such compensation and all other matters in difference which may arise between the parties in connection with the said excepted mines or minerals to be settled by an Arbitrator under and subject to the provisions of the Arbitration Act 1889"

3 A Memorandum dated 23 February 1926 made by The President of The Air Council and endorsed on the Conveyance dated 31 March 1924 referred to in the Charges Register contains the following provisions and the registration of the land edged and numbered 64 in blue on the filed

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS PUT AT THE COMPULSORY ACQUISITION HEARING HELD ON 20 MARCH 2019

1. **BACKGROUND**

1.1 The Compulsory Acquisition Hearing ("CA Hearing") was held at 10:00am on 20 March 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2 The CA Hearing took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") on 11 March 2019 (the "Agenda").

1.3 The format of this summary follows that of the Agenda and only refers to parts of the Agenda where Stone Hill Park Limited ("SHP") made substantive comments.

1.4 Present from SHP were James Strachan QC (Counsel for SHP), John Rhodes (Quod Planning), Richard Griffiths (partner at Pinsent Masons LLP), Louise Congdon (York Aviation), Seamus Kealey (Altitude Aviation), Iain Mackintosh (for SHP) and Jamie Macnamara (for SHP).

2. **MANAGEMENT OF HEARING**

2.1 Following correspondence from Quod on behalf of SHP in the form of letters dated 15 January and 4 February, emails were received from the Case Management team on 8 February and 13 February confirming that the Examining Authority had considered Quod's request that SHP would be allowed to cross examine RSP at both the Compulsory Acquisition and the Need and Operations Hearings and consented to that request.

2.2 SHP instructed Queens Counsel and prepared for the hearings on that basis.

2.3 SHP was particularly concerned, therefore, when the Examining Authority ruled on each day that cross examination would be limited to 15 minutes.

2.4 Requests for oral questioning, of course, are considered against the tests in Section 94 of the Planning Act 2008 which provides that, whilst it is the normal practice for questioning to be undertaken by the Examining Authority oral questioning by another person may be allowed where the Examining Authority thinks that it is necessary in order to ensure:

a. adequate testing of any representations; or

b. so that a person has a fair chance to put the person's case

2.5 It is difficult to understand how these specific tests can be met when cross examination is limited to only 15 minutes in each case. It is not consistent for the Examining Authority to grant the right to questioning on the basis that the important statutory tests are met but then rule that questioning must be so restricted. On neither occasion was there a sufficient allowance for SHP to either test the representations of the Applicant or to have a fair chance to put its case to the Examination.

2.6 A more detailed note is attached at Appendix 2.1 setting out SHP's concerns in detail. Those concerns are heightened, of course, by the particular significance to SHP of the DCO application and by the fact that even the very limited questioning allowed elicited significant information of particular importance and relevance to the examination.

2.7 The restricted time for oral questioning was not necessary. The questioning had been prepared by leading counsel and was demonstrably efficient. On each day the Examining Authority announced its intention to finish the day by 5pm or 5.30pm at the latest and, indeed, the Hearing on 21 March in relation to Need and Operations concluded before 5pm.

2.8 SHP does not consider that it was given a fair chance to test the Applicant's representations or to fairly put its case.

3. AGENDA ITEM 4 - DOCUMENTATION

3.1 SHP has made very clear its view that RSP's application should not have been accepted and is not fit for purpose. These concerns were particularly relevant to the hearings in relation to Compulsory Acquisition and Need (which, as the Examining Authority stated, was also directly relevant to Compulsory Acquisition). In particular:

3.1.1 the Applicant is under an obligation to produce a Statement explaining how its proposals will be funded[1]. The Statement is required to provide as much information as possible about the resource implications of both acquiring the land and implementing the project for which the land is required.

For all the reasons explored at the CA Hearing, RSP's Funding Statement [APP-013] fundamentally fails this requirement. Indeed, the Examining Authority made it clear that it attached no weight to the Funding Statement and has requested that a full and proper Funding Statement is provided to the examination by Deadline 5. Serious concerns for the adequacy of the Funding Statement have been apparent throughout the pre-application and application process and were set out starkly in the Planning Inspectorate's Section 51 advice.

3.1.2 RSP provided an Updated NSIP Justification [REP1-006] for Deadline 1 in the light of the criticisms made of the submitted NSIP justification. The updated submission commits RSP (at Appendix 4, paragraph 18) that it will provide to the Examining Authority further justification for the type of airport – related development proposed as part of the application. That

[1] Guidance related to procedures for the compulsory acquisition of land, September 2013, paragraph 17

information was promised for Deadline 3 but not provided. Neither did the Applicant meet its commitment to the Examining Authority made at the DDCO ISH on 10 January 2019 to provide a full explanation and justification of the works that comprise NSIP development and associated development (see SHP's written summary of oral submissions to the dDCO ISH on 10 January [REP1-023]).

3.1.3 At the Examination Hearing, witnesses on behalf of RSP attempted to provide some oral justification for the extent of facilities proposed on the Northern Grass but:

- that justification was subject to a series of inconsistencies and lack of any clarity; and
- an unstructured, oral justification of this nature fails completely the standard expected of an application which seeks to justify the compulsory acquisition of land on such a substantial scale.

3.1.4 SHP's concerns about the applicability and extent of facilities of the allegedly Associated Development proposed in the application are set out in detail in Appendix 1 of its Written Representations [REP3-025] and further set out in Appendix CA.15.1 to this summary note.

3.1.5 The Applicant undertook to respond positively to the request from SHP and from the Examining Authority to provide comprehensive details of its proposed Associated Development, its justification for each component of the floorspace, the floorspace of each element and its compliance or otherwise with Guidance relating to Associated Development. Clarity was also promised as to whether the uses proposed were landside or airside and an explanation is apparently to be provided as to why those facilities cannot be located elsewhere and why there is said to be a compelling need in the public interest for their development as proposed in the application.

3.2 SHP's concerns for these issues are well known to the Examining Authority. The purpose of listing them again here, however, is to draw attention to the procedural unfairness of the Examination. Under Section 92, SHP (as a fundamentally "affected person") has particular rights and those rights have not been satisfied. SHP has not been given the opportunity to make representations on documents which actually meet the requirements of the Planning Act 2008 and the CLG guidance to demonstrate that funding is available for the project and that there is a compelling need in the public interest to acquire all of the land proposed in order to accommodate development which is necessary to support the construction or operation of the principle development or help address its impacts. These concerns, of course, also extend to the scale of the principal development – a scale with the physical capability of 83,220 cargo ATMs per annum is alleged to be necessary to meet a forecast, capped throughput of 17,170 cargo ATMs.

3.3 The Examining Authority does not have before it documentation which is fit for purpose and SHP has not, by definition, had the opportunity to properly understand, test or make representations in relation to a case being made against it for the compulsory acquisition of its land.

4. **AGENDA ITEM 5 – FUNDING**

4.1 The concerns expressed above relate particularly to the funding and viability of the project. In particular:

4.1.1 the Funding Statement is not fit for purpose – see above.

4.1.2 there is no evidence before the examination as to the identity or nature of those said to be providing funds for the project and no evidence at all of their actual commitment to the project;

4.1.3 there is no viability assessment or business case;

4.1.4 it is not apparent that a viability assessment has been undertaken. If it has been undertaken, RSP's advisors Azimuth are not aware of its consequences for their forecasts. In order to re-coup an alleged investment of over £300 million, the Applicant's high level business plan provided as Appendix F.1.5 [REP3-187] shows the Applicant would charge a 3x market premium compared to leading airports in the sector (see Appendix NOPS.10.1 appended to summary of oral submissions to the CA Hearing). Yet pricing, costs and other critical financial factors have not been factored into the Applicant's forecasts – undermining the forecasts completely.

4.1.5 the Applicant has given directly inconsistent oral and written answers to the Examining Authority about the existence or not of a Joint Venture agreement with persons unknown. The Applicant also confirmed under cross-examination that there was no documented commitment to fund the amounts set out in the Funding Statement [APP-013];

4.1.6 the Applicant has confirmed that it still does not know what the likely construction costs of the project are going to be - it could not even give a potential range of deviation to its estimate when requested by the Examining Authority;

4.1.7 the Applicant has not explained why there has been a jump of £80 million in the Phase 1 construction costs estimated to *"bring the airport back into use"* or explained how such a substantial increase in costs can be absorbed whilst maintaining the alleged viability of the project;

4.1.8 the availability of funds to satisfy the requirements of the compulsory acquisition within the statutory period is unproven; and

4.1.9 the estimate within the Funding Statement of the cost of compulsory acquisition is significantly below that which is necessary.

4.2 Under this agenda item, the Examining Authority also sought answers from the Applicant regarding its offer to acquire the site for a total consideration of £20m and how it related to the valuation that had been placed on the site of £7.5m. [Note: the £7.5m relates to both the total amount assessed for land acquisition and blight costs in the Funding Statement and the amount set out in paragraph 2.9.20 of the Applicant's comments on Written Representations [REP4-067], whereas the CBRE "valuation" of the SHP land of £2m is set out in the letter of 10 October 2018 from

Colin Smith, as appended to SHP's answers to written questions [REP3-reference still to be issued].

4.3 The Applicant claimed that its reason for not disclosing information (which SHP considers is of material importance to the examination) in response to both written question CA.1.16 and the Examining Authority's question at the hearing, was that the matters were subject to a confidentiality agreement preventing the Applicant from disclosing the requested information.

4.4 SHP advised the Examining Authority that this explanation is not supported by the facts. SHP noted that there had been confidentiality agreements between SHP and the Applicant, but that any restrictions that could have justified the Applicant's failure to disclose material information had expired in mid-January 2019 (16 January). SHP further advised the Examining Authority that both the Applicant and its legal advisers were aware that the confidentiality provisions had expired, and that SHP had details of correspondence it could provide to the Examining Authority to evidence this. SHP agreed to provide this evidence at Deadline 5. This note is attached as Appendix CA.5.1.

4.5 No DCO should be consented on this basis and no powers of compulsory acquisition could be granted lawfully on this basis.

5. AGENDA ITEM 9 – THE POSITION IN RESPECT OF NEGOTIATIONS WITH ANY AFFECTED PERSONS NOT COVERED

5.1 SHP had anticipated that the Applicant may try to negate any attempts by the Examining Authority to probe the Applicant's stalled offer of £20m for SHP's land and the contradictions that exists between the offer, the "CBRE advice" and the level of funding requirement set out in the Applicant's original Funding Statement. Whilst it is assumed that Counsel for the Applicant was not provided with accurate information for the CA Hearing, it is the clear view of SHP from the evidence set out in Appendix CA.5.1, that the Applicant and/or its legal adviser should have intervened immediately to correct the position.

5.2 In relation to the Examining Authority's question regarding whether the Secretary of State for Transport has any interest in the land, SHP advised that in view of recent changes, it would need to take advice on this point and agreed to provide this information by Deadline 5.

5.3 Following variation of the agreement with the Secretary of State for Transport (which post-dated SHP's response to the Examining Authority's written questions), a restriction on title has recently been recorded against title numbers K873634 and K803975. This covers substantially all of SHP land to the south of Manston Road). The restriction was recorded on 28.02.2019 and states that "no transfer or lease of the registered estate by the proprietor of the registered estate is to be registered without a written consent signed by Secretary of State For Transport of Great Minster House, 33 Horseferry Road, London SW1P 4DR or their conveyancer."

5.4 Copies of the Land Registry documents, which are appended as Appendix CA.9.1, were made available to the Applicant's legal adviser.

6. AGENDA ITEM 10 – ORAL REPRESENTATIONS

6.1 SHP had prepared oral submissions covering a range of the topic areas set out in the agenda for the Hearing. At the request of the Examining Authority, SHP restricted the time for its oral representations and where possible, incorporated its comments into the relevant remaining agenda items to aid the efficiency of the Hearing.

6.2 Accordingly, the only part of SHP's oral representations included under this agenda item was the representation from Seamus Kealey, Director of Altitude Aviation. This focused on the minimum information requirement of equity investors/debt providers in airport funding and an analysis of the summary business plan information submitted by the Applicant at Deadline 3.

6.3 In view of the oral submissions being restricted at the request of the Examining Authority, Mr Kealey's prepared submissions were truncated. The key conclusions from the oral evidence are noted below, with the more detailed note that Mr Kealey intended to present on, attached as Appendix CA.10.1. Also appended are Mr Kealey's CV as requested by the Examining Authority (Appendix CA.10.2) and the 2017 Financial Analysis paper produced by RSP submitted to the Change of Use Appeal Inquiry held in March 2017 (Appendix CA.10.3).

6.4 Altitude Aviation's experience over 100 transactions involving over 200 airports is that equity or debt providers would require considerable and detailed forecasts, and supporting information to allow proper due diligence to be undertaken.

6.5 This level of due diligence would be required before the investment could be approved by the respective investment committees.

6.6 The lack of detailed and substantiated financial forecasts would raise significant questions around the financial viability and fundability of the Applicant's proposal, and what information has been provided is not credible in an established market context.

6.7 RSP's application documents do not provide even the most basic information that would allow any funder to assess the financial viability of a re-opened airport.

6.8 While Altitude Aviation consider the volume projections for Manston to be completely unrealistic (as explained in detail in its report included as Appendix 5 to SHP's Written Representations [REP3-025]), its analysis of the summary business plan focused only on the credibility of the financial aspects of the Applicant's projections as set out in Appendix F.1.5 of the Applicant's responses to Written Questions [REP3-187], (i.e. the Applicant's volume projections prepared by Azimuth were assumed to be achieved).

6.9 Altitude Aviation's analysis demonstrates that even if the unrealistic volume projections are achieved, the financial projections are not credible.

6.10 The summary business model forecasts would position Manston as one of the most profitable airports in the UK, and extremely profitable compared to the similar freight business model airports of Liege and Leipzig.

6.11 This is simply not credible when assessing Manston against the traffic and financial characteristics of the best performing UK airports, and the comparator European freight airports.

6.12 Based on Altitude Aviation's extensive experience of equity and debt financing of airports, they are of the opinion that there is no prospect that investors would commit to fund the airport based on the lack of information provided, implausible forecasts, and the performance deviation from long run historic actual performance of the other UK and European airports analysed.

7. AGENDA ITEM 13 – THE DRAFT DEVELOPMENT CONSENT ORDER

7.1 Without prejudice to SHP's position that the Applicant's case is not credible, no need has been demonstrated, no compelling case in the public interest has been demonstrated, no justification has been provided as to why the Works, as listed in Schedule 1 of the Revised Draft Development Consent Order, satisfy the legal tests of "NSIP development" or "Associated Development", no justification for the extent of land acquisition has been provided and no reasonable attempts have been made to acquire the land voluntarily or alternatives explored by the Applicant, Counsel for SHP set out the nature of the changes that would be required to the compulsory acquisition articles of the Revised Draft Development Consent Order [REP3-193]. The Examining Authority requested that SHP put the required changes in writing, which it has done below.

7.2 Article 9 (Guarantees in respect of payment of compensation, etc.: the current drafting of Article 9 is inappropriate. This is abundantly clear from the nature of the Applicant's written and oral submissions to the examination. For example, the Applicant has refused to provide the requested evidence of funding or its funders, has misled the examination in its responses to written questions and has grossly understated the costs of acquiring the land. The following key changes are therefore required;

7.2.1 Article 9(1): provision of security should be in the form of unencumbered funds placed into an escrow account <u>prior</u> to any decision being taken by the Secretary of State to make, or otherwise, the DCO;

7.2.2 Article 9(1)(a): the amount set out in the Article grossly understates the level that would be required. Compensation is not for the Examination, but what is for the Examination is to ensure that the Promoter has sufficient funds for the costs of compulsory acquisition, noise mitigation and blight. The Examining Authority must be satisfied that the amount in the Article (escrow account) is sufficient - otherwise the Examining Authority would be unable to satisfy themselves under the Guidance and any Article or escrow account would be defective. This would be prejudicial and have human rights implications given land is being forcibly taken. The precise level of compensation is not for the Examining Authority, and if the Compensation figure from the Upper Tribunal is lower than the escrow account, then the remaining amount can be returned to the Promoter. But it should not be the other way around, that there are insufficient funds to pay third parties for their land. Therefore, the Examining Authority must take a

precautionary approach and look at the higher figure for security purposes. The precise amount of compensation is for a later day. In this regard, the Examining Authority should refer to the detail set out in Appendix 6: Compensation Assessment to SHP's Written Representations [REP3-025]. In paragraph 8.2, Avison Young (formerly GVA) states;

> "*The compensation provision made in RSP's funding statement is insufficient to meet the compensation obligations resulting from a made DCO. It is important to note that RSP's most recent offer of £20m excludes any value associated with residential development potential, demonstrating the need for RSP's funding provision and business case to be reassessed to reflect significantly higher compensation liabilities."*

7.2.3 Article 9(2): in view of the lack of transparency around the funding arrangements of the Applicant and the information that came to light during the examination (e.g. the Applicant admitted under cross-examination that the Joint Venture agreement (if it exists) contains no hard commitment to fund a certain level of costs) the only way in which the obligations could be adequately secured is through an escrow account, that is funded prior to any decision on the DCO being taken. Any deviation from that could result in gross unfairness and an important strategic site being sterilised for a number of years.

7.3 Article 18 (Authority to survey and investigate the land): the wide powers sought by the Applicant to survey and investigate land are inappropriate and are likely to have a blighting impact on land held by SHP. In its revised Explanatory Memorandum (paragraph 3.44), the Applicant argues that it is required in order to *"remove the necessity to compulsorily acquire that land and thus reduce the land brought within the Order limits."* Without SHP's freehold land there is no project. Article 18 is appropriate, for example, where the acquiring authority needs to undertake micro siting surveys, so that it can minimise compulsory acquisition (e.g. micro siting or a pipeline within a corridor). The primary intent of the drafting in this case would appear to be to delay the point at which the Applicant is required to acquire land, effectively giving itself an Option. The effect of this Article is one of blighting, as it has the potential to restrict the ability of SHP to undertake commercial operations on its land for many years. As a minimum, SHP's freehold land must be carved out from this Article. We would refer the Examining Authority to paragraphs 3.4 - 3.7 of SHP's covering letter submitted at Deadline 4 [REP4-064], which provides background to the Applicant's consistent history of breaching the terms of previous authorisations and agreements that provided for access to the land and demonstrate the valid concerns that wide ranging powers of the type sought by the Applicant would be highly prejudicial to SHP. We would also advise that the Applicant has not yet acknowledged or responded to our correspondence of 20 February 2019 offering to discuss a voluntary licence arrangement, which would allow the Applicant to resume its ecology and biodiversity surveys (following its breach of the s53 authorisation issued in September 2018).

7.4 Article 21 (Time limit for exercise of authority to acquire land compulsorily): The Applicant's entire case is dependent on it quickly constructing the airport in what it has referred to as *"the window of opportunity"* before Heathrow runway 3 is operational. Whilst, we have set out in Appendix NOPS.11.1 to our written summary

of the Need and Operations hearing, the unrealistic nature of the Applicant's anticipated construction timetable, any delay in it acquiring the land would only lead to delay and further increase the probability that an airport would never become operational. Accordingly, the time period set out in Article 21(1) should be amended from *"5 years"* to *"1 year"* in respect of SHP's land. In addition, for the reasons set out in response to Article 26, no declaration should apply to SHP's land.

7.5 Article 25 (Application of Compulsory Purchase Act 1965): As a result of a reduction in time in which to exercise the compulsory acquisition powers from 5 years to 1 year in respect of SHP's land, consequential amendments are required to Article 25(1)(a)(ii) and Article 25(2).

7.6 Article 26 (Application of the Compulsory Purchase Vesting Declarations Act 1981: the Applicant should not be able to rely on the powers in the Compulsory Purchase (Vesting Declarations) Act 1981, as amended by Article 26, in respect of SHP's land. These powers, where they would relate to any of SHP's freehold land, are wholly inappropriate for a number of reasons;

7.6.1 SHP's land comprises substantially all of the land interests required for the project - there is no project without SHP's land. The landowner is known, and the Applicant has already satisfied itself that SHP has title to the land as a result of the extensive work that has gone in to the preparation of the Book of Reference. Therefore, there is no reason why the Applicant would need to use a general vesting declaration as an alternative to the notice to treat procedure in respect of SHP's freehold land.

7.6.2 Under the Vesting Act, the acquiring authority is only required to pay 90% of its estimate of the compensation due. Whilst a "normal" acquiring authority could be expected to act fairly, it is clear from the Applicant's submissions to the examination (and equally, the information it has withheld from the examination), that there could be no confidence that the Applicant would not seek to abuse or take advantage of these powers. To highlight this risk, CBRE's letter of 10 October 2018 (appended to the Avison Young report) included an opinion of value of "circa £2m", which suggest that with Vesting powers, the Applicant could attempt to pay only £1.8m (90% of £2m) pending compensation being determined at a later point.

7.6.3 Accordingly, Article 26 should be amended to carve out the main airport site (the freehold interests held by SHP). Only a Notice to Treat should be exercisable over SHP's freehold interests. This is fair because the Applicant would still be able to gain entry and implement the DCO and SHP would retain title to the site (at which it is operating commercial activities) until compensation is paid to it.

7.7 Article 29 (Temporary use of land for carrying out the authorised development): Pursuant to Article 29(1)(a)(ii), all of SHP's land is subject to temporary possession before any notice of treat is served. This is not acceptable. Without SHP's land, there is no project. Therefore, the Applicant should not be allowed to take temporary possession and delay taking the freehold. This would be unequitable. Accordingly, and for the same reasons as set out in Article 18 above, there is no justification for the SHP's land to be subject to temporary possession. Article 28 should not apply to all of SHP's land in the Book of Reference.

7.8 It is SHP's view that a cargo focussed airport of the sort proposed by the Applicant would never become operational, and that the Applicant would then seek to utilise SHP land for purposes that are different to that set out in its Application. Appropriate Crichel Down type provisions must therefore be incorporated into the Articles, such that all SHP's land could be returned to SHP (at the consideration paid by the Applicant) in the event the Applicant does not implement the DCO and operate an airport on the Site pursuant to the DCO. A new article would be required and SHP can provide suggested drafting in due course.

8. AGENDA ITEM 14 – COMPELLING CASE IN THE PUBLIC INTEREST

8.1 RSP's case is set out in its Statement of Reasons [APP-012] and SHP's response is contained in Section 8 of its Written Representations [REP3-025] submitted at Deadline 3.

8.2 SHP made 3 further specific points in oral evidence:

8.3 **The relevant test**: paragraph 13 of the CLG Guidance (2013) explains that the Secretary of State will need to be persuaded that there is "compelling evidence that the public benefits that would be derived from the compulsory acquisition will outweigh the private loss". This requires confidence that the benefits will actually come forward. This makes perfect sense. There could not be a compelling case in the public interest for a development which is unlikely to happen.

Similarly, paragraph 19 of the Guidance requires that any risks or impediments to implementation of the scheme have been properly managed. In this context, the lack of viability and credibility of the proposals represents a serious impediment.

Interestingly, RSP responded to the effect that there was case law where schemes of "marginal viability" could still form the basis for Compulsory Acquisition. SHP is aware of case law where schemes of doubtful viability have been rejected. SHP looks forward to receiving details of RSP's submissions.

8.4 **Viability:** RSP's third (of 4) headings for its claimed "compelling need" is the assertion that its proposals for the airport are the only viable proposals. In this context, it is important to reference the available evidence:

8.4.1 The Applicant's proposals are not supported by any assessment of viability. SHP's oral evidence explained the lack of credibility of RSP's Appendix F.1.5 [REP3-187], including the comprehensive lack of detail and the lack of credibility in the forecast jumps in profitability from the Financial Analysis paper submitted by Riveroak in 2017 to the Change of Use Appeal Inquiry. That paper is appended to this document as Appendix CA.10.3. The evidence at the Hearing also established:

- the lack of any actual evidence that funding is available for the project.
- the absence of a business plan.
- the significant uncertainty over construction costs.

- the jump of £80 million in the initial phase of the project necessary to "*bring the airport back into use*", without any reference or explanation as to the impact of that jump in costs on the viability of the project; and
- the evidence that RSP's forecasts took no account of/were ignorant of the landing charges which it would be necessary to charge at Manston to re-coup the very considerable capital investment and whether these were remotely competitive with the costs of airports from which it will be necessary for RSP to attract customers.

8.4.2 By contrast, SHP has a proven track record in delivery (see section 7 of the Kent County Council document Manston Airport and a private ownership, March 2015). In addition, SHP provided a full viability appraisal to Thanet District Council to demonstrate the viability and deliverability of its proposals for major residential led, mixed use development of the land.

8.4.3 Requests were made at the Hearing on 21 March for SHP to release details of its viability appraisal to RSP. That request is declined because:

- this is not an examination into SHPs proposals;
- in accordance with the requirements of the district council, viability appraisals used to support planning applications are not made public – and SHP has satisfied the requirements of its decision maker;
- by contrast, RSP's application is being examined and the requirements of its decision maker have not been satisfied.

8.5 **Safe-guarded or sterilised?:** the fourth limb of RSP's "compelling need" case is the assertion that its project would safeguard Manston Airport, which would otherwise be lost as an aviation asset.

In practice, the grant of DCO would do nothing to safeguard Manston Airport, any more than the refusal of the DCO application. The grant of DCO and powers of compulsory acquisition, however, could sterilise the airport for a significant period of time.

SHP consider that the airport has already been "lost" to cargo operation on account of its proven and demonstrable lack of viability. Whether or not the physical asset of the airport is allowed to be developed for an alternative use is a matter to be considered by Thanet District Council in its determination of SHP's planning application.

That application is described in SHP's Written Representations at Appendix 3 [REP3-025]. The description explains that the proposals for vintage and heritage flying would be preserved through a Section 106 commitment to maintain over 1,000m of the existing runway and to provide modern, relocated facilities for the Hurricane and Spitfire museums. Safeguarding and enabling the use of flying at Manston would be more realistically secured through SHP's proposals.

8.6 There are a number of other relevant considerations to be weighed in the balance when considering the "compelling need", including the need for the land to be developed to meet a very substantial local housing need in a sustainable location, rather than leaving that need un-met or forced to less sustainable, greenfield locations on the best and most versatile agricultural land.

8.7 A compelling need for the DCO proposals also cannot be demonstrated when spare capacity exists elsewhere to meet that need in accordance with Government policy.

9. AGENDA ITEM 15 – LAND REQUIRED

9.1 SHP's case in relation to the necessary scale of facilities for the principal development is set out in its Written Representations, Appendix 4, Section 6 [REP3-025]. That analysis shows that the facilities proposed (and the consequent land take) are grossly over-scaled and that the same applies to the "associated development" proposed for the Northern Grass.

9.2 As set out above, RSP's witnesses made oral attempts to justify the scale of facilities at the hearing. SHP's response to that evidence is set out in paragraphs 57-74 of Appendix CA.15.1, for which time was not available during Agenda Item 10 (Oral Representations).

9.3 It is not, however, for SHP to undertake the analysis or to prove anything. The onus lies firmly on the applicant to prove its compelling case. The Applicant gave a (another) commitment to do so for Deadline 5.

9.4 SHP reserves the right to evaluate and comment upon that justification if and when it is received.

10. AGENDA ITEM 16 - REASONABLE ALTERNATIVES

10.1 There is no need for powers of compulsory acquisition to enable the use of the airport as an airport. It has an established lawful use and is in single ownership. The land does not need to be assembled – the missing ingredient is not compulsory acquisition, it is viability. If it was determined that it was necessary to bring the airport back into aviation use, DCO consent including compulsory acquisition is not necessary – there are alternatives.

10.2 The Applicant argues that DCO consent is necessary for physical regeneration of the airfield. RSP claim that the airfield currently has zero capability (which SHP strongly dispute). Even if that were the case, however, powers of compulsory acquisition are not necessary. All that would be required would be the exercise of permitted development rights or the submission of a local Town and Country planning application with the inclusion of an appropriate planning cap. For reasons which SHP has explained at length in its Relevant Representation and Written Representations, it is not credible or necessary to use the DCO process for such small-scale incremental improvements or the replacement of existing facilities.

10.3 One alternative to the grant of compulsory acquisition powers to RSP was and remains the process pursued by Thanet District Council. SHP's Written

Representations from paragraph 7.8 [REP3-025] summarise the process briefly, although substantially more material is available if that would be helpful to the Examining Authority. Throughout the period 2014-2016, Thanet District Council sought to find ways of bringing the airport back into aviation use. It is not necessary here to set out the detail but relevant to note:

10.3.1 Thanet sought expert advice from Avia Solutions which confirmed that the airport was not viable;

10.3.2 the Council soft-marketed the airport and received no expressions of interest except from RiverOak;

10.3.3 the Council undertook extensive investigations into RiverOak and engaged specialist solicitors and barristers for the purpose but concluded that RiverOak were not a suitable indemnity partner. During the Hearing the Applicant explained that it would submit a report by the Transport Select Committee, which it asserted was critical of the local authorities. It is important for the Examining Authority to be aware that this report pre-dated the second CPO process undertaken by the Thanet District Council.

10.4 Were circumstances to change (i.e. evidence was to emerge that the airport development was viable or that a credible partner was available to support the district council's CPO), that process could be revived. One of its advantages compared with the grant of DCO would be that the district council was able to vet and select a suitable airport operator, if such an operator exists.

10.5 Reasonable alternatives have also not been explored in the sense that alternative locations have plainly not been considered. Mr Freudmann has persistently sought control of Manston airport (and no other UK airport) to realise his dream of a new airfreight operation. The evidence is clear, however, that capacity already exists at other better located airports. Were RSP's proposals credible, for instance, SHP would expect the operators of Doncaster or East Midlands airport to be interested in discussing how they could be hosted there.

10.6 Similarly, there is no evidence that RSP has considered other locations such as redundant MOD airfields elsewhere including the airfields at Wethersfield (20 km from Stansted), Woodbridge, Mildenhall or Scampton.

10.7 Alternatives to compulsory acquisition also exist in the sense that RSP could have made reasonable attempts to secure the land by negotiation. SHP's answer to question CA 1.17 sets out the detail including the offers of a long leasehold interest made by SHP to RSP in writing on 15 March 2018 and 9 April 2018. Those offers were made in good faith in order once and for all to give RSP no excuse for its failure to bring forward viable airfreight operations at Manston and to enable its inevitable failure to clear the way for a more sustainable use for the land.

10.8 As explained at the Hearing, SHP's letters (which are appended to our Deadline 3 submission) make clear the offer of a 125-year lease. RSP never replied to SHP's letter of 9 April 2018 – a fact in itself which demonstrably means that it has failed the test to pursue all other means before resorting to compulsory acquisition.

10.9 RSP's explanation at the hearing that a 25-year lease was "absurd" demonstrates the lack of good faith which has characterised any "negotiations" and a contempt for the DCO process.

10.10 Similarly, as explained in Appendix CA.5.1 (Note on the Status of the Confidentiality Agreement between SHP and the Applicant), SHP remained sceptical about the Applicant's intentions behind the offer of £20m and its ability to deliver on it. This scepticism has been substantiated by the facts that emerged at the Hearing regarding the Applicant's funding position

10.11 In the Hearing, the Examining Authority advised the Applicant of the Guidance that states compulsory acquisition should only be sought if attempts to acquire by agreement fail, and queried whether sending first letters to landowners on 8 February 2018 was sufficient. The Applicant claimed that it was, however it is worth considering the following facts when assessing the regard the Applicant had to the relevant Guidance.

10.12 As explained in the Note of Meeting between the Planning Inspectorate and the Applicant on 2 November 2017 (see s51 advice), the Applicant gave the following project update; *"[T]he Applicant confirmed that it was still in the process of finalising its application documents, and that it aimed to formally submit its application to the Inspectorate in early December 2017."*

10.13 Whilst the application was subsequently delayed due to the need to undertake a further statutory consultation under the 2017 EIA regulations as a result of concerns raised by SHP, it had clearly been the Applicant's intention to submit its application before contacting affected parties who had land interests the Applicant was seeking powers of compulsory acquisition. Furthermore, as the Examining Authority will be aware, the Applicant's first formal application was made on 9 April 2018, barely two months after these first letters were sent.

APPENDICES

2.1 Summary note on procedural issues

CA.5.1 Summary note on status of confidentiality agreements between SHP and the Applicant

CA.9.1 Copies of Land Registry documents

CA.10.1 Prepared oral submission of Seamus Kealey, Altitude Aviation Advisory

CA.10.2 CV of Seamus Kealey, Altitude Aviation Advisory

CA.10.3 Summary Financial Analysis submitted by George Yerrall, RSP Director, to the Change of Use Planning Appeal held in March 2017 as an Appendix to Proof of Evidence

CA.15.1 York Aviation Note on Hearings on Compulsory Acquisition and Need and Operations

APPENDIX 2.1

SHP would like to place on record again its fundamental concerns regarding the inadequacy of the hearing concerning compulsory acquisition of its property and the lack of sufficient time afforded to it to question the Applicant's case generally, and more specifically to carry out direct questioning of the Applicant and its witnesses in order to allow the Applicant's assertions regarding any compelling case in the public interest for compulsory acquisition (and indeed the need for a DCO generally) to be properly and fairly tested, whilst giving SHP a fair chance to put its case in response to the proposed compulsory acquisition and the DCO generally.

There can be no dispute that the proposed compulsory acquisition of SHP's land directly engages Article 1 of the First Protocol of the European Convention on Human Rights and Fundamental Freedoms ('the ECHR'), as now enshrined in the Schedule to the Human Rights Act 1998. It does so at the most extreme level, as the proposed compulsory acquisition would be of the entirety of SHP's landholding of Manston Airport in the most extraordinary circumstances. Any authorisation of such a radical expropriation of private property therefore requires the most careful scrutiny in principle. Those rights must then be seen in conjunction with the right to a fair hearing under Article 6 of the ECHR in the determination of SHP's property rights. In addition, the common law safeguards the basic property rights that SHP currently enjoys and requires an Applicant to demonstrate a compelling case in the public interest for such acquisition. Both of these principles are unaffected by the Planning Act 2008 and the procedures that the Examining Authority must also follow. It is relevant to note that here and in any other context, proposed compulsory acquisition of land gives rise to a right for an affected person to enjoy a hearing to test the case at which cross-examination and legal representation would occur.

SHP has a statutory right to a hearing in the case of a DCO proposing compulsory acquisition (as here). This is not a right at the discretion of the Applicant, the Examining Authority or the Secretary of State. As a matter of basic interpretation of that statutory right on the face of the statute alone, but in any event in light of the interpretative obligations that apply under section 3 of the Human Rights Act 1998, it cannot be seriously disputed that a right to a hearing must mean a right to a fair hearing. This right would be stripped of substance if, for example, the affected party did not know properly the case that was being advanced for compulsory acquisition in advance, or by the same token, had not been provided with the necessary evidence said to support the Applicant's case. The statutory right to a hearing is not fulfilled by providing a hearing at which the affected party does not have access to basic material said to underpin the Applicant's case, and consequently to exercise rights at the oral hearing to make representations about that case and, as necessary, to question the Applicant about that case whether directly, or even indirectly through submissions and questions to the Examining Authority.

In this case, the Examining Authority held a hearing to deal with compulsory acquisition at which SHP was able to attend. But as the Examining Authority knows from SHP's representations (and has long been known), the Applicant has failed to set out some of the most basic material and evidence in support of its case and this was exposed in more detail at the hearing. SHP does not set out an exhaustive list of the failures on the part of the Applicant in this respect, but by way of one basic example only - the Funding Statement.

The need for a Funding Statement as well as a Statement of Reasons to support a request for compulsory acquisition is a statutory requirement. It would, in any event, be a basic requirement of setting out a claimed case for compulsory acquisition. At the time of the hearing that the Examining Authority held for compulsory acquisition purposes, the Applicant had already declared in writing that the Funding Statement it had provided was to be superseded. Yet even by the time of the hearing itself, no replacement Funding Statement had been provided. As to the Funding Statement that was previously submitted, whilst this purports to be such a Statement, it cannot sensibly be described as

such both in terms of its content and because of the Applicant's own statements as to its contents. Furthermore, the Examining Authority itself has already identified basic deficiencies in the document and the need for more information (for example the claimed Joint Venture Agreement that is said to underpin it and basic information about funds themselves). This information was not available at the Hearing. The Applicant has said it is going to provide such information subsequently. But this example exposes a basic procedural problem that goes to the root of fairness and the right to a hearing. SHP has simply not had a fair hearing in relation to compulsory acquisition of its property in the absence of such basic information about the Applicant's case and the ability to test that information and the extent to which there is claimed to be any evidence to support it. Put simply, the hearing that occurred was incapable of constituting a fair hearing of the type that SHP is entitled to under the legislation. SHP made this point at the hearing itself, but wishes to place the point on record again. If the Applicant subsequently produces additional or different material relevant to its case on compulsory acquisition, then SHP will remain entitled to a hearing to test that case and evidence. It is now highly questionable whether there will in fact be sufficient time for such a hearing to take place within the examination period. SHP is entitled to a proper opportunity to test the case being made by the Applicant. That involves sufficient time to consider material that may subsequently be produced.

Quite apart from this basic principle about the hearing that has occurred not being capable of fulfilling the statutory entitlement, SHP turns to the question of the fairness of the hearing itself.

The Planning Act 2008 legislation does not provide for any express right of cross–examination. Section 94(7) starts with the presumption that any oral questioning at a hearing should be undertaken by the examining authority. However, that statutory provision relates to hearings generally through the examination. In the context of a compulsory acquisition hearing, it is necessary to approach it in light of the interpretative obligations under the Human Rights Act 1998 and the principles of the common law summarised above. Section 94(7) allows the Examining Authority to permit direct questioning where it thinks it is necessary in order to ensure adequate testing of any representations or that a person has a fair chance to put the person's case. Both limbs are highly relevant here where the Applicant's entire case depends upon a claimed assertion of need on which SHP has produced detailed technical expert evidence in response, and where compulsory acquisition is proposed of all SHP's landholding and where fairness requires it proper opportunity to question the Applicant and its witnesses.

In this case, the Examining Authority had already recognised this in advance of the hearing on compulsory acquisition and need (the two overlapping in any event).

This discretion was exercised in principle recognising the uniqueness of this DCO application.

In this respect, SHP was advised that it would be provided with the right to cross examine at the Compulsory Acquisition and Need and Operations hearings in emails dated 8th and 13th February respectively.

In light of this, SHP had invested significant sums in preparing for and attending the hearings with its full team, recognising it as an opportunity to properly test the Applicant's evidence and in doing so demonstrate a number of fatal flaws to what it considers to be an ill thought out, speculative DCO that relies on a wholly flawed need case.

In the result, however, SHP was restricted to only 15 minutes cross-examination at each hearing, and when combined with delays caused by the repeated reluctance of the Applicant's advisers to answer questions posed to them, SHP's Leading Counsel was only able to put a very limited number of questions to the Applicant's advisers before being stopped by the Examining Authority by the expiry

of the time limit (regardless of where the questions had got and the evasiveness of the answers received).

In these circumstances, SHP recorded at the time and places it on record again that this procedure did not give SHP a fair chance to put its case or test the Applicant's representations SHP has not had a fair chance to put its case. Whilst SHP was grateful in principle for the Examining Authority's exercise of discretion under section 94(7) of the Planning Act 2008 (although not surprised that the Examining Authority would recognise the need for the exercise of such discretion), the practical implementation of that decision by allowing only 15 mins of direct questioning, regardless of the practicalities of putting questions in that time period, made the exercise of discretion more theoretical than real. It was simply not possible to cover the necessary ground, particularly given the extent of the evidence and the complexity of the material and the inadequacies in the Applicant's written material, in anything like the time permitted.

In this respect, SHP notes that in a normal compulsory acquisition scenario, the landowner's would ordinarily enjoy the ability to cross-examine on key evidence and would not be constrained to 15 minutes. As there is no NPS that covers this application, the requirement to assess need is much more pronounced than in other DCOs where powers of compulsory acquisition are sought. This also then combines with the basic problems SHP has had in understanding the Applicant's case, the huge number of shifts and changes that have occurred through the written questioning process and the basic problems in understanding what is the Applicant's stated case. Indeed, at the compulsory acquisition hearing, the bulk of the 15 minutes expired in clarifying that what had been stated in respect of the Funding Statement was simply not correct (e.g. the claim that there was now no longer a Joint Venture Agreement); and at the need hearing, the same thing occurred in establishing that the Azimuth Report does not contain any purported business case / plan or assessment of viability, despite what is expressly stated in the Planning Statement and the Statement of Reasons. It is simply not fair that SHP has had to expose such basic deficiencies and contradictions in the Applicant's written statements on the record and, in doing so, then loses the opportunity to put further questions to the Applicant. SHP readily accepts that the Examining Authority (like any authority or tribunal) would wish to ensure that direct questioning remains relevant and progresses matters relevant to the basic issues and it is proportionate. It accepts that there may well be reasonable time limits imposed for questioning. However, in both cases the records of the hearing demonstrate that SHP used the limited time available to ask directly relevant questions, extracted directly relevant answers which had not been previously elicited and went to the heart of the written materials that had been provided, and therefore there was not any obvious basis for preventing SHP from continuing to ask direct questions on this basis.

As the first airport DCO, with a unique set of circumstances and only a very limited time for the Examining Authority to build an understanding of the complexities of the air freight market, SHP had suggested that a technical assessor be appointed to assist the examination. SHP consider that such an appointment would also have mitigated some of the significant costs SHP (supported by its vastly experienced aviation consultants, York Altitude and Altitude Aviation and legal and planning advisers) has been forced to incur to rebut the flawed evidence and submissions related to the Applicant's need case and forecasts.

In the two periods of 15 minutes permitted for cross examination, SHP was able to cover only a very small area of the necessary ground that it had diligently prepared for with its advisory team. Nevertheless, even in this short time, it was able to demonstrate a clear lack of veracity and competence of significant parts of the Applicant's evidence, as noted below;

1. The Examining Authority had been misled by the Applicant regarding the applicability of a Joint Venture agreement that purported to show how the funding set out in paragraph 19 of the Funding Statement was secured. The Examining Authority had requested a copy of this agreement in its first written question F.1.3. As SHP stated, if *"there is no longer a Joint Venture agreement"* that would allow the Applicant to draw down funding, as the Applicant claimed in its response to F.1.3, the Funding Statement could not be relied upon. The Applicant then changed its position and advised that the JV agreement was still in place. This was a material piece of information that the examination was not aware of and would not have been elicited without the opportunity for cross-examination.
2. In using the excuse of the *"restructuring"* for its refusal to provide the information requested in the Examining Authority's written question F.1.10 (iv) (which requested full details of the investors cited in paragraph 20 of the Funding Statement), the Applicant stated *"the identity of the investors mentioned in the Funding Statement is no longer relevant"*. By establishing through cross-examination that the JV agreement was in still in place and that the *"investors"* were still providing funding, it was clear that the Applicant had misled the examination for a second time, for reasons that cannot easily be explained away.
3. In rendering the excuse for the Applicant's failure to provide the Examining Authority with the information it had requested in written question F.1.10, the Applicant was then asked to identify its funders. Nick Rothwell (RSP director), claimed the PwC letter (which SHP considers does not even meet the standard of a letter of comfort) identified the funders, which it did not. A review of the letter provides no indication of who the funders are other than they are represented by Helix Fiduciary.
4. In further questioning, SHP was also able to establish that there is no document that contains any commitment to fund the amount set out in the Funding statement. This was confirmed by Nick Rothwell.
5. Azimuth Associate's report provides the air traffic movements forecast for the project and *"[A] detailed explanation of the need for and the benefits of the Proposed Development"* (paragraph 4.11 of the Statement of Reasons) and is the foundation stone of the whole DCO Application, yet Azimuth admitted under cross-examination that it <u>has no relevant experience of air cargo forecasting.</u>
6. In addition to the many repeated references of reliance on the Azimuth Associate's Report in the Statement of Reasons, paragraph 9.35 of the Applicant's Planning Statement claims in terms that the Azimuth Associates Report "considers whether reopening Manston Airport in the way intended by River Oak would be viable" and states this is "an important consideration." The Applicant has therefore put the viability of its proposal at the heart of its case and directed the public to the Azimuth Associates for where that viability is allegedly demonstrated. However, Dr Dixon also admitted, after a number of attempts to avoid doing so, that Azimuth Associates did not consider the issue of viability at all in preparing the forecasts contained in Volume III of its report. When challenged on this, Dr Dixon stated that she was not asked to consider viability by RSP, did not know where viability was considered in the Application documents and had not been involved at all in the preparation of any business plan. The Applicant is unaware of any document showing viability and therefore not only is the Planning Statement misleading, but there is no material to support what the Applicant itself identifies as an "important consideration" in respect of its whole case.
7. Dr Dixon did not consider costs in preparing her forecasts. When asked to explain how the numerous categories of "*costs of switching airports have been taken into account"* (as stated in paragraph 2.2.10 of Volume III), Dr Dixon asserted that it was cost neutral, but could give no explanation of what the costs were and how she determined it was cost neutral. In the Azimuth Report, there are a number of references regarding viability (e.g. paragraph 6.0.2 of Volume II, *"Manston is the only viable option in the South East"*). However, as a result of the cross-examination we now know that Dr Dixon's forecasts had no regard for viability and were not even

based on the most basic assessment of costs / charges for the airlines, freight forwarders and airport operators or benchmarked against other airports or modes of transport to even attempt to understand whether Manston could attract any business. In responding to one of Dr Dixon's questions asking it to rank issues that are important to its business, one interviewee responded, "Cost is always the most important" (paragraph 4.1.9 of Volume II), yet Dr Dixon's forecasts were prepared without consideration to the costs. In absence of the requisite detailed economic modelling, the Azimuth Report's forecasts are no more than theoretical guesswork and should carry no weight in this examination.

SHP's questioning only began to touch the surface of the areas it thought necessary, and had prepared, to cover. In view of the progress achieved during cross-examination, SHP consider that further time would have materially assisted the examination in further demonstrating the weakness, misrepresentations and contradictions in the Applicant's submissions. It would also have helped ensure adequate testing of RSP's evidence in a manner that written questions are not able to – this has been evidenced by the incomplete and muddled answers the Applicant provided to the Examining Authorities written questions on Need (as highlighted in SHP's detailed comments on these responses [REP4-067]). It would also have given SHP a fairer chance to present its case, and thereby mitigate the risk of challenge based upon Article 6 of the ECHR and Article 1 of the First Protocol of the ECHR.

To assist the examination, some examples of the areas of RSP's evidence that SHP had prepared to, and would have, probed further in cross-examination are given below;

Compulsory Acquisition Hearing:

- SHP would have explored whether the funding provided to date has all been provided by MIO Investments Limited or was from another source? In the course of the hearing the Applicant has mentioned different figures for the amount invested to date, with Mr Rothwell referring to £4.75m at one point and at other times Mr Freudmann referring to a number in excess of £14m. The Applicant would have been asked to clarify the amounts invested to date and whether any amounts are inclusive of any capital fees, interest or redemption premia on amounts invested.
- Freudmann Tipple undertakes banking services for the RSP group companies. This would appear irregular, therefore, the Applicant would have been asked to confirm which companies within the RSP group of companies have a UK bank account, thus demonstrating these companies have satisfied the Know Your Customer money laundering checks required to open a UK bank account.
- Mr Freudmann would have been asked to explain the offer RSP made for £20m to acquire SHP's land, when the offer was made, when it provided signed heads of terms to SHP, the target date for completion and confirm whether that offer still stands. The Examining Authority was unable to probe this in the hearing, as a result of the Applicant's claim that it could not do so due to a Confidentiality agreement. As explained in Appendix CA.5.1 to the Summary of Oral Submissions to the CA Hearing, this was not accurate, and SHP considers that the Applicant should be required to explain why it adopted this approach at the hearing.
- Mr Freudmann would have been asked to explain the nature of his role in relation to Manston Airport whilst at Wiggins and advise whether he, or any of his colleagues made any statements (in the period 2001 -2004) regarding the level of capacity being increased to c.200,000 + tonnes per year. (Note – SHP has submitted evidence as part of its other submissions that contradict the claims made by Mr Freudmann that he was only a "foot soldier" and that it would be *"simply ludicrous"* to suggest Manston had capacity of 200,000 tonnes).
- Mr Freudmann would have been asked to explain the level of annual losses experienced by Manston airport during the years of operation by Wiggins.
- The Applicant would have been asked to explain why it had missed Deadlines set by the Examining Authority to provide an explanation and justification of the works it claims is NSIP development and the works it claims to be associated development. The Applicant would then be asked to

explain and justify its claim that the airport related business space at East Midlands is c.8x the size of the comparable business space the Applicant is seeking on the Northern Grass (works 15-17).

- The Applicant's ES (paragraph 5.2.1) effectively assumes that construction work can commence immediately upon any decision by the Secretary of State to grant of a DCO. As this is completely unrealistic for a number of reasons, with 2024/2025 being a more appropriate, yet still optimistic, estimate, the Applicant would have been asked to provide a realistic timetable of the construction programme taking into account the following;
    - Time allowance for judicial review (and any subsequent appeal) of any decision by the SoS to grant the DCO;
    - period required to secure ownership of the land following end of any legal challenges to a decision to grant the DCO;
    - time required to undertake the ground surveys (e.g. archaeological surveys etc) and detailed design, consultation and planning and other requirements (e.g. mitigation) that would be set out in the DCO requirements;
    - Time required to finalise funding, noting George Yerrall's evidence that construction costs are uncertain and that the Applicant is not even able to advise the Examining Authority by how much these costs could vary until it has completed its ground surveys;
    - Completion of contractor appointments (post tendering process), and other licensing, permits etc.
    - Construction timetable of works recognising that the initial estimate of phase 1 costs is £186m (and is highly uncertain) and has increased by £86m for no apparent reason – how credible is it that the Applicant could raise funding when it is unable to quantify costs and how credible is it that there would be any effective plan to spend so much capital in such a short period of time;
    - Post practical completion testing, finalising CAA certification processes to ensure the airport would be safe for operations;
    - This would represent a base case timetable as it ignores any delays that would result from;
        - the Operation Stack arrangements being extended beyond the end of 2020;
        - the requirement to retain the existing HRDF beacon for 2 years after any new beacon is installed for technical/safety reasons;
        - delays in the estimated Airspace Change such that Manston's airspace change is aligned with the other changes in FASI south;
        - delays in CAA certification and / or delays to programme as a result of required changes to design to secure EASA certificate.
    - The Applicant would be asked how it intended to secure funding for its projects given the numerous impediments, including the risks associated with the Airspace Change Process and CAA certification that could result in the airport not being capable of operating until just prior to Heathrow Runway 3.

Need & Operations

- Dr Dixon would have been asked to list the clients worked for in air cargo forecasting in the last 15 years, the nature of the project and role in the project?
- Dr Dixon would have been probed on the forecasts submitted to the Change of Use Inquiry held in March 2017 – these included exactly the same air traffic projections as in the current report. In the course of Dr Dixon's questioning by counsel for RSP at this inquiry in March 2017, Dr Dixon was asked to explain the growth rates applied. In justifying the 4% per annum growth rate applied for years 11-20 of your forecast, Dr Dixon explained that the forecast <u>did not include any intra Europe flights</u> (where forecast growth rates were lower). This is consistent with the analysis contained in paragraphs 3.2.1 and 3.2.3 of Volume II of the Azimuth report, which suggests there are no flights to/or from EU countries. Dr Dixon would have been asked to confirm for the benefit

of the Examining Authority, whether the statement made at the planning inquiry is accurate and that the cargo ATMs forecast does not include any flights to / from European countries (other than Russia)?

- In view of the fundamentally inaccurate response provided by the Applicant to written question ND.1.41, Dr Dixon would have been asked to explain to the examination how many cargo ATMs there were to and from Non-EU international airports in 2018 based of the published CAA statistics. Dr Dixon would have been walked through SHP's response to the Applicant's comments on written question ND.1.41. The SHP response, as the Examining Authority will be aware, included a note (with supporting appendix ND.1.41) that included a detailed analysis of the cargo ATMs in the UK based on the published CAA statistics. Dr Dixon would have been asked whether she agreed with the analysis showing there were only c.34,000 non-domestic cargo ATMs in 2018 (and not *"almost all"* of the 53,628 cargo ATMs the Applicant referenced in its answer). Dr Dixon would be asked to confirm whether she agreed that the CAA statistics show the total number of cargo ATMs between UK and non-EU international airports in 2018 were less than 8,000 (including night flights)? As this is effectively RSP's target market, does this not demonstrate that its forecast of 9,700 cargo ATMs in the 3rd year of operation is literally incredible?
- Dr Dixon would have been probed on the extent to which traditional integrator and the new e-commerce integrator ATMs are included in the forecasts. In the hearing we heard that the forecast did not include traditional integrator ATMs, but did include a significant number of cargo ATMs (c.45%-50% of total based on Appendix 3.3. to the Environment Statement) from an, as yet, non-existent e-commerce market.
- Dr Dixon would have been asked to explain whether these new e-commerce integrators have been in the forecast from the start (rather than conventional integrators) or are they are a recent change. Dr Dixon would have been referred to the reference in para. 3.2.3 of Vol III of the Azimuth Report, and Appendix 3.3 of the ES which specifically identifies DHL/Fedex as the operators, alongside a smaller Amazon operation.
- Dr Dixon would have been asked to explain the model for these new e-commerce air freight business, the routes these aircraft would fly, and the type of aircraft that would fly the routes. The Applicant had previously stated that the forecasts assume either Amazon or a Chinese company would base aircraft at Manston to serve delivery of consumer goods to the south east of England market. Dr Dixon would have been asked if it was correct to assume that the freight carried on these flights would be predominantly imports? If this is the case, then why does paragraph 3.2.3 of Volume III of the report show that the dedicated integrator movements being 100% outbound with small backloads of c20%. This is wholly contradictory position and would suggest serious a material error in the split of import and exports assessed. Dr Dixon and the Applicant would have been asked to comment on this and explain the discrepancies and the impact on the validity of the assessments in the ES. Similarly, based on comments made by Chris Cain regarding the type of aircraft that would be flown by a new e-commerce integrator is the fleet mix to the now expected to be different from that which is assessed in the ES (see appendix 3.3), and what are the implications for the validity of the "worst case" environmental assessments, including noise, air quality etc.
- Dr Dixon would have asked if any of the indicative airlines listed in Appendix 3.3 of the ES are expected to come to a reopened Manston. If so, which ones? Whilst the airlines named in appendix 3.3 were presented as being indicative only, there is a close resemblance to the markets listed in Volume III of the forecast. Dr Dixon would be asked to explain how the interviews informed the assumptions made in the forecasts and would be presented with a number of apparent discrepancies between the comments from interviewees and the narrative relating to the "forecasts".
- Dr Dixon would have been asked to explain how, without any proper consideration of switching costs, the charges to be levied at Manston and the relative price of dedicated freighter operations

versus bellyhold and other market realities, can Azimuth's so-called 'forecasts' be considered anything other than a "guesstimate".

As can be demonstrated from the hearings held on 20 and 21 March 2019, the Applicant's case falls apart under direct questioning, contradictions become apparent and confidence is lost in the veracity of the Applicant's submissions. Almost every answer the Applicant gave to a probing question had the effect of highlighting a new, and material, discrepancy elsewhere in its application, such that the Applicant's only way to protect itself from proper scrutiny of its application was to resort to the safety of its *"commercial confidentiality"* defence.

Whilst written questions are invaluable, as were the well prepared direct questions from the Examining Authority, robust testing of this particular Applicant's submissions through direct questioning on the part of SHP (whom is able to call on the extensive specialist technical expertise from its highly experienced aviation consultants) is required to cut through the assertion and to establish if there is any actual evidence that supports the Applicant's proposals.

SHP was not in any way surprised at what emerged through the hearing processes, where the answers to each question generated greater uncertainty rather than less. Nor were SHP surprised by the Applicant's reluctance to let Azimuth explain their aviation case.

However, SHP were repeatedly surprised that the Applicant did not appear to understand the multiple inherent flaws and contradictions within their proposals.

APPENDIX CA.5.1

Summary Note of Staus of Confidentiality Agreements between SHP and the Applicant

1. At the Compulsory Acquisition hearing on 20 March 2019 ("CA Hearing"), during discussions on Agenda Item 5, the Examining Authority sought answers from the Applicant regarding its offer to acquire the site for a total consideration of £20m (which included SHP retaining the benefit of a restriction on title against residential development) and how it related to the valuation that had been placed on the site of £7.5m. Note: the £7.5m relates to the total amount assessed for land acquisition and blight costs in the Funding Statement, whereas the CBRE "valuation" of the SHP land of £2m is set out in the letter of 10 October 2018 from Colin Smith, as appended to SHP's answers to written questions [REP3-reference still to be issued].

2. The Applicant claimed that its reason for not disclosing information (which SHP considers is of material importance) in response to both written question CA.1.16 and the Examining Authority's question at the hearing, was that the matters were subject to a confidentiality agreement preventing the Applicant from disclosing the requested information.

3. SHP advised the Examining Authority that this explanation is not supported by the facts. SHP noted that there had been confidentiality agreements between SHP and the Applicant, but that any restrictions that could have justified the Applicant's failure to disclose material information had expired on 16 January 2019. SHP further advised the Examining Authority that both the Applicant and its legal advisers were aware that the confidentiality provisions had expired, and that SHP had details of correspondence it could provide to the Examining Authority to evidence this. SHP agreed to provide this evidence at Deadline 5.

4. Counsel for the Applicant had subsequently acknowledged that the confidentiality agreements had expired, but stated that *"the non-disclosure agreement covered a certain period and all that took place within that period… when it expired the things that took place that didn't fall under that umbrella were not covered but things that had taken place pursuant to that agreement were still covered by the confidentiality clause."*

5. As SHP explained in its answer to written question CA.1.17 and CA.1.18, SHP had long treated the approaches from RSP with scepticism. SHP is concerned that RSP's primary objective may have been to seek to influence the approach SHP took to objecting to the DCO examination through limiting the information that could be shared under the examination process.

6. Therefore, the confidentiality agreements were purposefully drafted in a manner that ensured the confidentiality obligations in respect of RSP's offer would terminate, should RSP fail to execute the transaction within a specified timetable.

7. This would ensure that SHP and RSP would be free to disclose the material factual information to the Examining Authority, as SHP did in its response to the ExA's first Written Questions. As shown in paragraphs 13.2 and 13.3 of the most recent confidentiality agreement between SHP and the Applicant, following the expiry of the Restricted Period, which for the avoidance of doubt was 16 January 2019, the confidentiality provisions of the agreement terminated at that point.

   13.2 "notwithstanding any discontinuing or ending of discussions regarding the proposed transaction, the provisions of this agreement shall apply indefinitely to the buyer in relation to any confidential information disclosed regarding the Secretary of State's involvement with the site, including but not limited to the content and terms of the Parking Services Agreement.

13.3 except as set out in clause 13.2, or otherwise in this agreement, the provisions of this agreement shall terminate upon the expiry of the Restricted Period."

8. This first Confidentiality Agreement was dated 3 December 2018 (well after the offer of £20m had been made) and expired on 12 December 2018. This date matched the "Completion Date" included in the signed Heads of Terms signed by RSP on 3 December 2018. As a result of the failure to meet the target completion date, the Confidentiality agreement was extended three times, and ultimately to 16 January 2019. In view of the apparent lack of serious engagement from RSP and the strengthening view on the part of SHP that the engagement from RSP had been an attempt to negate SHP's submissions to the examination, a decision was taken not to extend any confidentiality agreement beyond that date.

9. Allied to this belief, there was also a concern on the part of SHP that the confidentiality provisions had not been fully adhered to, with suspicions heightened by the fact Tony Freudmann's signature (on behalf of RSP) on the most recent agreement was witnessed by a prominent local Councillor at Thanet District Council, who has made representations to this examination in support of the Applicant. We considered this to be highly irregular.

10. There then followed repeated attempts to encourage SHP to extend the Confidentiality provisions, even resorting to the Applicant's legal advisor unilaterally emailing through revised Confidentiality Agreements executed on each of (i) 5 February 2019 (10 days before the parties were to submit responses to the Examining Authority's Written Questions) and (ii) 19 March 2019 - immediately prior to the CA Hearing.

11. We provide below extracts from emails between the parties that demonstrate beyond any doubt that (i) the last confidentiality agreement between SHP and the Applicant had expired on 16 January 2019; (ii) that the Applicant and its legal adviser were fully aware of this; and (iii) that SHP had, on multiple occasions, advised the Applicant and its legal advisor that SHP would not be progressing a new Confidentiality Agreement, also referred to as a Non-Disclosure Agreement ("NDA").

    i. Extract of email dated 5 February 2019 (6.06pm) from the Applicant's legal adviser, BDB Pitmans, to Cripps LLP (property lawyers for SHP). This demonstrates the Applicant's legal adviser was fully aware the agreement had expired well before the Deadline 3 (the date on which the Applicant responded to first written question CA.1.16);

    "In the meantime, given that the NDA between our clients has also expired and on the assumption your client would like a new document in place, we have arranged for our client to sign the attached."

    ii. Extract of email response dated 7 February 2019 from Cripps LLP (for SHP) to BDB Pitmans;

    "Until our clients are satisfied that your clients have a genuine and deliverable intent to acquire the site, our client has no wish to progress the issue of a new NDA."

    iii. Extract of email response dated 19 March 2019 from Cripps LLP (for SHP) to BDB Pitmans;

    "I refer to your email and telephone call which I've discussed with our client.

In your email, although not mentioned in the call, you have attached a copy of a confidentiality agreement signed by your client and sought confirmation that my client has now signed the agreement.

We are very surprised to have received this given the clear guidance provided in the email to you from Clare dated 7 February 2019 (12:08) and a further email exchange between Pauline Bradley and Niall Lawlor on 14/15 March 2019 (which was copied to you). In both emails it was made clear that our client had no wish to progress the issue of a new NDA. I've attached further copies of these emails for completeness."

12. In conclusion, SHP had anticipated that the Applicant may try to negate any attempts by the Examining Authority to probe its offer of £20m and the contradictions between the offer, the "CBRE advice" and the level of funding requirement set out in the Applicant's Funding Statement. Whilst it is assumed that the barrister for the Applicant was not provided with accurate information for the CA Hearing, it is the clear view of SHP from the evidence above, that the Applicant and its legal adviser should have intervened immediately to correct the position.

13. The evidence presented above speaks for itself, however should the Examining Authority require any further information, SHP is willing to assist as required.

APPENDIX CA.10.1

Review of Riveroak Strategic Partners Business Plan: submission of Seamus Kealey, Director of Altitude Aviation Advisory Limited to be presented at the Compulsory Acquisition Hearing on 20th March 2019

Introduction

Riveroak Strategic Partners (RSP) has provided high level financial forecasts for a re-opened Manston Airport as follows:

- A short Financial Analysis paper (Appendix 3) from 2017 in response to the Avia Solutions report for Thanet District Council.
- Single page 2019 Summary Business Model forecast table in Appendix F.1.5. Altitude Aviation Advisory Limited (Altitude) has been asked by Stone Hill Park Limited (SHP) to analyse the financial forecasts provided by RSP in the context of the UK airport market and two leading European freight focused airports (Liege and Leipzig) referenced by RSP as comparable airports.

The Altitude team has deep experience of the airport investment and debt funding market with Directors having 20 years' experience of airport equity and debt funding transactions involving over 200 airports in the UK, Europe and globally.

As well as extensive equity investment experience, Altitude has particular experience in the airport debt financing market with recent transactions including Leeds Bradford (£83m), London Luton (£390m), AGS Airports comprising Glasgow, Aberdeen and Southampton (£500m), Bristol (£346m), Edinburgh (£500m), and Budapest (€1.3bn).

Background

When assessing an airport investment opportunity, our experience is that equity investors or debt providers will normally expect similar levels of detailed information and forecasts to be available to enable them to make an informed investment decision. The minimum requirements would be:

- Detailed traffic and business plan forecasts setting out the competitive landscape.
- Why the particular forecasts should be achievable?
- Airline use agreements in place with carriers to support aeronautical revenue forecasts.
- Detailed non-aeronautical projections for car parking, retail, food and beverage, advertising, property rentals, etc.
- Detailed staff and non-staff cost projections including proposed operating model (insourcing vs. outsourcing activities), organisational structure, resource plan, main outsourced contract details, utilities, insurance, property rates, etc.
- Infrastructure process capacity and detailed capital investment projections.
- Detailed financial model, including sources and uses of funding.
- Detailed benchmark performance to justify the model inputs for each aspect of the business plan.

Much of the expected detail would typically focuses on historic business performance as a basis for supporting the forecast projections. Unfortunately for Manston, the historic business performance has been negative over many years, with operating losses between 2006 and 2014. Lenders would be particularly interested to see the detailed justification of why the future performance would not mirror historic (loss making) performance.

In our opinion, RSP's supporting documents for their Development Consent Order application for the re-opening and development of Manston Airport do not provide even the most basic information that would allow any funder to assess the financial viability of a re-opened airport.

To date we have only seen a short Financial Analysis paper from 2017 in response to the Avia Solutions report for Thanet District Council, and more recent 2019 Summary Business Model forecast in Appendix F.1.5.

We note that the passenger and cargo volumes in the 2017 Financial Analysis paper align with the 2019 Appendix F.1.5 Summary Business Model output.

However, the 2019 forecast revenues are now consistently higher than those in the 2017 Financial Analysis paper. In particular, the revenue and profitability (EBITDA) projections in 2019 are materially higher than both the 2017 forecasts and benchmark airport actual performance which we do not view as being credible.

We set out a comparison of the 2017 and 2019 RSP forecasts later in this section.

RSP Forecast Benchmarking Approach

We have analysed the high level 2019 Appendix F.1.5 - Summary business model forecast outputs provided by RSP.

To provide context for the RSP forecasts, we have compared the revenue and profitability forecasts to actual performance of long established UK airports with similar throughput to the forecast for a re-opened Manston Airport. We have also considered airports with up to 20 million Work Load Units (WLUs) per year, where 1 Work Load Unit is equivalent to 1 passenger or 100kg of cargo.

This dataset includes East Midlands, the UK's leading freighter aircraft airport.

As outlined, we have also compared the forecast performance with two leading European freighter aircraft airports. Liege and Leipzig have a similar profile to the RSP forecasts for Manston Airport (i.e. mainly freight throughput with some passenger volume) and as such should be very close comparators to the forecast Manston financial performance.

We have assumed the 2017 and 2019 forecasts are in constant prices (i.e. excluding inflation), based on the profile of revenues and costs and the following statement in the 2017 Financial Analysis paper (p.2):

> *"However, general inflation has not been applied as the business itself has a natural correlation to growth and inflation which pass through."*

In total, we have analysed actual financial performance across 23 UK airports and the two European Airports. The comparative data is set out in the table below with East Midlands, Liege and Leipzig airports highlighted along with RSP's 2019 Appendix F.1.5 forecast for Manston in Year 3, Year 10, and Year 20 respectively.

Airport	Airport Code	Financial Year	WLU	Aeronautical Revenue	Total Revenue	EBITDA	EBITDA Margin
London Luton	LTN	31-Dec-17	16.0m	£82.8m	£180.2m	£49.1m	27%
Edinburgh	EDI	31-Dec-17	13.8m	£97.6m	£184.9m	£105.2m	57%
Leipzig	**LEJ**	**31-Dec-17**	**13.7m**	**£64.3m**	**£94.3m**	**£15.6m**	**16%**
Birmingham	BHX	31-Mar-18	13.3m	£64.2m	£155.5m	£78.1m	50%
Glasgow	GLA	31-Dec-17	10.1m	-	£131.4m	£41.9m	32%
East Midlands	**EMA**	**31-Mar-18**	**8.4m**	**£23.2m**	**£61.0m**	**£18.5m**	**30%**
Bristol	BRS	31-Dec-17	8.1m	£38.9m	£100.1m	£52.1m	52%
Liege	**LGG**	**31-Dec-17**	**7.4m**	**-**	**£49.9m**	**£6.9m**	**14%**
Newcastle	NCL	31-Dec-17	5.4m	-	£58.0m	£32.5m	56%
Liverpool	LPL	31-Mar-18	4.9m	-	£35.4m	£7.6m	21%
London City	LCY	31-Dec-17	4.5m	-	£112.0m	£43.0m	38%
Leeds Bradford	LBA	31-Mar-18	4.1m	-	£31.5m	£10.5m	33%
Aberdeen	ABZ	31-Dec-17	3.2m	-	£56.2m	£21.4m	38%
Belfast City	BHD	31-Dec-17	2.6m	-	£21.3m	£6.0m	28%
Southampton	SOU	31-Dec-17	2.1m	-	£31.3m	£10.9m	35%
Cardiff	CWL	31-Mar-18	1.5m	£9.6m	£18.6m	£0.0m	0%
Doncaster Sheffield	DSA*	31-Mar-17	1.3m	-	£10.6m	(£14.5m)	(136%)
Southend	SEN	28-Feb-18	1.1m	-	£21.2m	£0.2m	1%
Exeter	EXE	31-Mar-18	0.9m	-	£21.4m	£2.6m	12%
Prestwick	PIK	31-Mar-18	0.8m	£7.0m	£18.2m	(£1.8m)	(10%)
Bournemouth	BOH*	31-Mar-17	0.7m	£3.5m	£8.8m	(£0.5m)	(5%)
Norwich	NWI	31-Mar-18	0.5m	-	£14.0m	£3.7m	27%
Newquay	NQY	31-Mar-18	0.5m	-	£11.6m	£0.0m	0%
Humberside	HUY	31-Mar-18	0.2m	-	£8.1m	£0.8m	10%
Durham Tees Valley	MME*	31-Mar-17	0.1m	-	£5.4m	(£2.3m)	(43%)
Manston Year 3	**MSE Y3**	**Y3**	**1.7m**	**£20.1m**	**£32.5m**	**£7.9m**	**24%**
Manston Year 10	**MSE Y10**	**Y10**	**3.1m**	**£36.4m**	**£62.8m**	**£30.8m**	**49%**
Manston Year 20	**MSE Y20**	**Y20**	**4.8m**	**£54.4m**	**£90.6m**	**£50.3m**	**56%**

RSP Manston Airport Forecasts vs. UK and European Airport Financial Performance (source: RSP, company accounts, Altitude analysis)

In the rest of this document, we assess the credibility of the RSP financial forecasts. While we consider the volume projections for Manston to be completely unrealistic (see earlier reports), in this analysis we focus only on the financial aspects of the projections **i.e. we assume the volume projections are achieved.**

Our analysis demonstrates that even if the unrealistic volume projections are achieved, the financial projections are not credible. The RSP business plan effectively assumes that unprecedented rates of volume growth can be combined with class leading financial performance. This is in complete contrast to the experience at Manston before it was closed, when the airport was chronically loss making (see Section 3.3 of the Altitude January 2018 report).

RSP 2017 and 2019 Forecast Comparison

We have analysed the financial forecast information in the 2017 and 2019 forecasts provided by RSP. The forecast data is set out in the table below, along with the variances between the 2019 and 2017 forecasts.

2017 Forecast	Units	Yr 5	Yr10	Yr15	Yr20	Yr25
Passengers	000s	687	976	1171	1408	1443
Freight Tonnes	000s	174	212	271	341	376
Total ATMs	000s	9,936	11,600	14,113	17,170	18,958
Total WLUs	***000s***	***2,424***	***3,099***	***3,876***	***4,815***	***5,206***
Revenues						
Passenger	£000s	3,000	4,000	5,000	6,000	6,000
Freight	£000s	28,000	35,000	44,000	55,000	60,000
Fuel	£000s	8,700	10,900	12,700	15,100	14,900
Total Revenue	***£000s***	***39,700***	***49,900***	***61,700***	***76,100***	***80,900***
Expenses						
Operating	£000s	20,400	24,800	28,900	33,500	35,600
Overheads	£000s	6,500	6,700	6,900	7,200	7,200
Total Expenses	***£000s***	***26,900***	***31,500***	***35,800***	***40,700***	***42,800***
EBITDA						
EBITDA	***£000s***	***12,800***	***18,300***	***25,800***	***35,500***	***38,100***
2019 Forecast						
Freight Movements	ATMs	9,936	11,600	14,113	17,170	
Passenger Movements	ATMs	5,064	6,754	7,602	9,298	
Total WLUs	***000s***	***2,424***	***3,099***	***3,876***	***4,815***	
Revenues						
Aeronautical	000s	28,532	36,384	44,596	54,373	
Commercial Net Income	000s	2,060	2,927	3,512	4,223	
Other Income	000s	19,398	23,477	27,317	32,024	
Total Revenue	***000s***	***49,990***	***62,788***	***75,425***	***90,620***	
Expenses						
Direct (Operating)	£000s	21,543	23,319	26,928	31,066	
Indirect (Overheads)	£000s	7,824	8,680	8,967	9,257	
Total Expenses	***£000s***	***29,367***	***31,999***	***35,895***	***40,323***	
EBITDA						
EBITDA	***£000s***	***20,623***	***30,789***	***39,530***	***50,297***	
2019 vs. 2017 Variance						
Total WLUs	000s	-	-	-	-	
Total Revenue	£000s	10,290	12,888	13,725	14,520	
% Revenue Variance	***%***	***25.9%***	***25.8%***	***22.2%***	***19.1%***	
Total Expenses	£000s	2,467	499	95	-377	
% Expenses Variance	***%***	***9.2%***	***1.6%***	***0.3%***	***-0.9%***	
EBITDA	£000s	7,823	12,489	13,730	14,797	
% EBITDA Variance	***%***	***61.1%***	***68.2%***	***53.2%***	***41.7%***	

Comparison of RSP 2017 and 2019 Summary Business Model Forecasts (source: RSP, Altitude analysis)

Whilst very limited financial details have been provided by RSP, we note the following:

- 2017 and 2019 passenger and freight volumes are aligned, so any differences in the model outputs are driven by changes in revenue and operating cost (expenses) input assumptions.

- Revenues are consistently higher in the 2019 forecast vs. 2017, ranging from 19% to 26% higher depending on the year. As illustrated in the revenue / WLU benchmarking analysis later in the report, this would require Manston to command a 3x market premium compared to leading airports in the sector which we view as not being credible.
- Operating expenses are broadly aligned in the two forecasts, with the exception Year 5 when costs are forecast to be ca. 9% higher in the 2019 forecast.
- The higher 2019 forecast revenues and broadly flat operating cost expenses leads to materially higher EBITDA vs. 2017, ranging from ca. 42% to 68% higher depending on the year which we view as unrealistic.
- No justification is provided for the higher revenue or EBITDA projections in 2019, which are materially higher than benchmark airport performance.
- Even if the unrealistic volume projections are achieved, the revenue profile in the 2019 forecast would quickly position Manston's total revenue / WLU and EBITDA / WLU significantly above long established and better located freight airports at East Midlands, Liege and Leipzig which any funder would view as not being remotely credible.
- EBITDA forecasts are completely unrealistic, being above Liege in Year 3, significantly above East Midlands and Leipzig by Year 10, and 20% above the current combined EBITDA for Liege, East Midlands and Leipzig by Year 20 (see below for details).

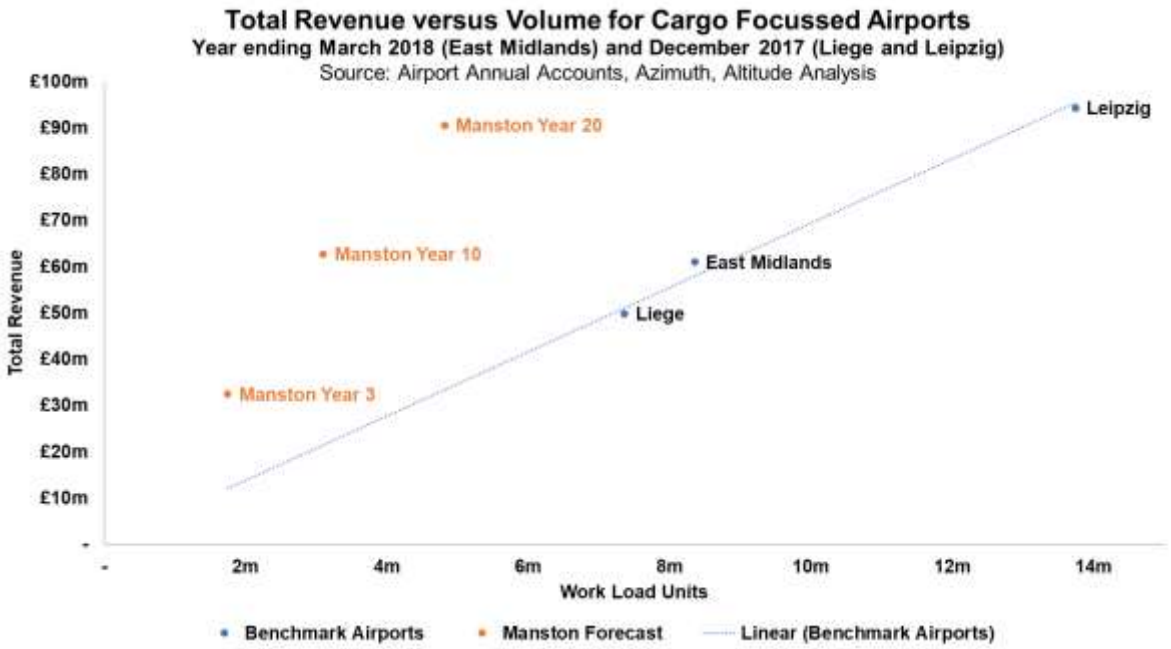
Comparison to Other Freighter Focused Airports

We initially focus on three leading freighter aircraft airports in the benchmark data sample. These airports are amongst the leading all-cargo airports in Europe. In 2016, Leipzig was the largest European Union (EU) airport in terms of freighter ATMs, with East Midlands and Liege ranked 5th and 6th respectively (see Figure 26 of the Altitude January 2018 report).

The chart illustrates a good correlation of actual total revenue to total WLU volumes for Liege, East Midlands, and Leipzig airports. It is noticeable that the forecast Manston performance in each year would be materially above the trend line, which any investor or debt provider would view as being extremely optimistic.

By year 10 of the RSP forecast, Manston revenue is projected to exceed current revenue levels for both Liege and East Midlands. This is despite the projected volume for Manston in Year 10 being less than half the volume at Liege and East Midlands. In fact, the implied revenue / WLU at Manston in Year 10 is almost 3x the currently achieved levels at Liege and East Midlands which we view as not being remotely achievable in a competitive market.

By Year 20, total revenue for Manston is projected to almost reach current Leipzig levels – despite projected volume only just over one-third of current Leipzig levels.

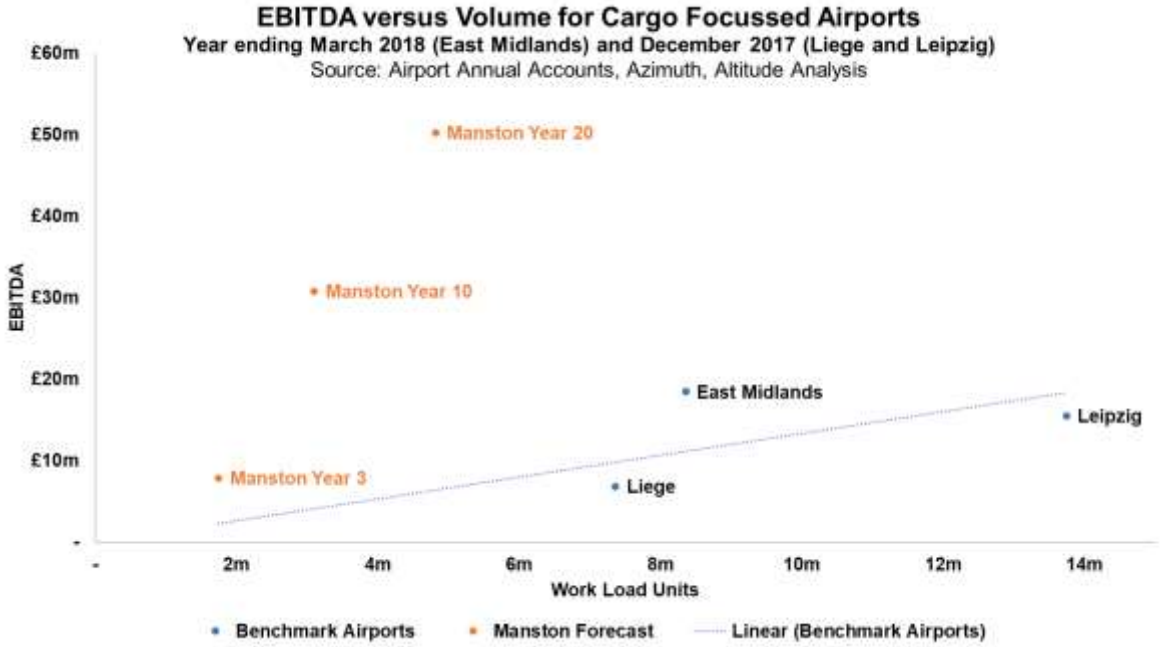


The projected EBITDA performance deviates even further from actual benchmark performance.

- Year 3 (2nd year of operations) EBITDA performance at Manston is forecast to exceed the current Liege outturn.

- Year 10 EBITDA is forecast to be substantially above the level achieved by East Midlands and Leipzig.
- Year 20 EBITDA is forecast to be more than 20% higher than the ***combined*** current EBITDA of Leipzig, East Midlands and Liege (the #1, #5 and #6 EU airports for freighter movements in 2016).

The EBITDA forecasts are not plausible in a competitive market, even if the volume projections could be achieved.



Early Year Projections

The RSP forecast for Manston Airport in the first year of operations (Year 2 in the Summary Business Model) generates more revenue (£26.5m) and a materially higher EBITDA than long established UK airports, with no obvious financial incentives included to stimulate operators to use the airport.

Airport	Year	Work Load Units (m)	Revenue (£m)	EBITDA (£m)
Manston	Year 2	1.0	26.5	6.5
Prestwick	2017	0.8	18.2	(1.8)
Exeter	2017	0.9	21.4	2.6
Southend	2017	1.1	21.2	0.2
Doncaster Sheffield	2017	1.3	10.6	(14.5)
Cardiff	2017	1.5	18.6	0.0

Early Year Performance vs. Similar Throughput UK Airports (source: company reports, Altitude analysis)

- The Year 2 forecast is extremely optimistic in the context of the UK airport market with similar levels of throughput – it suggests, without any justification, that the airport can immediately command a premium over established airports.
- It is surprising that the initial revenue forecast is so high as RSP acknowledges the need to incentivise operators to use Manston in the early years – but there is no obvious allowance for financial incentives to stimulate traffic.
- We note from the FY17 financial accounts that East Midlands Airport, a long-established freight airport, offered £4.254m in rebates and incentives to airlines to support growth. It is inconceivable that Manston Airport would not have to offer significant incentives to attract airlines and traffic, particularly in the early years of the forecast.
- The forecast would be a dramatic improvement on Manston Airport's actual historic business performance which was loss making every year between 2006 (first year of available data) and its closure in 2014 – this further stretches the credibility of the RSP forecast.

Aeronautical Revenue Benchmarking

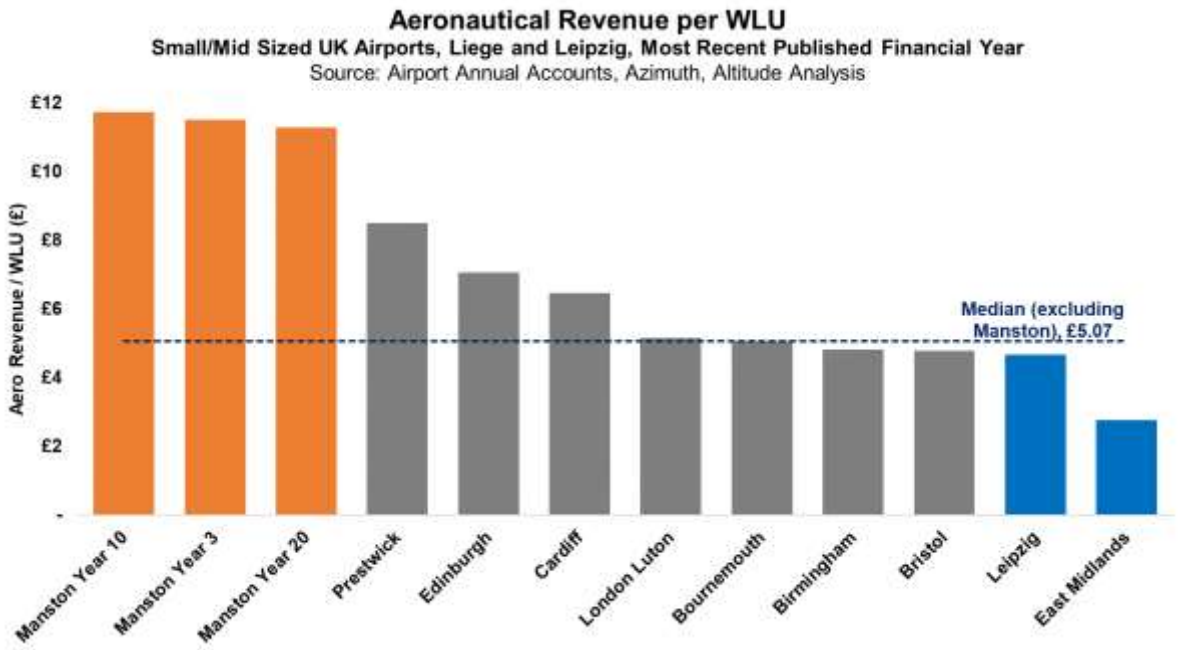
Aeronautical revenue is only reported by a sub-set of the airports in the sample (the other airports report total revenue).

RSP forecasts aeronautical revenue to be significantly higher than East Midlands. This is implausible:

- East Midlands is a leading UK freight airport with a based hub carrier (DHL), other leading cargo operators, and a long-developed operation with spare capacity – there is simply no reason why Manston could command a 4x aeronautical revenue premium over East Midlands, or 2x premium over Leipzig, the leading EU freighter airport.
- Year 3 aero revenue is only 13% lower than East Midlands despite 79% lower throughput.
- Year 10 aero revenue is 57% higher than East Midlands despite 63% lower throughput.
- Year 20 aero revenue is 134% higher than East Midlands despite 42% lower throughput.

More generally, the forecasts for Manston envisage much higher aeronautical yield (aeronautical revenue per WLU) than any of the airports which separately report aeronautical revenue in their annual accounts. This is not credible, especially when compared to those aeronautical yield performance of airports focussing on freight (Leipzig and East Midlands).

RSP make the point that Manston should be compared to freight focused airports. The benchmarking clearly illustrates that the RSP aeronautical revenue projections are heroic and would be significantly above market levels for those airports with a material level of throughput.



Total Revenue Benchmarking

As previously noted, the RSP forecast for Manston total revenue implies much higher yield (total revenue / WLU) than achieved by leading cargo airports (East Midlands, Leipzig and Liege).

When broadening the analysis to the full sample of airports, it can be seen that the projected Manston yield is significantly higher than the overall median performance. By Year 10, the Manston revenue / WLU is forecast at over £20, compared to a median level of below £13.

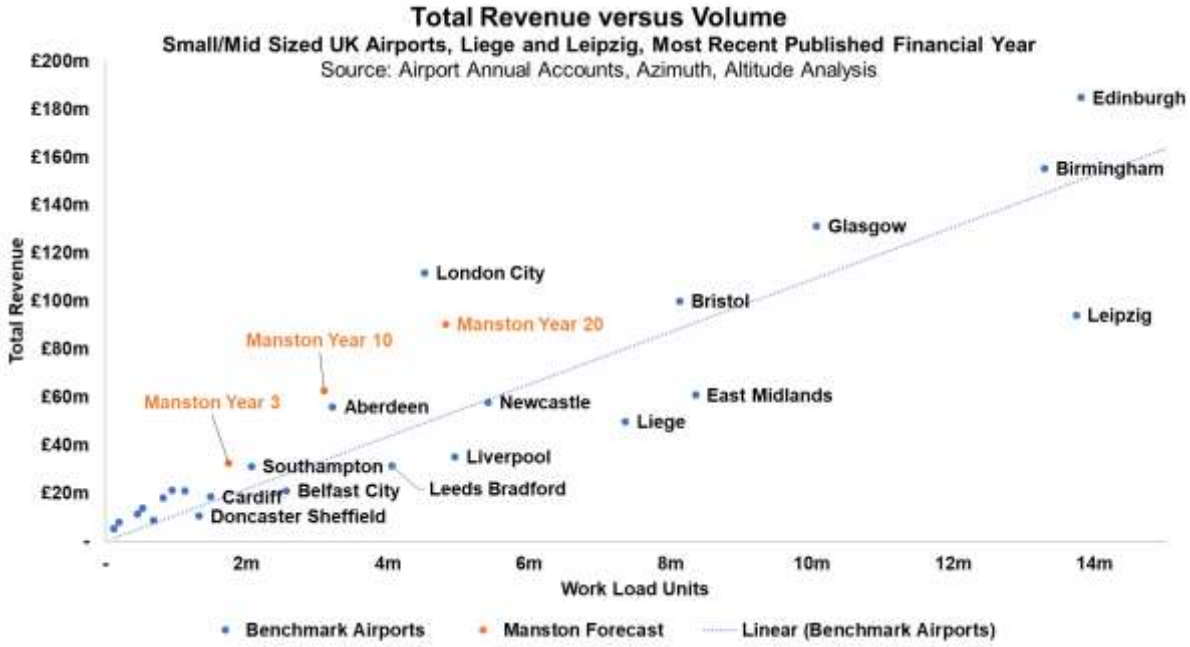
Most of the airports with higher revenue/WLU are very small airports with WLU levels typically a fraction of the Manston forecast values.

- Durham Tees Valley (4% of Manston Year 10 WLUs), Humberside (6%), Newquay (15%), Norwich (17%), Prestwick (26%), Exeter (30%), and Southend (36%).

Each of the airports above has significant ancillary revenues (e.g. property rentals), which are not directly related to volume throughput. With only small volumes of traffic, these ancillary revenues typically inflate the revenue / WLU metric.

There are 9 airports in the sample with volume broadly similar to the range of Manston projections (Year 3 to Year 20). Seven of these airports have much lower revenue / WLU (Newcastle, Liverpool, Leeds Bradford, Belfast City, Southampton, Cardiff and Doncaster Sheffield). The two exceptions are:

- London City – higher revenue / WLU than Manston projections, due to its status as a premium business airport serving London's financial services sector. The airport also has a large corporate jet centre.
- Aberdeen – slightly lower revenue / WLU, due to its status as "the world's busiest commercial heliport, transporting more than 3.1 million passengers a year in support of the North Sea oil and gas industry." (source: www.ferrovial.com).



The Manston revenue projections are at a level only achieved by premium passenger airports (serving the financial services sector in London or the North Sea oil and gas sector). For an airport focussed on cargo, the revenue forecasts are clearly not credible.

EBITDA Benchmarking

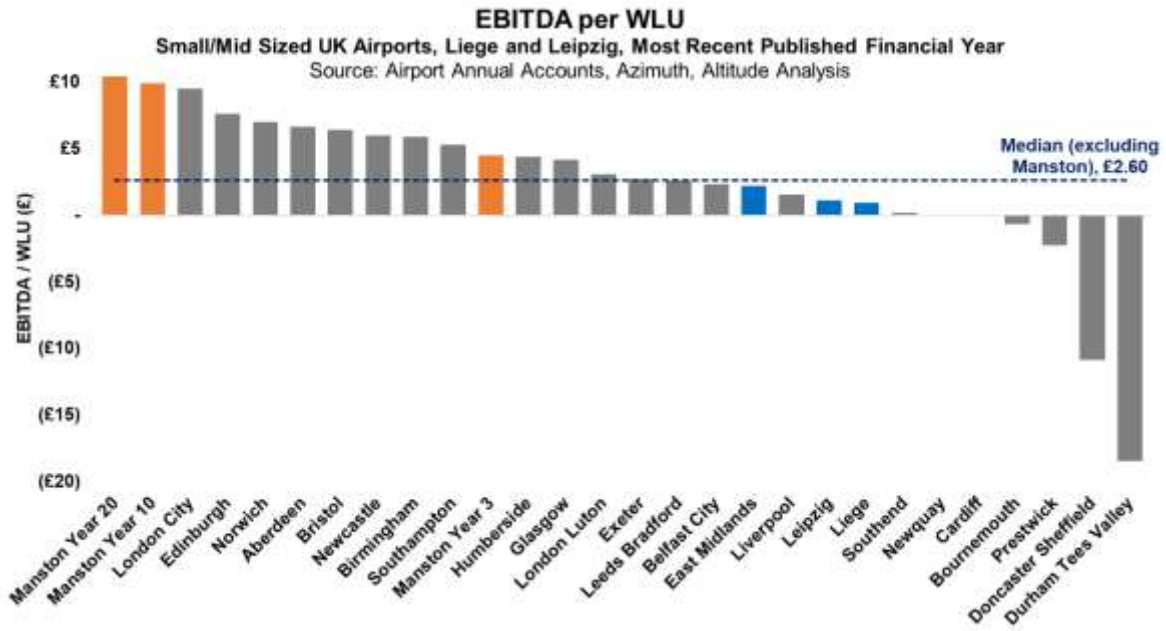
RSP's forecast EBITDA is immediately positive from the first year of operations. This is extremely optimistic, particularly as no material incentives appear to be included in the forecast to attract carriers and / or stimulate traffic growth which is highly unusual. As previously outlined, even established airports like East Midlands have to continue to offer incentives to retain carriers and grow traffic (£4.3m of airline incentives in FY17, source: annual accounts).

Year 10 EBITDA would be significantly above East Midlands, Leipzig and Liege airports.

RSP does not provide information on why a re-opened Manston Airport would achieve class leading EBITDA compared to long established airports with similar traffic profile.

Year 20 EBITDA would be in line with London Luton Airport, London City Airport and Bristol Airport – some of the most successful mid-sized passenger airports in the UK - which is implausible.

In fact, the EBITDA / WLU is forecast to be best in class from Year 10 onwards i.e. higher than achieved by any other airport in the sample (and higher than all UK airports except Heathrow). This is not remotely realistic.



Conclusion

- RSP's application documents do not provide even the most basic information that would allow any funder to assess the financial viability of a re-opened airport.
- Our experience over 100 transactions involving over 200 airports is that equity or debt providers would require considerable and detailed forecasts, and supporting information to allow proper due diligence to be undertaken.
- This level of due diligence would be required to get the investment approved by the respective investment committees.
- The lack of detailed and substantiated financial forecasts would raise significant questions around the financial viability and fundability of the proposal, and what information has been provided is not credible in an established market context.
- Our analysis demonstrates that even if RSP's unrealistic volume projections are achieved, the financial projections are not credible.
- The summary business model forecasts would position Manston as one of the most profitable airports in the UK, and extremely profitable compared to the similar freight business model airports of Liege and Leipzig.
- This is simply not credible when assessing the traffic and financial characteristics of the best performing UK airports, and the comparator European freight airports.
- Based on our extensive support for equity and debt financing of airports, we are of the opinion that there is little or no prospect that investors would commit to fund the airport based on the lack of information provided, implausible forecasts, and the performance deviation from long run historic actual performance of the other UK and European airports analysed.

Seamus Kealey, Director – Curriculum Vitae

Seamus Kealey has 30 years of experience in the aviation sector. Prior to co-founding Altitude Aviation Advisory in May 2013, he was a founding director of AviaSolutions (2001-2013) leading the airport transaction and infrastructure teams. Seamus has advised on over 200 buy and sell side and refinancing transactions across the world involving a range of transaction and ownership structures.

Previous advisory experience includes 3 years of transport consulting experience at Ernst & Young where he led the Aviation Infrastructure Team on a range of Public Private Partnership transactions and process improvement assignments for airport and transport sector clients.

Prior to entering management consultancy, Seamus had over 10 years of direct airport operations experience working for BAA plc in a number of roles including Senior Project Manager responsible for development and delivery of large infrastructure projects at Heathrow Airport and Stansted Airport.

Seamus specialises in the following areas:

- Airport strategy development and performance optimisation.
- Major airport transactions and refinancing processes.
- Development and review of airport capacity and capital investment plans.
- Development of airport tariff and incentive schemes to reflect market demand and negotiation of airline deal structures.

Transaction and Infrastructure Advisory Experience

Director responsible for airport transactions and infrastructure advisory teams.

Seamus has widespread experience leading airport business plan development and assessment assignments. Recent experience includes:

- Leading buy side vendor due diligence for Vinci Airport £2.9bn acquisition of 50.01% of Gatwick Airport (2019).
- Leading due diligence for Leeds Bradford Airport £83m re-financing process (2019).
- Leading buy side vendor due diligence for Vinci Airport acquisition of Airports Worldwide Group of five airports (Belfast International, Stockholm Skavsta, Orlando Sanford, San Jose (Costa Rica), and Liberia (Costa Rica airports) (2018).
- Leading sell side vendor due diligence for Ardian Infrastructure disposal of 49% equity stakes in London Luton Airport (2018).
- Leading sell side vendor due diligence for Ontario Teachers Pension Plan disposal of equity stakes in Bristol and Birmingham airports (2017).
- Leading buy side acquisition due diligence for AMP Capital's £220m acquisition of Leeds Bradford Airport (2017).
- Leading due diligence for Macquarie Infrastructure Real Asset disposal of 27.2% equity stake in Copenhagen Airport (2017).
- Leading due diligence to support £390m refinancing of London Luton Airport (2017).
- Leading due diligence to support €1.4bn refinancing of Budapest Airport (2017).
- Leading sell side vendor due diligence on behalf of Global Infrastructure Partners and Oaktree Capital for the ca. £2.0bn disposal of London City Airport (2016).
- Leading buy side acquisition due diligence on behalf of China Everbright and Friedmann Pacific in the acquisition of Tirana International Airport, transaction price undisclosed (2016).
- Leading due diligence and business planning support for the £395m refinancing of Bristol Airport (2015).

- Leading sell side vendor commercial support for disposal of Toronto City Airport Terminal by Porter Airlines, transaction price estimated in excess of $1.0bn (Canadian) (2015).
- Leading buy side acquisition due diligence and business planning support for Macquarie / Ferrovial £1.05bn acquisition of Glasgow, Aberdeen and Southampton airports from Heathrow Holdings (2014).
- Leading sell side vendor due diligence and business planning support for Macquarie £330m disposal of 50% Bristol Airport (2014).
- Leading due diligence and business planning support for the £500m refinancing of Edinburgh Airport (2014).

Avia Solutions Limited experience

- Leading due diligence and business planning support for PSP's €1.1bn acquisition of Hochtief AirPort including equity stakes in Hamburg, Dusseldorf, Athens, Budapest, Tirana and Sydney airports (2013).
- Leading due diligence and business planning support for Brussels Airport €1.1bn refinancing (2012 and 2013).
- Leading advisory for bond rating support for Copenhagen Airports Denmark Holdings (2012).
- Leading due diligence and business planning support for Manchester Airports Group / IFM £1.5bn acquisition of London Stansted Airport (2012).
- Leading business plan support for £279m refinancing of Bristol Airport (2012).
- Leading due diligence and business plan support for Global Infrastructure Partners on their £807m acquisition of Edinburgh Airport (2012).
- Leading business planning support for Copenhagen Airport Denmark Holdings €0.7bn refinancing (2011).
- Leading due diligence and business planning support for Ferrovial's disposal of over £1.0bn equity in BAA plc (2011 and 2012).
- Leading due diligence and business planning support for Ferrovial's £1.5bn sale of London Gatwick Airport to Global Infrastructure Partners (2009).
- Providing technical support and production of papers for the Irish Government's Panel assessing the viability of an independent terminal operation at Dublin Airport (2002 and 2003).

Business Optimisation Experience

- Supporting development of long term business plan for European airport handling over 10mppa (2016).
- Review of long term business plan for European hub airport >30mppa. (2015).
- Review of long term business plan for an Asia Pacific airport >20mppa (2013).
- Strategic traffic growth and key airline targets for large European airport (2013).
- Assessment of capacity constraints at Copenhagen Airport and alignment of airport management and shareholders on alternate development strategy (2011 and 2012).
- Financial contribution and consumption analysis by traffic segment for a European Airport handling over 40m passengers per annum (2012).
- Negotiations with airlines on aeronautical charges tariff and long term agreements.
- Support for a number of airports in developing air route development strategies.

Ernst & Young Experience (1998-2001)

Managing consultant leading the Aviation Infrastructure team based in London. Assignments covered the airport, air traffic services, rail and transport regulation sectors. Selected projects included:

- Supporting the Airline Group's PPP acquisition of an equity stake in the UK's National Air Traffic Services.
- Supporting AirTanker consortium's successful bid for the UK Ministry of Defence's Future Strategic Tanker Aircraft (FSTA) programme to provide the RAF with troop air transport, and air to air refuelling capability over a 27-year period (from 2008).
- Review of major (£6bn) rail investment project (West Coast Mainline) for Railtrack / Network Rail (UK rail infrastructure provider).

BAA plc Experience (1988-1998)

Senior Project Manager responsible for development and delivery of large infrastructure projects at Heathrow Airport and Stansted Airport. Selected projects included:

- Led project team in £60m redevelopment of London Heathrow Airport's Terminal 2 (completed 1998) including replacement of HBS baggage system, check-in expansion, increasing concession areas, passenger security screening, and office space.
- Led project teams delivering a range of airfield, terminal, car parking, and commercial developments in operational environments at London's Heathrow Airport.
- Part of the Stansted Airport Development Team delivering £450m new terminal and airfield capacity (completed 1991).

Education and Professional Qualifications

- BSc. Quantity Surveying – University of Ulster (1988)
- Chartered Surveyor – Royal Institution of Chartered Surveyors (1990)
- Masters in Business Administration – London Business School (1998)

Financial Analysis

Introduction

1. In response to the report done by Avia Solutions for the Thanet District Council, RiverOak has undertaken a financial model that uses its own proprietary model to produce outputs (i.e. charts and graphs and other financial measurements) of the type produced by Avia. This report will demonstrate both the flaws in the reasoning used by Avia as well as demonstrate the long term financial viability of RiverOak's plan for Manston

2. RiverOak's plan for Manston Airport is primarily a **Cargo Airport**. Whilst it has projected passenger traffic as a result of specific structural demand its core business model is built on Cargo. Cargo revenue (ex Fuel) is projected to be in excess of 70% of Manston's business with Passenger (ex Fuel) at lower than 8%.

3. Traffic forecasts were established using the forecasting method as detailed in the paper prepared by Dr. Sally Dixon and it is established therein that extrapolation from historic performance and comparison to Passenger-focused Airports is entirely inappropriate for the Cargo activities planned for Manston.

4. A Cargo operation at Manston is accessing demand that is either diverted elsewhere or not functioning due to sub-economics. This exists at a general non-specific level and an idiosyncratic level pertinent to Manston itself. Therefore, Manston as a Cargo operation is, within reason, a **price-setter** rather than a **taker.** The opposite is true in the world of Passenger operations and certainly where Manston would be concerned, at any sizeable operation. It is not surprising to see that profit margins across the board, whether at EBITDA or Net Income, are substantially higher in Manston's Cargo business than in Passenger.

5. Similarly profit margins mean nothing in isolation. The *quid pro quo* for profit margin in the Airport business is Capital Expenditure ("CapEx"). Whilst the market "Wisdom" around an airport EBITDA margin refer to an excess of 40%, this must be qualified by understanding the CapEx requirements, costs and most importantly the CapEx cycle. Passenger Airports require less CapEx at the outset, but thereafter require similar amounts deployed at more frequent intervals than their Cargo relatives.

6. We have used the upper forecast of **GBP 287 Million** for CapEx over the 30 Year period covered in the financial model. This is a major infrastructure investment into the business of Cargo Aviation and significantly higher than external projections based around a Passenger model. Two thirds of that CapEx is required within the first 5 years of operations to ramp up the capacity in line with demand forecasts. A significant element of that initial capacity ramp up CapEx will last for at least 50 years. This can be demonstrated at other Cargo airports that operate on facilities built in the 1960's and are still fit for purpose.

7. This is a long-tail "J-Curve" business, with a proportionately large CapEx investment at a very early stage which can only be rationalised by understanding the demand-led business model, the CapEx replacement cycle and the demand-led business model of Manston as a Cargo Airport.

Assumptions

General

8. The model encompasses 30 years of operations with the ramp up period for the first 20 years and thereafter a flattened growth profile with some margin compression factors as you would expect in any profitable business over time.

9. The analysis has been prepared using a methodology that demonstrates the inherent profitability of the business. For example, CapEx is the significant component of the investment and therefore depreciation should be applied as "True depreciation"; that is the real-world replacement cycle, rather than general accountancy guidelines for assets. This may affect taxation numbers but leaves Net Income as a more realistic and stable measure of profitability and value. An effective tax rate of 20% on Net Income has been used throughout to generate post tax cash flow analysis.

10. All items, where appropriate are scaled over time, to allow for idiosyncratic and relative adjustments. However, general inflation has not been applied as the business itself has a natural correlation to growth and inflation which pass through.

11. The "Base Case" scenario is presented in this document but a range of scenarios have been modelled to provide an expected return profile and distribution of risks.

12. Where appropriate we have utilised the aeronautical term Work Load Unit ("WLU") which is defined as one passenger or 100 Kg of cargo. This enables us to draw comparisons across both business lines.

Revenue

13. The assumptions used in the model are derived from a combination of historical data, market comparisons and discussions with prospective Carrier clients. The revenue model is built "Bottom up" from known inputs around Carriers and demand and checked top-down for outlying outputs.

14. On **Cargo**, Revenue is generated from fees on

i. Movements based on the Aircrafts IATA category and a surcharge for noise and night flights

ii. Freight Handling based on a handling charge per tonne negotiated with Carriers

iii. Margins on the Carrier purchase of Fuel

iv. There is a combination of the above where an Integrator becomes based at the Airport. The Airport swaps a higher margin and more volatile business for a lower margin higher volume and more stable income.

15. On **Passenger** business, Revenue is generated from fees on:

i. A fixed charge per passenger (Arriving and Departing)

ii. A passenger Handling charge based on the service requirements (Low cost carrier vs. Full Service)

iii. Margins on the Carrier purchase of fuel

iv. Commercial Income based around a Passenger's spending at the Airport following through a turnover based rental contract with retailers.

Revenue Outputs

Table 1.

Revenue GBP per Passenger	Y5	Y10	Y15	Y20	Y25
Aeronautical Revenue	2.5	2.5	2.5	2.4	2.4
Commercial Revenue	3.0	3.0	3.0	3.0	3.0
Fuel Revenue	1.2	1.2	1.2	1.2	1.2
Total Revenue	6.7	6.7	6.7	6.6	6.6

Table 2.

Revenue GBP per Tonne	Y5	Y10	Y15	Y20	Y25
Movement	45.7	49.8	47.3	45.7	44.6
Handling	63.1	71.9	70.9	69.1	67.3
Fuel	48.2	42.8	40.4	39.0	34.9
Total	157.0	164.5	158.6	153.8	146.8

16. Normalising to WLU demonstrates the revenue differential between Passenger and Cargo

Table 3.

Revenue GBP WLU Basis	Y5	Y10	Y15	Y20	Y25
Passenger Ex Fuel	5.5	5.5	5.5	5.4	5.5
Passenger Fuel	1.2	1.2	1.2	1.2	1.2
Passenger Total	**6.7**	**6.7**	**6.7**	**6.6**	**6.7**
Cargo Ex Fuel	10.9	12.2	11.8	11.5	11.2
Cargo Fuel	4.8	4.3	4.0	3.9	3.5
Cargo Total	**15.7**	**16.5**	**15.9**	**15.4**	**14.7**

17. Fuel is represented in the model as a Net Margin; that is the differential between cost of purchase and sale to Carriers.

Table 4.

Fuel Margin %	Y5	Y10	Y15	Y20	Y25
Margin	5.61%	5.84%	5.82%	5.82%	5.83%

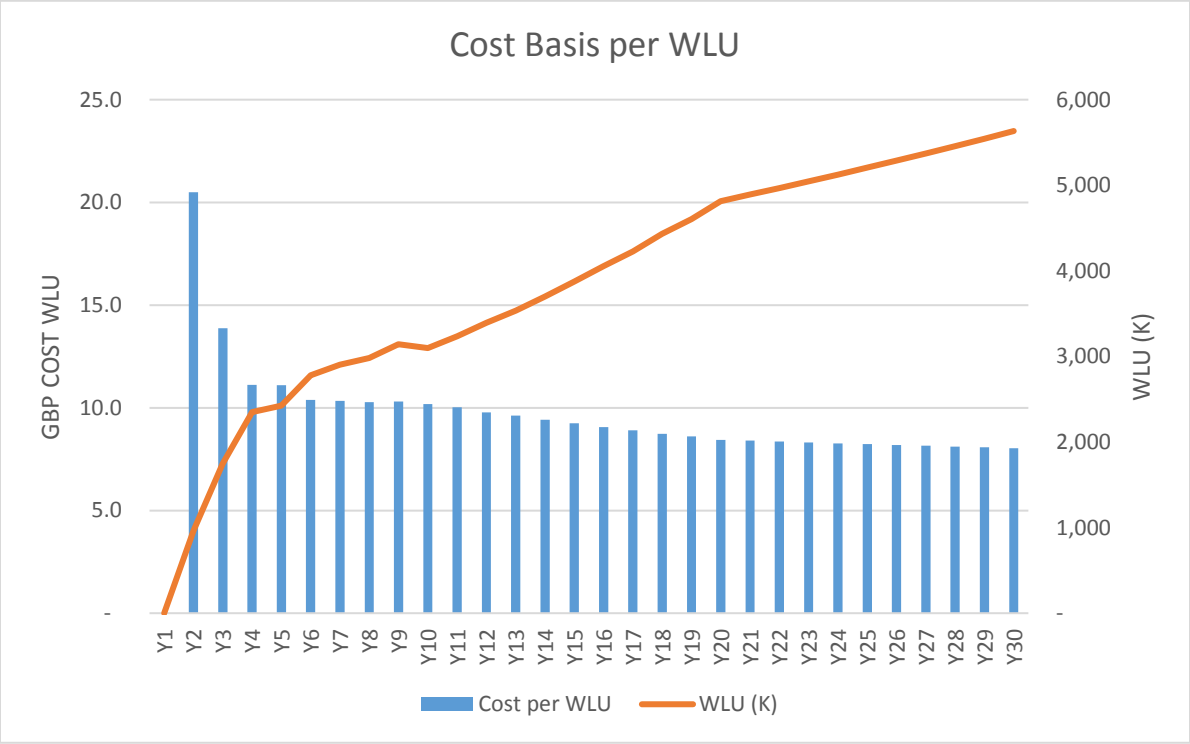
Operating Costs

18. Where appropriate, scalars have been attached to match the growth of the business to reach capacity. The negative correlation of costs to volume match the economies of scale expected in a Cargo business of this capacity.

Table 5.

Costs	Y5	Y10	Y15	Y20	Y25
Operating GBP Millions	20.4	24.8	28.9	33.5	35.6
Overheads GBP Millions	6.5	6.7	6.9	7.2	7.2
Total Costs GBP Millions	**26.9**	**31.6**	**35.9**	**40.6**	**42.8**
Cost per WLU GBP	11.10	10.18	9.25	8.44	8.23

Figure 1.



Capital Expenditure ("CapEx")

19. Our CapEx modelling ranges between GBP 215 Million and GBP 287 Million depending on the extent of work and equipment required, which is yet to be finalised. For the purposes of the model we use the upper boundary. The GBP 287 Million CapEx is distributed across the 30 years as in Figure 2. Various depreciation curves have been used to match the specific CapEx items' replacement cycles on a "True fit for purpose" basis. These range from 10 – 50 years and depreciated book value vs. cumulative CapEx can be seen in Figure 3.

Figure 2.

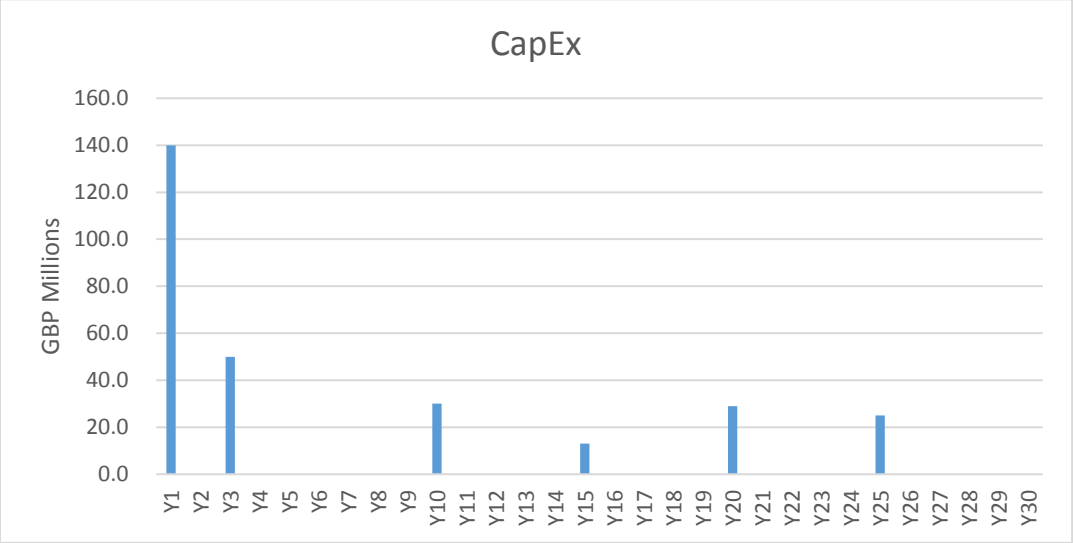
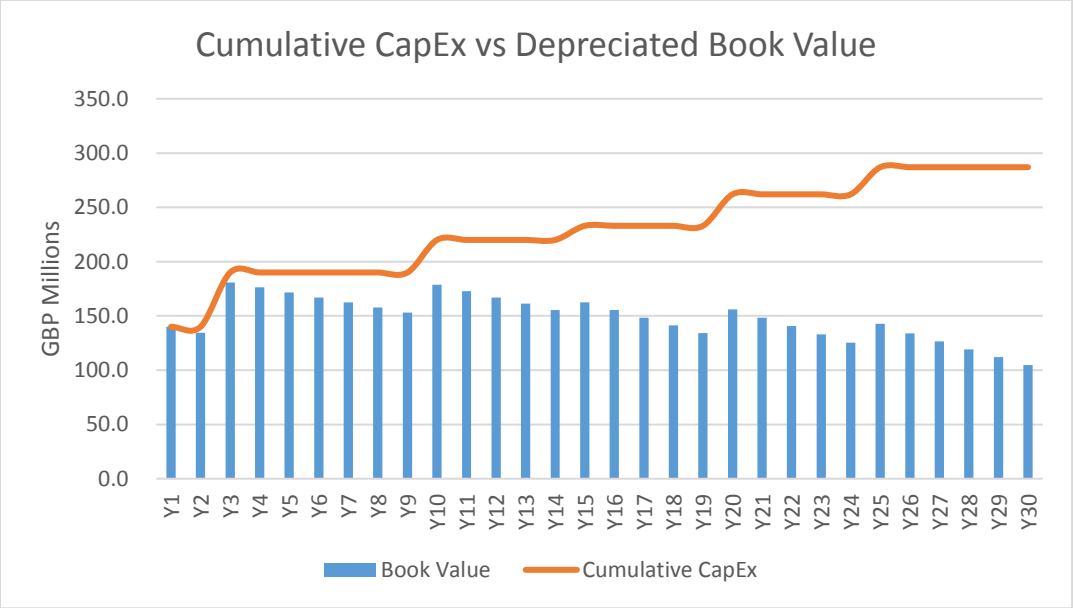


Figure 3.



20. By using true values, we can see that a residual book value of circa GBP 105 Million exists at Year 30 implying future utility benefits beyond the modelled period and demonstrating the long-life element of the CapEx investments in the Cargo business.

Site Acquisition Costs

21. The site acquisition is not considered in the modelling for two reasons

i. The cost of purchase will be reflected in the balance sheet assets. Its depreciation if any will be minimal and therefore is simply a pass-through.

ii. The cost of the purchase is minimal relative to the scale of the investment into the project. Market valuations range from GBP 3 Million based on the form of appraisals that will feature in the DCO through to GBP 10 Million based on a premium purchase view to avoid legal process costs for parties.

Outputs

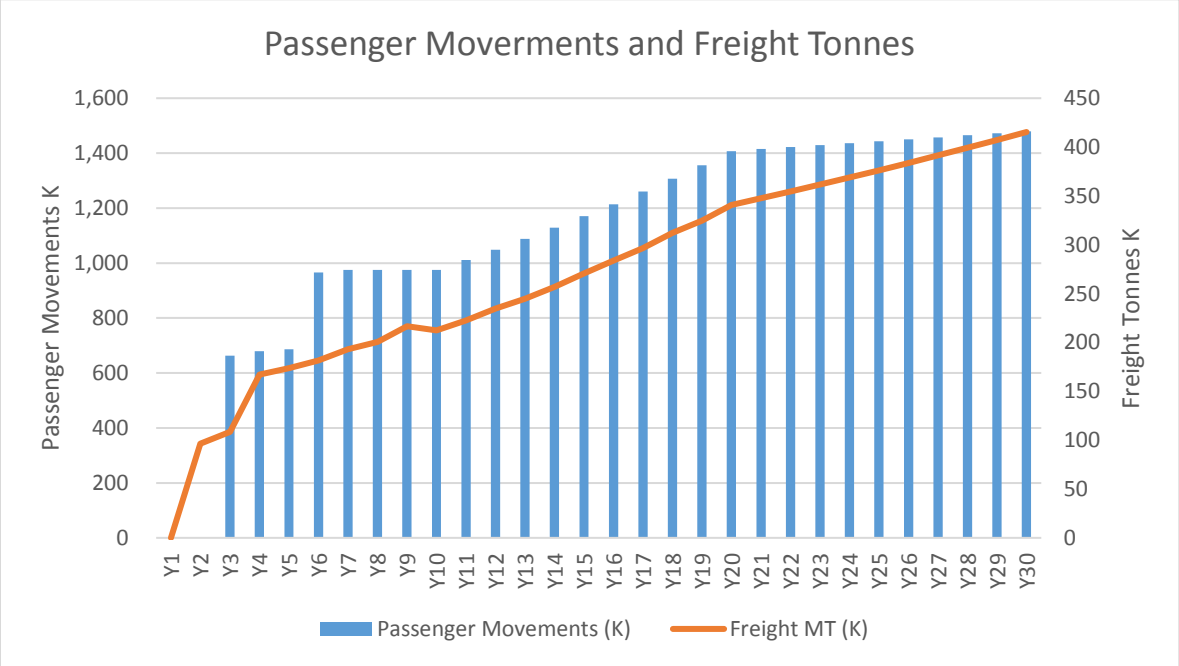
Volume Profile

22. Total movements are projected to exceed 10,000 per annum by Years 5 - 6.

Table 6.

	Y5	Y10	Y15	Y20	Y25
Passenger Movements (K)	687	976	1,171	1,408	1,443
Freight Tonnes (K)	174	212	271	341	376
Total ATM (K)	9,936	11,600	14,113	17,170	18,958
Total WLU (K)	2,424	3,099	3,876	4,815	5,206

Figure 4.



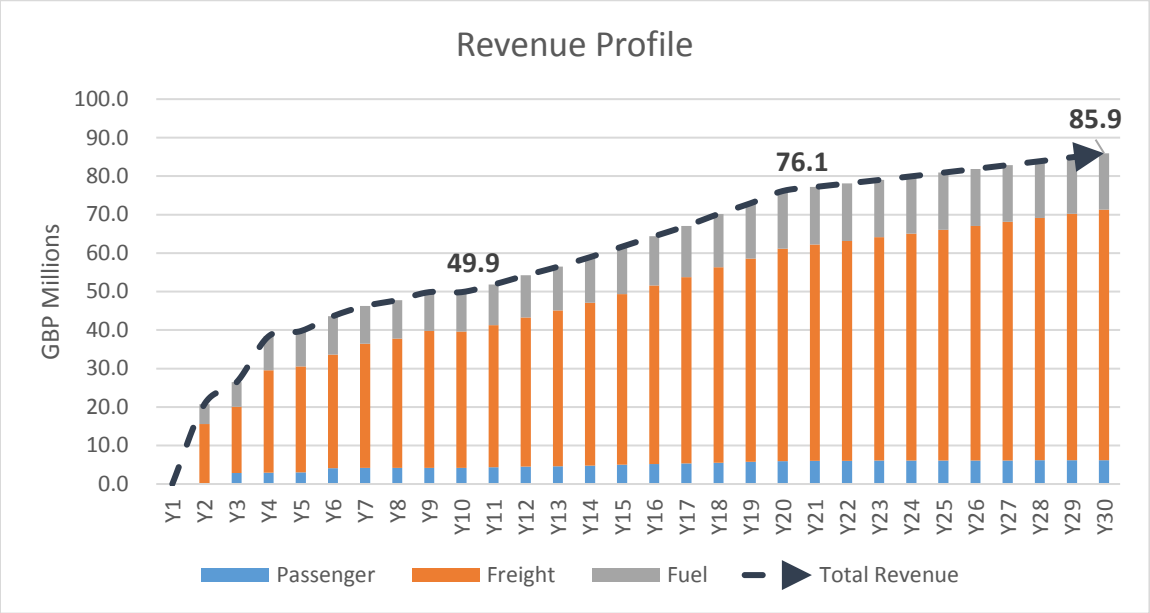
Revenue Profile

23. Revenue is forecast to grow at a compound annual growth rate, "CAGR" of 7.08% up to Year 20 (thereafter we assume minimal growth) reaching revenues of GBP 76 Million at Year 20 and GBP 86 Million by Year 30.

Table 7.

Total Revenue GBP Millions	Y5	Y10	Y15	Y20	Y25
Passenger	3	4	5	6	6
Freight	28	35	44	55	60
Fuel	9	10	12	15	15
Total	39.7	49.9	61.7	76.1	80.9

Figure 5.



Costs Profile

24. The work force exceeds 800 people by Year 9 and reaches 1000 by Year 18 (Figure 7.)

Table 8.

Costs GBP Millions	Y5	Y10	Y15	Y20	Y25
Operating	23.3	28.7	33.8	39.4	42.0
Overheads	6.5	6.7	6.9	7.2	7.2
Total	**29.8**	**35.5**	**40.7**	**46.5**	**49.2**

Figure 6.

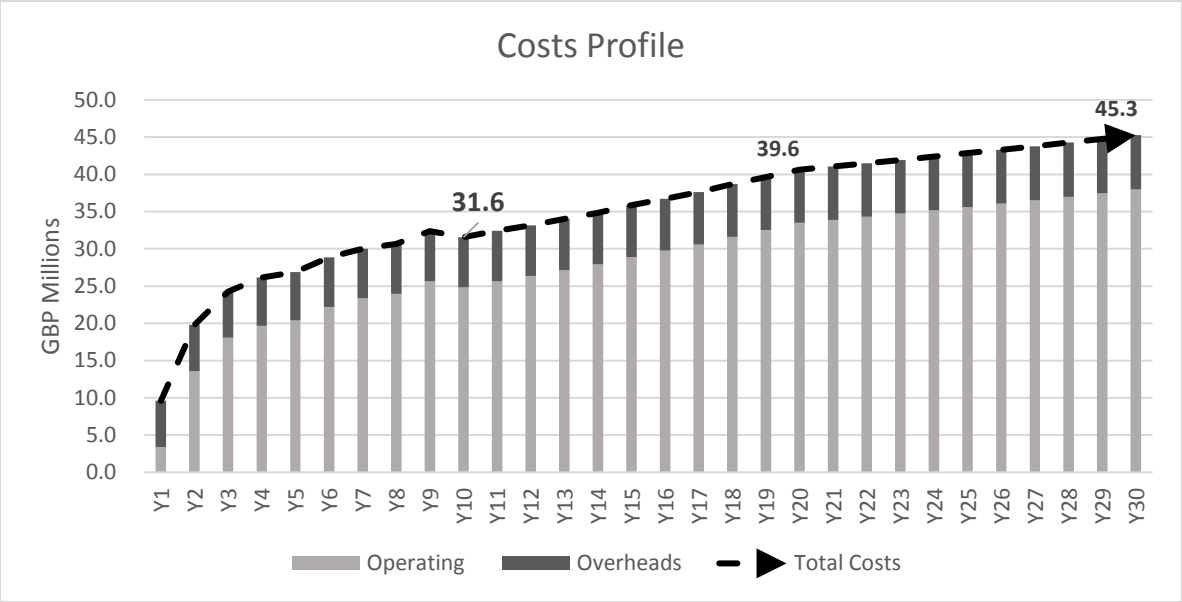
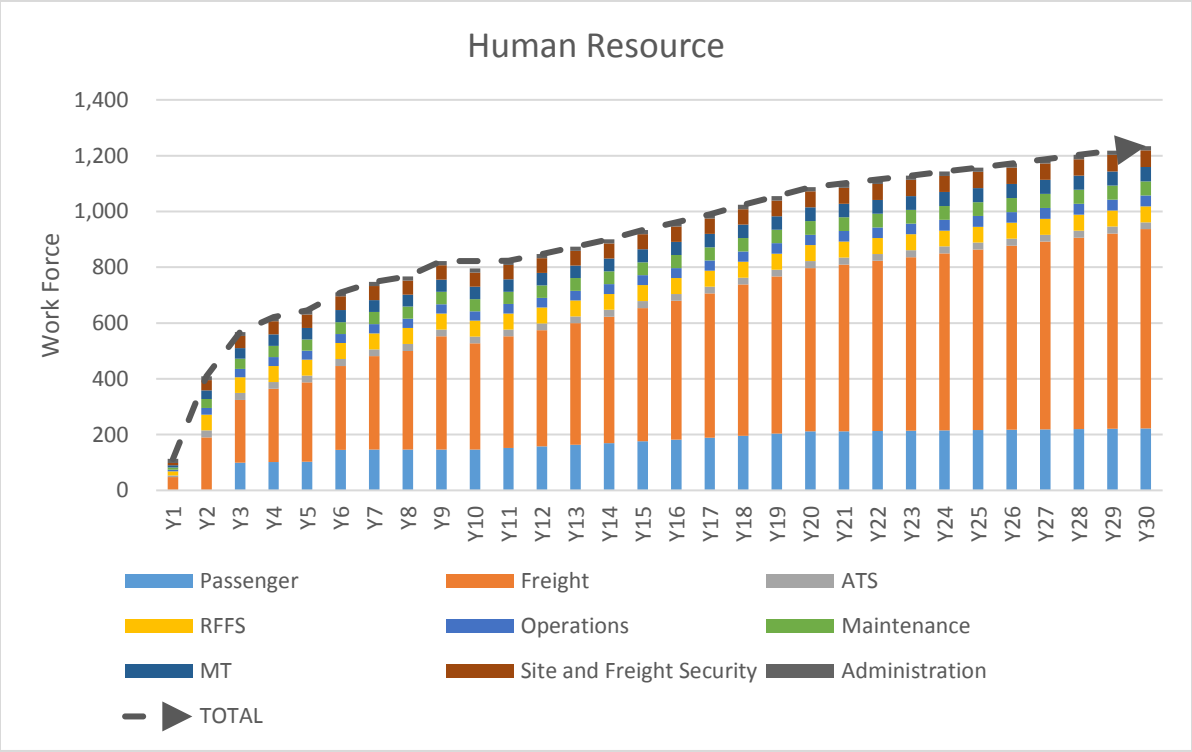


Figure 7.



EBITDA Profile

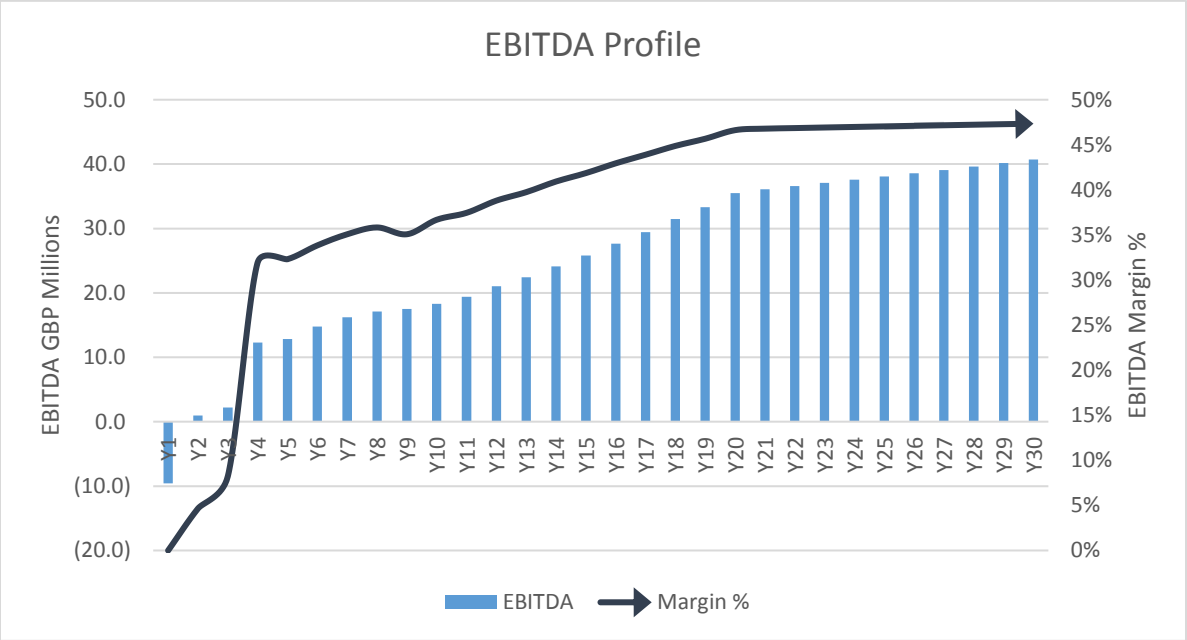
25. Whilst EBITDA demonstrates the profitability of the Cargo business at the operating level, it cannot be viewed as a metric to demonstrate viability for the business of Manston as a Cargo airport. As a result of the intensive CapEx requirements, Depreciation and Tax are numbers that need to be rationalised in order to assess the overall viability of Manston.

26. EBITDA Margins stabilise at between 46% and 47% once capacity has been reached by Year 20.

Table 9.

EBITDA	Y5	Y10	Y15	Y20	Y25
EBITDA	12.8	18.3	25.8	35.5	38.1
Margin %	32.3%	36.7%	41.9%	46.6%	47.0%

Figure 8.



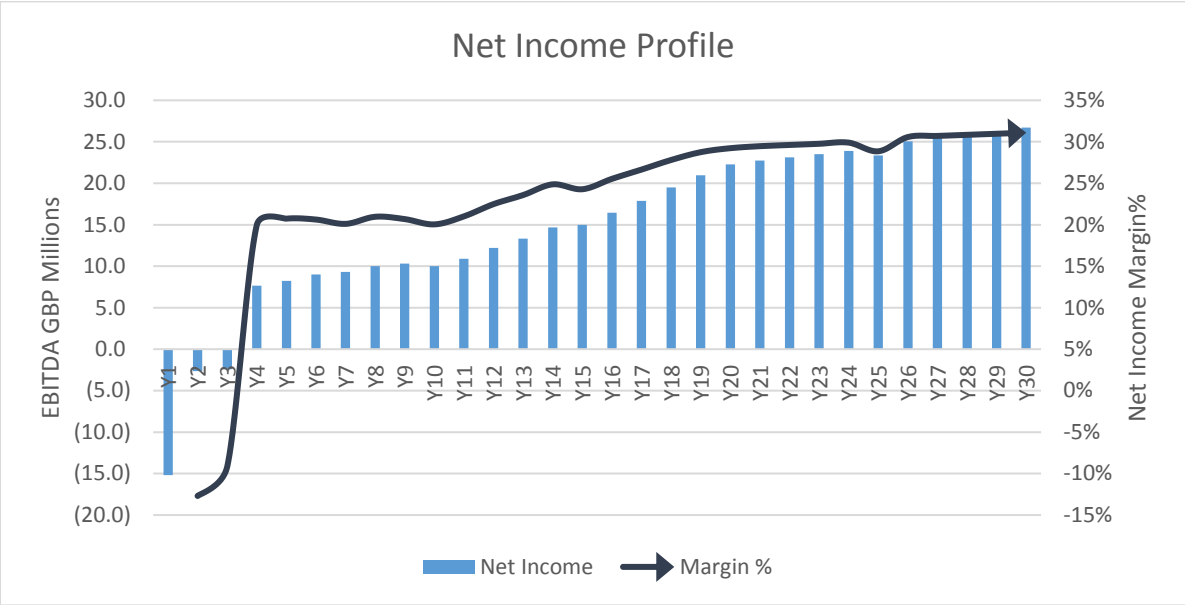
Net Income Profile

27. Net Income is expected to be negative until Year 4 growing to GBP 22 Million by Year 20 when we assume growth to flatten. Net Income is a better guide than EBITDA to the profitability and inherent value of the Cargo business as it includes the normalisation of CapEx through our true depreciation curves. Additionally, any debt capital structure in place must consider the tax considerations before repayment of debt and therefore EBITDA is similarly not appropriate.

Table 10.

Net Income	Y5	Y10	Y15	Y20	Y25
Net Income	8.2	10.0	15.0	22.3	23.3
Margin %	20.7%	20.0%	24.3%	29.2%	28.9%

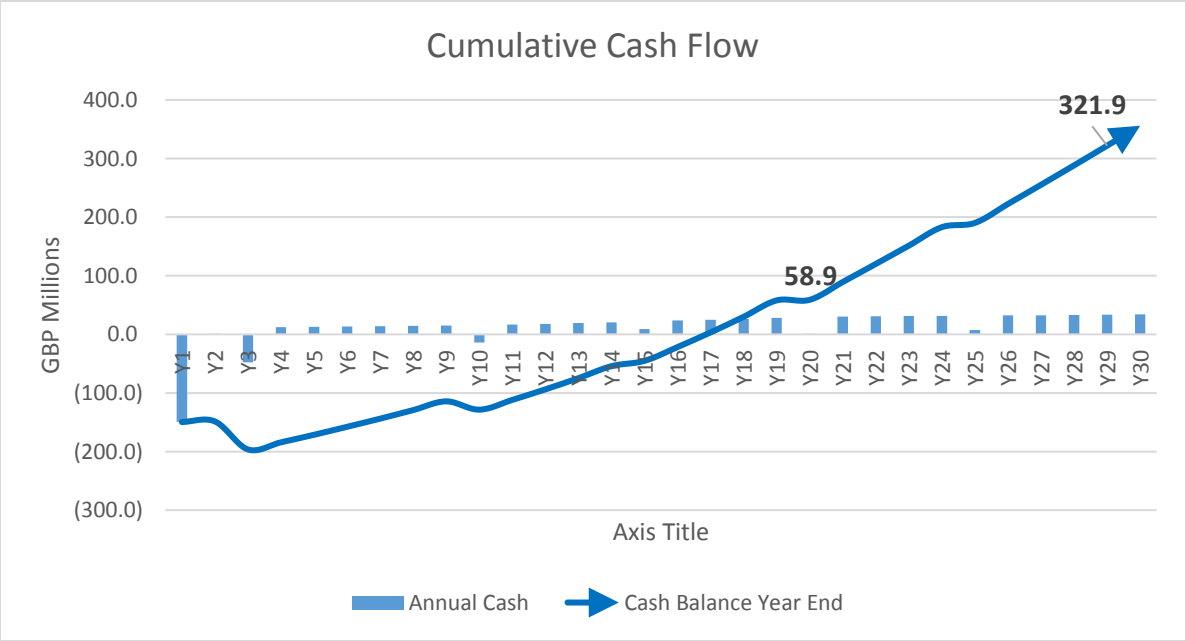
Figure 9.



Cash Flow Profile

28. Post tax cash-flow continues to rise strongly after Year 20 when growth assumptions are flattened demonstrating the CapEx cycle effect.

Figure 10.



Risk Matrix and Returns on Capital

29. Using the ranges of CapEx and a performance slider between +/- 25% the project exhibits a post-tax return of between 4.1% and 12.52%. Removing the low probability tail events, the normal returns range between 7% and 9%.

Table 11.

CapEx 287 Million GBP	Underperformance	Base Case	Outperformance
	-25%	**0%**	**25%**
Project IRR	**4.10%**	**7.12%**	**9.90%**
Total Capex	287,000	287,000	287,000
Total EBITDA	455,101	765,871	1,076,642
Net Cash Total Y30	107,612	355,937	604,262
Max Capital Draw	(204,038)	(196,452)	(196,452)
10k Movements Year	13	5	4
CapEx Breakeven	26	16	14

Table 12.

CapEx 215 Million GBP	Underperformance	Base Case	Outperformance
	-25%	**0%**	**25%**
Project IRR	**5.33%**	**9.02%**	**12.52%**
Total Capex	215,250	215,250	215,250
Total EBITDA	455,101	765,871	1,076,642
Net Cash Total Y30	169,883	418,208	666,533
Max Capital Draw	(156,538)	(148,952)	(141,365)
10k Movements Year	13	5	4
CapEx Breakeven	20	15	12

Conclusion

30. The business model of Manston Airport is a Cargo Airport. The revenue generated from Cargo Model per WLU is twice that generated in the Passenger Model (Table 3) with similar operating and overhead costs per WLU. The differentiating factor in the investment is the CapEx and the replacement cycle. Passenger CapEx is lower at the outset but is replaced more frequently with similar sums repeating. Cargo CapEx is a large initial outlay with smaller expenditure over time and with economies of scale. The large capital outlay for Cargo Airports is a barrier to entry and the long-tail "Balloon" return profile is for sophisticated long term investors who understand infrastructure and CapEx financing.

31. The economics of the Cargo Airport have a convex relationship to GDP growth and most forms of inflation broadening the class of investors and finance providers to include those with long term inflation-linked liabilities

32. Due to the pent-up demand and structural positioning of Manston, the potential market for this business is capacity driven as opposed to passenger traffic driven which, for any scale, becomes price driven.

33. Manston, as a Cargo Airport with this scale of CapEx, generates an unleveraged annualised return between 7% and 9% over a 30-year period making this a highly attractive infrastructure opportunity.

York Aviation

Manston Airport

Supplementary Submission following Hearings into Compulsory Acquisition and Need held on 20th and 21st March 2019

1. This note expands on points made on behalf of SHP during the Hearings held on 20th and 21st March 2019 in the light of the very limited time afforded to SHP to present its case and test the case made on behalf of the Applicant. This note provides further evidence to assist the Examining Authority in considering the Need case presented by RSP and whether there is a compelling case in the public interest. This submission should be read alongside the Summary of Oral Evidence submitted by SHP.

Correct Interpretation of YAL's work for TfL and the FTA

2. In their comments on Written Representations (Deadline 4) and at the Need Hearing, RSP persisted in relying heavily on quotations from our work in 2013 and 2015 for TfL and for TfL and the FTA respectively. This is despite being told repeatedly that, when read in their entirety, neither of these two notes/reports supported the interpretation being made of them by RSP and its advisers in relation to the asserted need for a freight focussed airport in the South East of England.

3. At the outset, we would reiterate that we do not resile from either of these pieces of work and, as stated to RSP in 2016, the report for TfL and the FTA is in the public domain and, therefore, could be cited by them. The same is not true of the note for TfL, which was an initial informal briefing note intended for the client's internal use only. We have made clear to RSP since 2017 (see correspondence submitted as Appendix B to our comments on RSP's Responses to the ExA's first set of questions) that their interpretation of these two notes/reports was in error. We understand that TfL and the FTA similarly confirmed that the 2015 Report was in the public domain and that they had relied on the contents of the report in submissions to the Airports Commission and Government. However, it is our understanding that neither body has expressed any direct view on the use made by RSP of the note and report, contrary to the inference made by RSP at 4.18.3 of its commentary on Written Representations. RSP did not check directly with us whether its interpretation of our work was correct nor has it addressed the criticisms made of its interpretation in both our 2017 and 2019 reports.

4. To summarise the meaning of these documents:

TfL Note

5. This was an informal briefing note prepared by York Aviation for TfL relatively early in the process of the Airports Commission's work. It considered three scenarios, Max Use (i.e. no additional runway capacity at any of the London airports), 2x2x2 (i.e. additional runways at Gatwick and Stansted) or a New 4 Runway Hub (with the closure of Heathrow). It did not consider the Government's adopted strategy of the development of a new runway at Heathrow.

6. It is important to note that the market was considered in the first instance in terms of tonnage capacity expected to provided in the bellyhold of passenger aircraft as the primary requirement, with the need for additional capacity for air freight being expressed as a residual. The reference in the note to 14,000 freighter movements that might still use an airport, such as Manston, in the vicinity of London in the 'Max Use' case was a reference to the then existing 14,000 freighter movements operated at the London airports, which might need to be displaced by 2050 if no additional capacity was provided at any of the main London airports. To reiterate comments made in our 2017 and 2019 Reports, Manston was only referenced on the basis that it was, at the time, an airport handling a number of freighter movements and the context of the 'Max Use' scenario only, i.e. a heavily constrained case.

7. Table 4 presents the potential excess cargo tonnage, after considering bellyhold capacity, as 'freighter tonnage required' and converts this to an indicative number of freighters so as to consider whether, prima facie, there would be runway capacity available to accommodate additional freighter movements under each of the scenarios, to the extent there was any shortage of bellyhold capacity by 2050. Para. 24 makes clear that the only in the case of no new capacity being provided (Max Use) would there be an effective shortfall in capacity:

   "We estimate that the number of freighters required to accommodate projected air freight demand would rise from 14,000 in 2012 to around 41,000 in the New Hub case, 47,000 in the 2+2+2 case and 68,000 in the Max Use case. In both the New Hub case and 2+2+2 case, we estimate there will be sufficient runway capacity available to accommodate these movements at 2050, at the New Hub and/or Stansted respectively."

8. It is important to note that the number of international passenger ATMs expected to be provided with a 3rd runway at Heathrow lies between the 2x2x2 and New 4 Runway Hub cases. Given increasing tonnage capacities on new generation passenger aircraft coupled with an emphasis on maximising global connectivity from the new capacity at Heathrow, as set out in the Airports NPS paras 3.18 and 3.19, this means that the bellyhold capability from the new runway at Heathrow is likely to exceed that which we assumed in the case of the two expansion scenarios considered in our 2013 note. The effect of this will be to reduce further any residual element of air freight capacity required over and above bellyhold capacity to be provided. Furthermore, in the circumstances of a 3rd runway at Heathrow and in the light of the available capacity at Stansted (see below), we expect any required freighter movements to continue to operate from the existing airports.

9. Importantly, the note then goes no to explain how any shortfall in capacity would be met, noting in the first instance the clear opportunity for more freight to be handled at the main regional airports such as Manchester and Birmingham alongside East Midlands, citing in particular the benefits of reducing the amount of freight trucked from the regions for carriage from Heathrow (para. 26 of the note). Only in the case of no additional capacity being provided (Max Use) was it considered likely that more freight would need to be trucked to Europe. It is evident, nonetheless, that our note considered that the consequence of any constraint on capacity at the main London airports would be more trucking of freight to find cost efficient bellyhold capacity elsewhere rather than identifying a need for a dedicated freighter airport.

10. The note concludes, at para 29, that *"In the latter two cases, our assessment is that, across both bellyhold capacity and pure freighter activity, there would be sufficient capacity to meet expected demand for air freight to and from the UK"*, going on to conclude that "*The key difference between these two scenarios* (2x2x2 and New 4 Runway Hub) *would be in terms of the efficiencies and economies of scale gained by the industry arising from the concentration of freight activity at a single hub. In both cases, the overall volume of air freight to and from the UK is expected to be broadly the same, although the actual freight carried including transit freight would be higher in the hub case. However, under the new hub scenario, savings from greater efficiency may be passed onto users, so reducing shipping costs and facilitating trade leading to higher freight volumes"* (para. 30). These efficiency benefits will be delivered by facilitating further growth in cargo capacity at Heathrow with a 3rd runway exploiting the existing synergies of consolidation already present around Heathrow.

Report for TfL and the FTA

11. Our work for TfL and the FTA in 2015 adopted the same approach but was based on updated information from the Airports Commission as well as an updated assessment of the underlying growth of the air cargo market as a whole. Again, the excess tonnage expected at 2050 under each of the capacity scenarios under consideration by the Airports Commission was set out. This was again presented in terms of freighter movement equivalents on Page 19.

12. It is significant that the estimated cargo capability at Heathrow assumed in 2050 was 2.6 million tonnes a year with a third runway whereas, given increased bellyhold capacities on newer generation aircraft, the estimated tonnage capacity at Heathrow is now expected to exceed 3 million tonnes a year. This alone wipes out any excess demand that would need to be accommodated in dedicated freighter aircraft.

13. In any event, it is made clear that the actual requirement for dedicated freighter aircraft is limited and, over and above existing operations, a residual to the extent that bellyhold capacity is insufficient:

    "For the purposes of this analysis, we have assumed that freighter aircraft primarily act as a means to supplement bellyhold capacity where insufficient bellyhold capacity is available. This is simplification as there are items that cannot be transported on passenger aircraft or for which freighter transport is preferable and destinations that are not served by passenger aircraft. Consequently, we have further assumed that a residual number of freighter movements will still be accommodated in London in capacity constrained scenarios at 2050, i.e. all scenarios other than the 4 Runway Hub" (Page 20).

14. We then go on, on Pages 22ff titled *"How will the Freight Industry React"*, to explain how the excess tonnage would be accommodated in practice, i.e. not through additional movements by dedicated freight aircraft:

    "The options in relation to the excess demand that cannot be satisfied within the London system are subtly different. Again, some companies may simply choose to step back from the London market, either withdrawing or choosing not to seek to expand with demand. This may be particularly true for major global companies with the ability to shift the emphasis of their activity. However, this will ultimately leave unsatisfied demand in and around London and potentially market space for others to step in and seek to serve the market via a different business model. This is most likely to involve trucking freight from London to other airports either in the UK or on the continent that have the necessary capacity and/or long haul passenger networks to support the required levels of demand. This will, however, come at a cost in terms of both additional trucking costs and a loss of utility to users as these avenues will need more time to ship freight, which in an industry where speed is an essential feature is clearly potentially damaging. Again, there is also the potential for increased service failures and delays via this route."

15. We go on to set out a Gravity Model to examine how any excess demand would be expected to be handled (Appendix C to our comments on RSP's Written Answers) and the cost and time implications of the need for additional trucking. However, to the extent that air freight from the regions simply reverts to using available capacity in the regions, these costs will have been overstated and cost/time to shippers in this case could actually be reduced. Ultimately, any loss of utility/consumer benefit arising from increased costs/time for shippers has to be set against the increased costs implied by the use of more expensive dedicated freighter aircraft and the costs of establishing and operating an airport capable of handling such aircraft. Given our understanding of the cost of trucking compared to the costs involved in the operation of dedicated freighter aircraft, we would expect trucking to remain the most economically beneficial solution. Furthermore, when the increased bellyhold tonnage now expected to be available at Heathrow is taken into account, the issue simply disappears.

16. As made clear during the Hearing on Need, the demand and capacity assessments set out in Section 3 of our 2017 Report and Section 4 of our 2019 Report are an updating of the analysis carried out in 2015 for TfL and the FTA using the most up to date data. Hence, this analysis reflects the correct interpretation of our earlier work in the context of the current market situation and known airport plans for capacity expansion.

17. Correctly interpreted, our previous work explains how, to the extent that any shortfall in capacity exists, the need is likely to be met, i.e. through use of bellyhold capacity at regional airports and, to some degree, an increase in trucking to European hubs to avail of cost effective consolidation of freight loads to a wide range of global destinations. Operation of dedicated freighters on a limited range of routes would simply not provide a viable option for any freight displaced from Heathrow.

Role of Trucking

18. During the Hearing, the Applicant cited unevidenced figures for the number of cross-Channel trucks carrying airfreight. The Applicant also noted that a high proportion of these operated on airline flight numbers. It is important to note that such movements are part of the system of whereby airlines truck freight to and from their hubs to connect to bellyhold operations. By way of example, on 27th March 2019, the Official Airline Guide database (OAG) records a total of 635 truck movements on airline flight numbers to and from airports in the UK (evidence can be provided if required). Of these, 215 truck movements were scheduled from Heathrow, of which 65% were to UK domestic airports suggesting strongly that the primary purpose was the distribution of bellyhold imports. 197 truck movements were scheduled into Heathrow, of which 51% were from UK domestic points for consolidation of goods for onward transport. It is notable that trucking from Europe into Heathrow figures more strongly than trucking from Heathrow, suggesting that the primary purpose is to feed goods into the Heathrow hub for onward transport in the bellyhold of passenger aircraft. Similarly, to/from the UK regions, there were 10 trucks scheduled outbound to Europe but 51 trucks scheduled inbound indicating again a focus on imports. Excluding international trucking to the Republic of Ireland, there are of the order of 180 trucks a day operated across the Channel on airline flight numbers. This equates to of the order of 63,000 trucks a year (assuming not all trucks operate on 365 days a year). These truck movements would not be divertable to Manston as they are strictly related to the cargo hub at Heathrow and equivalent hubs in Europe. We would expect a similar number of truck movements connected with integrator operations also related to their patterns of hub and spoke operations but data is not systematically available.

19. Ultimately, the reason that trucking is common place within the general and integrator sectors relates to the price of aviation fuel, which changed the economic paradigm in terms of the optimum balance between use of dedicated freighters and trucking for part of the journey combined with the use of more economic bellyhold capacity. Since 2000, the price of aviation fuel has risen by 123% (https://www.spglobal.com/platts/en/oil/refined-products/jetfuel). This has impacted on the decision as to the balance between time and cost for shippers. This increase in the cost of air freight, and dedicated freighter operations in particular, is the primary reason why consideration of air freight trends prior to 2000 (which Northpoint seek to do (para. 8) in their report submitted at Deadline 4) is no longer relevant and slowdown in growth in air freight tonnage reflects a shift in the balance towards trucking and even towards shipping for some goods that might previously have used aviation. This is relevant to consideration of the appropriate rates of market growth to assume, as we discuss later in this note.

20. Understanding the economic drivers for shippers and the relationship to consolidation of loads at hub airports for bellyhold and general air cargo, and the hub network structures of the integrators, is vital to assessing the extent to which Manston could plausibly intercept or 'clawback' any part of the air freight currently being trucked across the Channel. In our assessment, the economics of dedicated freighter operations compared to the relative cost of trucking makes the interception of anything other than a small number of special loads highly unlikely. As Mr Cain said in oral evidence, shippers will trade off time and cost but as costs have risen, the balance has shifted and this, in large part, explains why bellyhold capacity is now clearly favoured for the majority of commodities. This would include fresh fish as cited by Dr Dixon in oral evidence (see Case Study on Page 16 of the Steer Report for Airlines UK referred to in our comments on the Applicant's responses to question ND.1.17 (http://airlinesuk.org/wp-content/uploads/2018/10/Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Report-v22-Oct-2018-b-SENT.pdf). The global change in the price of aviation fuel is a key reason why bellyhold capacity is preferred and why use of dedicated freighters is declining in relative terms, particularly where there is good availability of bellyhold capacity, as is the case in the UK.

21. Furthermore, in the highly unlikely event that some airlines engaged in trucking of freight between hubs considered the use of Manston for dedicated freighter movements as a viable alternative option, this would imply a totally different fleet mix to that assessed in the ES (Appendix 3.3). We discuss issues related to the fleet mix further below.

The Validity of Azimuth's 'Forecasts'

22. In oral evidence, Dr Dixon conceded that the Azimuth Report, which she prepared, was not really a forecast of what would happen but an assessment of the 'potential' need for a dedicated freight airport in the South East of England. She confirmed that she had taken no account of the viability of operating the services for the airlines or the viability of the operation of the Airport (despite the Azimuth Report being referenced as setting out the viability of and the Business Plan for the development in the ES, Planning Statement and Statement of Reasons - see para 2.5 of York Aviation 2019 Report).

23. At para. 2.2.10 of Vol III of the Azimuth Report, a number of key considerations are set out which would impact on the decisions of airlines as to whether to use Manston:

- *"The cost of physical relocation*
- *Cancellation of long-term contracts*
- *Loss of economies of scale, although if an entire operation is switched, economies of scale would be gained at the new airport*
- *Market effects such as marketing new routes and a potential loss of custom in the early years following the switch*
- *Network effects lost by switching to a smaller airport*
- *Capacity constraints at other airports, particularly in slot allocations*
- *Sunk costs such as an airline's investment in the airport from which they are switching"*

24. Although the report claims that these factors have been taken into account in the 'forecasts', it is now clear from answers given in oral evidence that this was not the case and that Dr Dixon simply assumed that the costs would be "*neutral*". We take this to mean that her underpinning assumption was that the costs for an airline of operating from Manston would be the same as from other airports and/or that the costs to shippers for a tonne of air cargo would be the same to/from Manston as from alternatives, including bellyhold options. Without proper consideration of switching costs, the charges to be levied at Manston and the relative price of dedicated freighter operations v. bellyhold for the shipper, the so-called 'forecasts' can have no validity as they do not reflect market realities.

25. Furthermore, as pointed out in our comments on the Written Answer to question FD.1.15, whilst it is claimed that RSP's Business Model is based on being able to offer airport users competitive terms, this is clearly not the case. As we know from the Business Model spreadsheet submitted at Deadline 3, the Applicant plans to charge airlines around four times the equivalent cost at East Midlands Airport and without any countervailing incentives (see separate papers prepared by Altitude Aviation Advisory). Hence, it is clear that, leaving aside its other manifest shortcomings, the Azimuth Report has not assessed the actual position proposed by RSP of charging a significant premium over other airports for dedicated freighter operations, which are already significantly more expensive than bellyhold alternatives.

26. The consequence of this is that on any reasonable assessment of the costs of using Manston and the costs to the shipper of using dedicated freighter aircraft, when coupled with the costs of switching and other costs identified by Azimuth, the share of the market that Manston might hope to attract will be severely reduced below the 'neutral' assessment made by Azimuth. We have set out our view of the maximum potential in Section 4 of our 2019 Report. At the price RSP propose to charge, demand would be significantly lower and the revenues that they assume within the Business Model not attainable. We have already set out in Section 7 of our 2019 Report, the more likely financial position at competitive airport charges and, even then, this was based on the full Azimuth 'forecast' being attained, which is unlikely for the other reasons cited above. Either way, proper analysis strongly suggests that there is no prospect of the proposed investment in the development of a dedicated freight airport at Manston being viable even on the basis of the latest estimate of upfront construction costs, which we now understand from the oral evidence of George Yerrall are likely to be underestimated at this point in time.

27. Put simply, the oral evidence given by Azimuth Associates confirmed that the Report upon which the entirety of the Need Case for the development relies has no realistic foundation as a basis for predicting the extent to which Manston might actually be used.

Northpoint Report

28. The Northpoint Report submitted by the Applicant at Deadline 4 is a clear attempt by the Applicant to produce a post event corroboration of the Azimuth forecasts that are used to underpin the entirely of their case for the development. This attempt at a putting a 'sticking plaster' over the flaws in the Azimuth must also be dismissed as it self-confessedly has not yet taken into account the key variables which should inform a robust prediction of the actual potential usage of Manston as set out at para. 67 of the Report, namely the model (it):

- *"it does not use differential rates for bellyhold, express and ordinary freight – although the analysis is a level of aggregation where this is not a fundamental determining issue;*
- *it does not examine aircraft movements – we regard this primarily a function of tonnage volumes and airport location and runway length*
- *it does not look at the scope for migrating between type of carrier (e.g. bellyhold to freighter) and therefore between airports pairs; and*
- *it does not examine the impact of price because it is primarily interested in the issue of capacity."*

29. These factors are precisely the reasons why Manston would struggle to penetrate the market to any material extent. It is stated at para. 68. that these factors are taken into account in a more detailed model that is being developed/used to inform the funding process. However, this more detailed model has not been provided to the Examination and would need to be carefully scrutinised once produced.

30. As already pointed out, the thesis underpinning the Northpoint Report that somehow considering the performance of the airfreight market over the last decade is not relevant and that trends from the 1990s need to be included is exposed as flawed when the effect of fuel price rises since 2000 is taken into account.

31. Nor are the benchmark comparisons in terms of cargo tonnage growth set out at para 10, particularly persuasive. The only airport where there appears to be a major jump in tonnage compared to the UK as a whole is Paris and (as set out on page 21 of the Steer 2018 Report for AirlinesUK) data for Paris before 2014 was measured differently so the jump in tonnage shown is not a real jump but the result of changes in data collection. This would have to be corrected for if any comparisons are to be made. The outperformance at Frankfurt is more down to the consolidation in the sector and the use of Germany and the Low Countries as distribution hubs for Europe. However, since 2000, the performance of Frankfurt is not significantly different from the performance at the total UK level and, in any event, a shift from Heathrow to the regions is no bad thing in the context of the proportion of freight with regional origins that has historically been trucked to London. All in all, this pattern is simply reflective of the market working to reduce unnecessary road journeys within the UK.

32. We have already referred in our comments on the Applicant's Written Answers (ND.1.18, ND.1.13, ND.1.18, ND.1.20) on the capacities available at the other airports and will comment further below on specific points made by the Applicant in oral evidence regarding Stansted. Suffice it to say that Northpoint continue to understate the tonnage capabilities of these other airports in paras. 16 to 32.

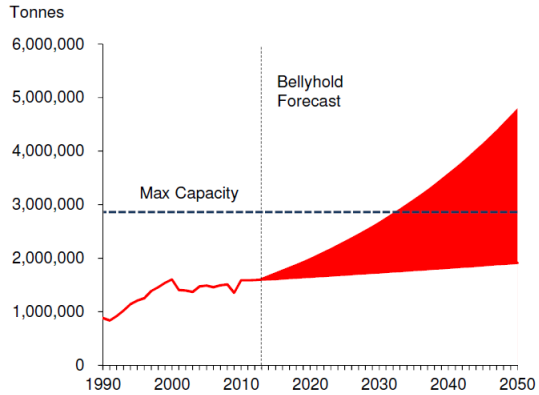
33. In terms of overall freight tonnage to and from the UK, notwithstanding our comments about the inherent invalidity of considering trends back to 1990, the actual freight tonnages projected for the UK and for the South East by Northpoint are not substantially different at 2040 from our own GDP based estimates (see Figures 4.7 and 4.8 of our 2019 Report) as far as the base case of 2.35% per annum growth is concerned (Table above para. 63). However, there is no foundation for the use of any higher underlying rate of growth in cargo tonnage.

34. The work used by Northpoint to corroborate its analysis is work carried out by Ramboll and Oxford Economics in 2014 (http://content.tfl.gov.uk/impacts-of-a-new-hub-airport-on-air-freight-industry.pdf). We note that the quotations from this work by Northpoint are selective and use graphs relating to the UK and London inconsistently. When read properly, this report explains precisely why fewer dedicated freighters are needed at London due to bellyhold capacity. This report also explains why the growth rate in cargo tonnage flown has slowed from the long term trend. Northpoint use Figures 3.7 and 3.8 from this report relating to the expected growth across the UK as a whole when the relevant ones for the South East are Figures 3.5 and 3.6, reproduced overleaf. The charts used by Northpoint illustrate the greater need for dedicated freighters in the rest of the UK on the basis of limited bellyhold growth other than at the London hub. The correct charts for the London airports show very limited need for dedicated freighter operations given bellyhold capacity expected to be available.

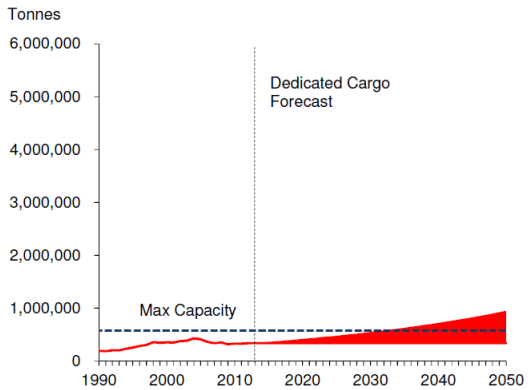
35. This report goes onto predict the extent of any shortage of freighter ATMS at the lower and upper bounds of the forecasts against DfT's capacity constrained forecasts. It shows that the maximum shortage of dedicated freighter capacity at 2040 is 4,000 movements (Table 4.3 reproduced overleaf) on the upper bound forecast. The big shortfall is in bellyhold ATMs. At the lower bound cargo forecast, there is no shortfall and spare capacity for 2,000 dedicated freighter movements (Table 4.2). This analysis confirms our assessment of the position, i.e. that there is limited, if any, need for additional capacity for dedicated freighter ATMs, even viewed from the position as at 2014.

There is a marked difference in the range of growth of dedicated cargo for London Area Airports, as compared to the UK-wide growth rate. This is likely due to the high number of passenger flights originating in London compared to the rest of the UK, which allows for more bellyhold cargo growth as opposed to dedicated cargo growth. As mentioned in Section 2.2, one of the reasons for the much slower growth rate of cargo after 2000 is likely the steep rise in the price of aviation fuel. The fan charts below (charts 3.5 to 3.8) show the range of Oxford Economics trend forecasts for the UK and London area airports[25]. The upper range of the forecast implies that after 2033, the higher range of cargo growth forecasts cannot even be met with a new hub airport. Therefore, the Oxford Economics upper bound forecast has been capped at the line shown in the charts at the capacity that can be built.

Charts 3.5 and 3.6: Actual and Forecast London Trend Bellyhold and Dedicated Freight Growth from 1990-2050

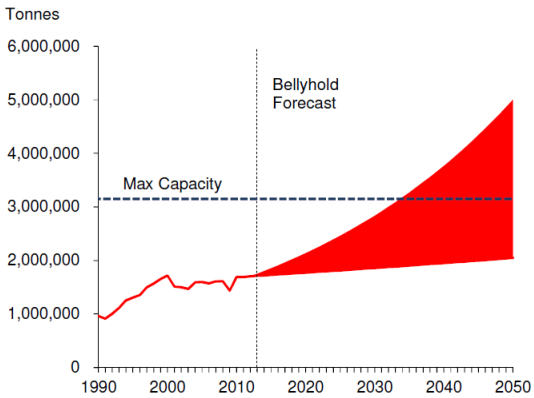


Source : CAA, Oxford Economics

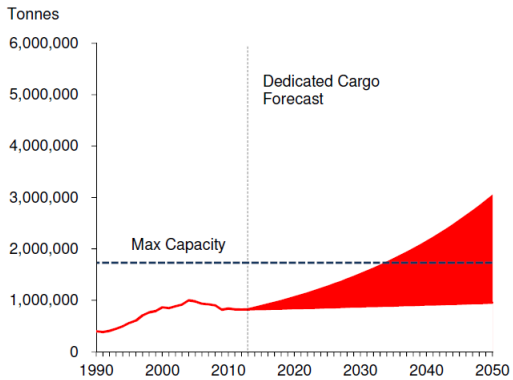


Source : CAA, Oxford Economics

Charts 3.7 and 3.8: Actual and Forecast UK Trend Bellyhold and Dedicated Freight Growth from 1990-2050



Source : CAA, Oxford Economics



Source : CAA, Oxford Economics

~ Note that the Upper Bound ATM forecast has been capped from 2030 in order to match the ATM supply that could be delivered, using Atkins data.

Table 4.2: Predicted Annual Volumes of Constrained Air Cargo Using OE Lower Bound Trend Forecasts

Year	LAA Constrained Cargo (Thousand ATMs)	Belly Hold Cargo (000 ATMs)	Dedicated Cargo (000 ATMs)	Belly Hold Cargo (Kgs)	Dedicated Cargo (Kgs)
2020	-123	-122	-2	-199,007,217	-41,551,049
2030	-220	-217	-3	-354,390,025	-72,674,570
2040	-174	-172	-2	-281,370,352	-56,671,816
2050	-111	-110	-1	-179,940,132	-35,596,283

Source: DfT, Oxford Economics.

Table 4.3: Predicted Annual Volumes and Value of Constrained Air Cargo Using OE Upper Bound Trend Forecasts

Year	LAA Constrained Cargo (000 ATMs)	Belly Hold Cargo (000 ATMs)	Dedicated Cargo (000 ATMs)	Belly Hold Cargo (Kgs)	Dedicated Cargo (Kgs)	Projected Cargo Value (£/kg)	Belly Hold Cargo Value (£ m)	Dedicated Cargo Value (£m)	Total Cargo Value (£m)
2020	96	95	1	154,672,622	32,294,355	£110	£16,970	£3,543	£20,513
2030	70	69	1	112,960,704	23,164,790	£148	£16,679	£3,420	£20,099
2040	295	291	4	476,166,397	95,906,389	£199	£94,620	£19,058	£113,678
2050	522	515	7	842,454,190	166,656,750	£267	£225,297	£44,569	£269,866

Source: DfT, Oxford Economics.

36. The Northpoint Report then presents a simple spreadsheet model showing the tonnages that Manston might attain under a number of different scenarios. These scenarios are driven by:

- Different growth rate assumptions
- Different assumed capacities at the other airports
- Different assumptions about Manston's ability to clawback an element of the tonnage being trucked across the Channel

No probability is assigned to the achievability of any of these underpinning assumptions and results are simply presented in terms of whether the outcomes are higher or lower than Azimuth's forecasts. We would note that this is a tonnage spill model and does not, as pointed out above, consider how this tonnage would then travel. It is just assumed that in all cases it would choose a dedicated freighter service from Manston regardless of cost.

37. First of all, accepting at face value Northpoint's assertion that import/export tonnage leaked to European airports would amount to 1 million tonnes a year by 2050, the assumed claw back of this leakage is 25% in the base case (almost 20% in the first year of opening 2022 based on current leakage of 500,000 tonnes), 40% in the high case and 60% in the stepped up clawback case. For the reasons set out in paras. 18 to 20 above, this is patently absurd given the reasons for the trucking activity in the first place.

38. If you strip out the assumed clawback, 17 of the 24 Northpoint scenarios show negative demand for Manston at 2040 (with demand significantly less than Azimuth project in earlier years). The only remaining scenarios in which there would be any demand for Manston are those relying on unrealistically high market growth rates in cargo tonnage deriving from the analysis back to 1990 of 2.7% CAGR[1] and 3.0% CAGR and then only in the circumstances where the capacities attainable at the other airports have been understated in aggregate. Overall, the model provides no corroboration of there being material demand for Manston as a dedicated air freight airport. Rather the analysis contained in the report tends to confirm the reasons why the Airport could not succeed.

Night Flying and the Integrators

39. We set out in our commentary on RSP's Written Answers to Questions evidence as to the dependence of conventional integrators on night flights. Hence, leaving aside the locational reasons why Manston would not be a suitable base for an integrator, the proposed night scheduling ban effectively removes any prospect of such operations, a point effectively conceded by the Applicant when it says that an integrator base is not proposed for Manston (Written Answer to ND.1.16).

40. We are now asked to believe that the Azimuth did not mean conventional integrator operations when including them in the 'forecast' as set out at para. 3.2.3 of Vol III of the Azimuth Report, despite DHL/Fedex being specifically identified as the operators of these flights at Appendix 3.3. of the ES, which we were told in oral evidence was based on the Azimuth projections. We are now asked to believe that what was meant was a new form of integrator – Amazon or Alibaba- Cainiao - operating these flights. This is despite Amazon being separately identified in Appendix 3.3. of the ES in addition to the conventional integrator operations.

[1] Compound annual growth rate.

41. The Northpoint Report is used by RSP in an attempt to support this change of emphasis to 'New' integrators and the e-commerce model as the basis of justification for 48% of the aircraft movements claimed for Manston at Year 20 (more in the earlier years). This is no more than speculation as the extent to which the e-commerce operators will seek to operate their own aircraft within the European market and the nature of those operations is largely unknown. We set out below our understanding of the current operations.

Amazon

42. Amazon has set up its own airline operating within the USA so as to control its own supply chain rather than relying on the existing integrators. In essence, it is developing its own sorting facilities and replicating the type of hub and spoke systems used by the existing integrators. It is operating its own aircraft largely for the purpose of distributing goods between its main distribution centres, with onward transport to the customer locally by road (https://aircargoworld.com/allposts/amazon-to-move-prime-air-cargo-hub-to-cincinnati/). It is our understanding that the pattern of flying in terms of day/night operations follows closely that of a conventional integrator, positioning product between distribution centres overnight so as to be ready for delivery next day.

43. Amazon has an embryonic operation in the UK with a leased Boeing 737 freighter operating to East Midlands Airport (https://www.ch-aviation.com/portal/news/63035-amazon-air-boosts-fleet-to-32-b767s-eyes-more). Amazon is opening a 500,000 sq.ft. warehouse and sorting centre immediately adjacent to East Midlands Airport in April 2019 (https://www.leicestermercury.co.uk/news/business/east-midlands-gateway-amazon-nestle-1444182). This would strongly suggest that Amazon is likely to follow the lead of DHL and UPS and establish East Midlands as its UK air hub. Indeed, the two flights currently operated to Milan and Madrid appear to be joint operations with DHL. Like many DHL operations, these rely in part on night flights (based on Flight Radar data), with the departure to Milan at 06.00 and the arrival from Madrid at 02.40. This reinforces our view that, as operations to the UK expand, they would be expected to follow a similar pattern over the day as the conventional integrator operations at East Midlands.

Alibaba-Cainiao

44. Alibaba has committed to establishing its main European hub at Liege Airport (https://www.retaildetail.eu/en/news/general/li%C3%A8ge-officially-becomes-alibabas-first-european-hub). It is not yet clear whether it intends to commence direct operations or to contract with existing airlines at the Airport such as ASL Airlines, which operates for TNT/Fedex with its major hub at Liege and also provides the current Amazon service from East Midlands. Again, it seems most likely that any Alibaba operation in Europe will also mirror pre-existing patterns of integrator operation, using its main base as Liege, for the same reason as Amazon.

45. Overall, we see no reason to assume that the choice of airports for the 'new' integrators would be based on different criteria to the existing integrators nor that they would be any less dependent on night operations. Hence, given the proposed night scheduling ban, the establishment of a 'New' integrator base at Manston with 2 aircraft in Year 2 and 4 aircraft in Year 4 is simply not credible.

Consequences for the Environmental Assessment

46. Mr Hilton of Wood stated in oral evidence that environmental assessment relied on Appendix 3.3 of the ES and that it was derived based on the Azimuth 'forecasts'. However, as we have pointed out in Table 3.1 of our 2019 Report, there are inconsistencies in the proportions of aircraft in each ICAO category between Appendix 3.3 and other parts of the ES, and between the ES and the Azimuth Report. Dr Dixon said she was not responsible for producing Appendix 3.3 and Mr Hilton did not seem to know who was responsible either.

47. In the context that the information in Appendix 3.3 is claimed to be the basis upon which all of the environmental assessments have been carried out, it is important to note that Mr Hilton told the hearing that the assessments were based not only on the aircraft types named in Appendix 3.3 but also on the specific aircraft and engine types operated by the named airlines. Hence, to the extent that these airlines would not or could not operate to Manston (see para 3.10 of our 2019 Report), particularly once the impact of the night scheduling ban is taken into account, this invalidates the specific environmental assessments made. The particular example referred to in oral evidence is the assumption that the ATR-72 turbo-prop aircraft would account for around 25% of all freighter aircraft movements, specifically operating for DHL or Fedex. The 'New' integrator, Amazon, is currently using Boeing B737 jet aircraft for its European operations so, even if it was right that DHL or Fedex would be substituted by Amazon or similar, it could not be relied on that these airlines would use so many turbo-prop aircraft. This means that the ES can no longer be deemed to have assessed the worst or most likely case effects, even if that was ever the case.

48. Appendix 3.3 does not include any General Aviation movements, yet the Noise Mitigation Plan suggests that there could be up to 38,000 such movements a year or 104 a day on average. Elsewhere (para. 12.7.39), the ES states that 16 such movements a day have been included in the assessment. This is clearly inconsistent with the worst case for noise that would be permitted under the Noise Mitigation Plan.

49. As pointed out at the Noise Hearing, a further consequence of the night scheduling ban is to condense all of the aircraft operations into the day-time period. The response given by Mr Hilton that movements that were otherwise assumed to operate in the night (14% of total movements) would simply switch to the 06.00-07.00 hour, and so still be within the 8-hour night noise assessment period, lacks credibility. Faced with a night scheduling ban, the airlines would need to reprogramme their operations in their entirety to fit within a curfew and, to the extent that hypothetically they would still operate to Manston, this would result in proportionately more movements in the 16-hour day period used for daytime noise assessment, resulting in an increase in contour area over that assessed and an increase in the areas eligible for compensation. The veracity of this can only be tested further when RSP produces the more detailed analysis of the profile of flights over the day related to the infrastructure requirements as promised at the Compulsory Acquisition Hearing.

50. We note also that the effect of the night scheduling ban will also impact on the data used in the Transport Assessment as set out in Appendix E to the TA. First of all, Table 1.1 shows freight related truck movements evenly distributed over the day. However, if, as we are now told, more than half of the movements at the Airport are going to be associated with a 'New' e-commerce integrator, it would be reasonable to expect that truck movements would be bunched around the arrival of these aircraft to ensure speed of delivery to the customer. On the basis of the suggested bunching of flights into the 06.00-07.00 hour, this would result in a significant number of trucks on the highway network in the 08.00-09.00 period to ensure deliveries of goods. Equally, for outbound flights before the night curfew, it would be expected that goods would need to be at the Airport 2-3 hours ahead of the last flight (23.00) so this too would require more movements in the day time. It would appear unlikely, therefore, that the TA has assessed the true impact on the highway network including in the morning and evening peak periods.

Policy Tests

51. It was suggested by RSP that there is an overriding policy presumption in favour of more capacity for air freight stemming from the priority placed in this within the Airports NPS and more recent Aviation 2050 Green Paper and that there was an automatic presumption in favour of all airports making best use of existing runways.

52. As stated in our comments on the Applicant's Written Answers (ND.1.2 and ND.1.4), the Government makes clear that the principal means envisaged to ensure that the UK has sufficient air freight capacity is through the provision of a 3rd runway at Heathrow delivering, mainly, more bellyhold capacity. Growth at Stansted and East Midlands in also anticipated. The Government does not go onto identify any further anticipated shortfall in capacity for air freight that needs to be addressed before 2050.

53. In terms of the 'Best Use' policy, it is clear, as we set out at paras. 2.16 and 2.17 of our 2019 Report, that there is no automatic presumption that best use should be made of all runways as policy is clear that each case has to be tested on its merits, including whether there is a demonstrable need and benefits from the proposed use sufficient to outweigh any environmental or other negative impacts. The lack of a coherent Need Case for Manston strongly suggests that there is no presumption in favour of making best or other use of the runway in this instance.

Capacity Available at Stansted

54. We set out the position in relation to the consented capacity at Stansted in our comments on the Applicant's Written Answer to ND.1.18. In oral evidence, there appeared to be some confusion regarding the attitude of MAG (the Airport's owners) to cargo growth there.

55. The Aviation Forecasts underpinning the recent Stansted Planning Application to lift the cap on passengers are set out in Volume 4 of the ES (https://publicaccess.uttlesford.gov.uk/online-applications/files/2C9A5D09B9434B571771AF326D87A423/pdf/UTT_18_0460_FUL-ES_VOLUME_1_-_CHAPTER_4_AVIATION_FORECAST-2634298.pdf). The cargo forecasts to 2028 are set out at para. 4.59. These show the anticipated tonnage to grow to 376,000 tonnes a year by 2028, not far short of our assumed capacity of 400,000 tonnes by 2040, suggesting that we may have understated the true capacity available at Stansted over the longer term. Indeed, the forecasts show slightly more cargo in the with development case than without development (Stansted Planning Statement, para. 6.28).

56. The Stansted Airport cargo forecasts assume 16,000 cargo ATMs a year and an increasing proportion of bellyhold capacity as long haul airlines, such as Emirates expand operations at the airport. We would expect the cargo capacity of Stansted to continue to increase beyond 2028 up to the envisaged capacity of 400,000 tonnes a year as more long haul services commence at the Airport, displacing more marginal short haul routes. The claims by RSP's experts that cargo capacity at Stansted is constrained is without foundation.

Capability of the Proposed Infrastructure

57. We now set out some observations on the capability of the existing and proposed infrastructure that we were prevented, by time constraints, from making at the Compulsory Acquisition hearing.

58. As Mr Rhodes of Quod for SHP made clear, the site has an established lawful use as an airport. Having examined the site in detail and spoken with those who previously managed operations on the ground, it is clear that the facilities, if reinstated, would have a capability of handling of the order of 21,000 freighter aircraft movements a year as set out in Section 4 of our 2017 Report. This assessment is consistent with the basis upon which RSP has calculated a theoretical capability of over 83,000 freighter aircraft movements a year from its proposed infrastructure.

59. Whilst the basis of this theoretical 'capability' assessment is set out by RSP in various documents, it has provided no explanation of how it has assessed that 19 freighter aircraft stands, all of the maximum Code E size, are required to handle the projected 17,170 annual freighter aircraft movements, which is equivalent to 23.5 freighter aircraft (half the number of aircraft movements) being handled each day on average, i.e. most stands would only be used once each day, suggesting an even heavier bunching of movements with consequential implications for vehicular traffic bunching on the highway network. Indeed, the concept that vehicle activity associated with air freight will be spread over the day, as set out in Appendix E to the TA, is inconsistent with the implied need for virtually all freighter aircraft to occupy stands simultaneously. Furthermore, many of the movements in the fleet mix assessed in the ES are shown to be using much smaller aircraft (such as the ATR72 turboprop) for which each Code E stand could easily accommodate two aircraft at a time, reducing the number of Code E stands required in total.

60. Overall, the proposed scale of infrastructure provision is completely inconsistent with claimed cost efficiency of the development (as required by the Airports NPS) nor likely to facilitate RSP being able to offer operators competitive terms as claimed by them, given the scale and cost of the infrastructure it proposes to provide and the consequent implications for the level of charges that it would have to levy to cover the costs of investment as set out in Section 7 of our 2019 Report. In effect, the Business Model spreadsheet corroborates the intention to charge at this level.

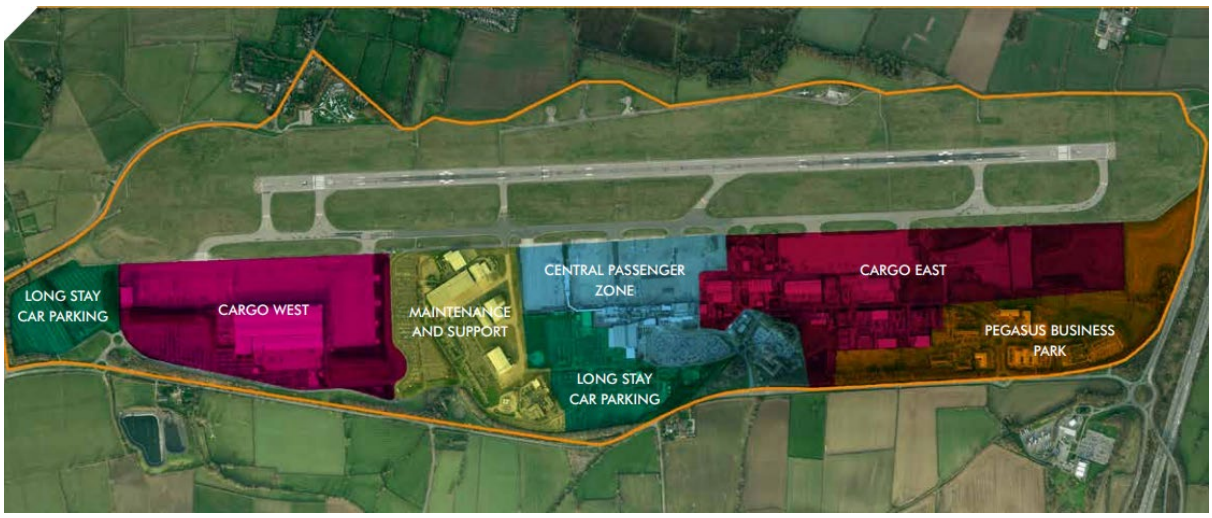
61. At the very least, the ExA needs to investigate further the requirement for the scale of infrastructure proposed to ensure that it is not excessive, particularly in relation to the compulsory acquisition of land. To assist, we have set out a detailed assessment, missing from the Applicant's documents, of the infrastructure required to support RSP's projected freighter airline operations at the times they would want to fly (which must necessarily include an allowance for night operations without which the airlines will be unlikely to operate or base aircraft so reducing the required infrastructure still further). Indeed, the concept that vehicle activity associated with air freight will be spread over the day, as set out in Appendix E to the TA, is inconsistent with the implied need for virtually all freighter aircraft to occupy stands simultaneously. We have explained the basis of our assumptions at paras 3.43 and 3.44 of our 2019 Update Report, with a fuller explanation of the infrastructure required at Section 6. This shows that, even allowing for resilience and flight delays using normal industry standards, the required infrastructure would be less than half of that proposed by RSP – 10 stands and 1/3 of the cargo sheds assuming efficient automated operations as stated by RSP - even if its projections of usage were attainable.

62. The scale of infrastructure proposed on the airfield is simply unjustified.

Airport Related Business Parks

63. There is then the matter of the Northern Grass. RSP's recent comments on the Written Representations suggest that is it confused itself as to its own proposals. The developable area of the Northern Grass, after allowing for the area around the radar and the museum zone is of the order of 83.5 acres, broadly equivalent to the area of the Pegasus Business Park at East Midlands Airport at 70 acres. The 26 acres referred to by RSP in its recent submission (para. 2.9.17) in response to SHP's Written Representation appears to be the footprint of the buildings proposed, which is not, of course, the same thing as the area available for development.

64. We recognise that MAGProperty cite 218 acres of business property space as being available at EMA (https://www.eastmidlandsairport.com/about-us/business/) as referred to in RSP's comments on Written Representations (para. 2.9.16). It is not entirely clear to us which areas are included within this 218 acres, which may include airside as well as landside development zones. Further information on the development zones at EMA was included in our comments on RSP's Written Answer ND.1.15, with its development plan included and reproduced below.



65. Key metrics for the overall plan are:

- *The entire airport covers an area of approximately 900 acres;*
- *Total area of development (coloured areas) approximately 460 acres;*
- *Much of the development area comprises passenger facilities, airside cargo facilities and passenger car parking*
- *Area designated as the landside 'Pegasus Business Park' (commercial development) totals 70 acres, of which 28 acres has been developed[2];*
- *60% of Orange hatched area has yet to be developed for any uses despite the tonnage throughput attained by EMA.*

66. This plan makes it evident that the total business development area cited for the EMA site is in no way equivalent to the Northern Grass with the more relevant direct comparison being with the 70 acres of landside 'Pegasus' business park at East Midlands and the proposed Manston Northern Grass development zone of 83.5 acres, at least on the basis of RSP's original proposals for B1/B8 development for businesses seeking an airport location as both of these zones are entirely landside areas with no direct airfield access.

67. However, the revised NSIP Justification Statement states that it is now intended that the uses on the Northern Grass be limited strictly to those which are 'airport related', presumably to be consistent with the 2006 Local Plan policy which requires the whole of the site, including the Northern Grass, to be used for airside uses. 'Airport related' is normally taken to be those uses required to directly support the operation of an airport, and this would exclude more general business park uses which would simply prefer a location on or adjacent to an airport that formed the basis for the Application. Such a general business park appears to be no longer what is proposed for Manston, particularly given the limitation to airport related uses now contained in the draft DCO, and, indeed, would not constitute Associated Development to the NSIP even if it was.

68. The list of 'airport related' facilities provided as part of the revised NSIP Justification comprises mainly operational facilities, such as crew report offices, offices for Border Force, airside transport offices which would need to be located with direct airside access, i.e. not on the Northern Grass as crossing Manston Road would be unacceptable (See Section 6 of our 2019 Report). Other uses proposed include facilities related to the ground transportation of passengers, which would not be compliant with the local plan policy. In any event, these facilities would be very small in scale using only a fraction of the site and not directly related to the NSIP facilities themselves so as to constitute Associated Development.

[2] This is developed area not building footprint.

69. The proposed restriction of uses to those strictly airport related is significant as the evidence from East Midlands (see our comments RSP's Written Answer to question CA.1.4) is that there is little or no requirement for landside airport related accommodation adjacent to the UK's main air freight hub and EMA is actively seeking to relax the usage constraint on such buildings to non-aviation related uses. Pegasus Business Park is, in practice, a general business park attracting businesses seeking a central location within the East Midlands, close to the M1. Even so, the full 70 acre site area has not yet been developed out, with currently only around 28 acres containing any buildings, car parks or road infrastructure at all.

70. In the absence of the promised (Deadline 3) benchmarking of land areas required for Associated Development, during the Compulsory Acquisition Hearing, the Applicant referenced other airport business parks with airport associated development. Two of those examples were Newquay Aerohub and Prestwick Aerospace Enterprise Zone. As is described below, neither of these examples supports the Applicant's case for the area of development land proposed for the Northern Grass area on the basis of airport related uses.

71. Newquay Airport Aerohub is an Enterprise Zone of that includes both airside development land (231 acres), a landside business park covering 87 acres of land and a further 45 acres of land defined as economic zones related, inter alia, to passenger terminal operations (https://www.aerohub.co.uk/our-offer/development-opportunity). In relation to the landside business park, which is the relevant comparison to the Northern Grass, *"53.5 acres are now serviced and build-ready"* amounting to 115,000 square metres of floor space, and is described by the EZ as being *"Open to businesses from all sectors"* with the caveat that they give priority to aerospace and aerospace supply chain companies (https://www.aerohub.co.uk/business-park/the-development). However, it understood that only 2 businesses currently occupy space within the landside development and that neither of them are 'airport related' businesses or even aero sector related, with one being a manufacturer or prefabricated houses. As the Aerohub was established in 2012, with business park plots serviced and available for development in 2015, it is clear there is very little demand currently for this type of development. There is also limited take up of the airside development area but this is not relevant to the Northern Grass comparison.

72. Prestwick Aerospace is another Enterprise Zone established in 2011 covering 34 acres which includes existing airside and landside developments (hangars, warehouses and offices) plus a number of as yet undeveloped plots. Most of the current occupants are aerospace sector companies, such as BAE Systems and Spirit Aerosystems, but these companies are not airport related nor making extensive use of the airport as parts and supplies are trucked in rather than needed access to the runway[3].

73. It would appear that the benchmark examples being relied on by RSP are general business parks that happen to be located on land holdings adjacent to operational airports. Even on this basis, the take up of these sites does not suggest that a general landside business park site of the scale of the Northern Grass could be justified.

74. Given the requirement for the development to be strictly related to the NSIP Project and with the restriction to strictly airport related uses, as defined in the Amended NSIP Justification Statement, the requirement for land for landside development is even more limited. Such uses as might locate on the Northern Grass are likely to be confined to passenger related car parking and surface transport related activities, which would occupy only a small part of the area at the throughput proposed.

27th March 2019

[3] York Aviation has done a number of studies in relation to Prestwick Airport for Scottish Enterprise and are familiar with the site but the reports remain commercially confidential.

York Aviation

Manston Airport

Note of Oral Evidence given by York Aviation for Stone Hill Park at the Noise Hearing 22nd March 2019

1. This note sets out the key points made in oral evidence to the Noise Hearing. It should be read in conjunction with the Supplementary Note following the Compulsory Acquisition and Noise Hearings.

2. York Aviation identified a number of reasons why the Examining Authority cannot be confident that the noise assessment has identified the potential worst case effects of the development:

   a. There remains confusion in the documents as to what mix of aircraft types has actually been assessed and whether this is consistent with the fleet mix set out in the Azimuth Report (see Table 3.1 of the York Aviation 2019 Report).

   b. Oral evidence given by the applicant at the Need Hearing made clear that conventional integrator operations are no longer expected at Manston and that such movements would be made instead by 'New' e-commerce integrators operating a different pattern of flights not requiring night operations. Given that 48% of the movements in Year 20 are shown in the ES (Appendix 3.3) to be by a conventional integrator, of which half were expected to be using quiet ATR-72 turbo-prop aircraft, the substitution of these movements by a 'New' integrator, expected to use more Boeing B737 types rather than turbo-props, means that the fleet mix assessed is almost certain to understate noise exposure relative to what is now proposed.

   c. Mr Hilton for Wood stated at the Need Hearing that the noise assessments were made on the basis of the specific fleet mix set out in Appendix 3.3. of the ES, including by reference to the individual aircraft and their engine types operated by the named airlines in that Appendix. Given the likely change in the nature of the operators and the fact that several of the airlines do not operate freighter aircraft of the types specified (see York Aviation 2019 Report para. 3.10), there can be no confidence that the noise assessment is robust.

   d. The revised Noise Mitigation Strategy proposing no scheduled movements during the night period 23.00-06.00 means that there will inevitably more movements in the 16 hour daytime period used for noise assessment. It is simply not credible to suggest, as Mr Hilton did, that movements that might otherwise have operated in the night period will all operate in the 06.00-07.00 hour as a ban on night operations for freighters would result in a need for wholesale retiming of the operating programme so as to best fit into worldwide cargo collection and delivery schedules. (If they did bunch as suggested, there would be major implications for truck movements on the highway network in the morning peak due to the need to deliver goods from aircraft arriving in the early morning period. This will need to be addressed in the Transport Assessment). If there are more aircraft movements in the daytime noise assessment period, the noise contour area will increase, so leading to an increase in the number of properties eligible for noise insulation and/or compensation.

   e. The Noise Mitigation Plan allows for 38,000 general aviation movements but the ES (para. 12.7.39) states that the number of movements assessed is 16 per day on top of the estimated 79 daily air transport movements (ATMs), the latter being consistent with Appendix 3.3. 16 general aviation movements a year equates to only 5,840 annual movements, significantly less than allowed under the Noise Mitigation Plan.

f. The assessment appears to be based on assumptions about flight paths that rely on broader airspace changes to be delivered as part of the FASI S Airspace change programme (Government/CAA Airspace Modernisation Strategy), which will require coordination with NATS and other airports. There can be no certainty that the proposed flightpaths will be deliverable and a worst case assessment would need to be based on flightpaths as previously operated when the airport was open.

3. In the light of the change to the night noise policy and the admitted changes to the types of airline expected to operate, it is inevitable that there will need to be changes made to assessment of noise effects. The effects of this will almost certainly increase the financial liability for compensation and mitigation.

4. A further issue that arose during the Hearing was in relation to which aircraft would need to operate on a delayed basis during the night period. The response given by Mr Freudmann for RSP was that there would be a limited number of delayed passenger flights only but that these would be few in number as low fares airlines schedule their arrivals before 22.00. This is incorrect including for the example airport cited by Mr Freudmann, Luton. At Luton, for Summer 2019, 15% of all passenger aircraft arrivals are scheduled to arrive between 23.00 and 06.00. For Ryanair, the carrier shown by RSP as operating to Manston, has 17% of its arrivals in the night period (Source: Official Airline Guide database). This means that, on the basis that each aircraft operates c.2.5 round trips a day, up to 40% of low cost airline aircraft are arriving back to the base in the night period. The pattern at other airports with low cost airline bases is similar. With the restrictions proposed on scheduling operations in the night period, it is now highly unlikely that a low cost airline would contemplate setting up a base at Manston as it would fundamentally restrict the ability to flex. Indeed, we understand that Mr Freudmann himself, when involved in the management of the Airport, is on record as stating the essential requirement for the operation in the night period for commercial operations (see attached letter). Reduction in passenger flights would have a material implication for the asserted revenues in the Business Model.

5. In practice, we consider there to be a greater risk of delayed cargo arrivals in the night period as the nature of cargo operations tends to result in increased risk of delayed operations whereas passenger airlines have an incentive not to delay aircraft due to legal passenger compensation requirements.

28th March 2019

Manston Airport Consultative Committee (M.A.C.C)

13 December 2004

Richard Samuel Esq.,
Chief Executive
Thanet District Council PO Box 9
Cecil Street Margate Kent
CT91XZ

Dear Richard

KENT INTERNATIONAL AIRPORT-MANSTON: SCHEDULED PASSENGER OPERATIONS

1. We are writing to inform you of our plans to support EUjet's summer schedule of operations for the period April- September 2005 and, in the context of the extant Section 106 Agreement between us, to explain the measures we have already taken and intend taking to mitigate any adverse noise impact on residents.

2. Over the first thirteen weeks of its operation EUjet has flown some 71,000 passengers and taken bookings of 151,000 seats. In relation to the target of some 800,000 passengers in the first full year of operation these sales figures are most promising. But without the ability to intensify the use of its current aircraft fleet and in so doing to offer additional destinations in response to passenger demand for additional leisure and business destinations, EUjet risks the ability to capitalise on its early successes and achieve the growth essential for long-term sustainability.

3. It is against that background that EUjet will this Wednesday publish its schedule for Summer 2005. The new schedule (copy attached) will include routes to a range of Spanish destinations, including Seville and Valencia; to Budapest and, in support of the business needs of Kent & Medway, flights to Newcastle, Belfast and Cologne. Securing slots for these new routes has not been without difficulty but EUjet has done exceptionally well and is to be commended on having made every effort to contain as many as possible of these flights within the established operating patterns of Kent International Airport. But it has not been possible to accommodate the entire schedule within the Airport's normal operating hours. And it is to that subject that we are writing well in advance of the actual operation of the Summer 2005 schedule to explain the effects of the new changes.

4. The key effect of these changes is that certain flights will arrive home at Manston after 2300 hours. Specifically, they are:

Weekdays:	Arrival from Glasgow	ETA 2310 (local)
Weekdays:	Arrival from Newcastle	ETA 2315 (local)
Thursdays:	Arrival from Malaga	ETA 0030 (local)
Fridays:	Arrival from Faro	ETA 0040 (local)
Saturdays:	Arrival from Seville	ETA 2335 (local)
Saturdays:	Arrival from Malaga	ETA 2350 (local)
Sundays:	Arrival from Ibjza	ETA 0020 (local)
Sundays:	Arrival from Malaga	ETA 0055 (local)

With four exceptions these late arrivals should have landed before midnight.

5. In deciding whether or not to support EUjet's Summer 2005 schedule we have given careful consideration to the terms of the extant S106 Agreement and to the scenarios that were envisaged when it was drafted. At that time the potential for arrivals and departures at night centred on the use of the Airport by dedicated cargo aircraft with a Quota Count of 4 or more. In addition the S 106 catered for irregular night flights. Throughout, the presumption was that night flights would be by comparatively noisy cargo aircraft as evidenced by paragraphs 1.1 to 1.3 of the Agreement where the emphasis throughout is on only permitting use by aircraft with a Quota Count less than 4.

6. The commercial imperatives and operating circumstances that have prompted EUjet to seek our support for out of hours flying are we believe justified given the overall long-term benefits to the region of securing a successful scheduled passenger operation from Manston. In the context of our noise management policy we know that EUjet has stripped out of its schedule all but essential flights in order to maximise efficiency and limit the impact of noise disturbance to local residents. The fact that the Fokker 100 aircraft operated by EUjet has a Quota Count of 0.5 also means that the actual noise disturbance to residents is at the absolute minimum of any noise disturbance scale; indeed since the introduction of EUjet's operation in September and the withdrawal of MK Airljnes we have clear evidence of a significant reduction in the average Lmax dB(A) (see attached). And, importantly, EUjet's operating ethos assumes that its aircraft fleet is based overnight at Manston; the Summer 2005 schedule envisages no departures from Manston between the hours of 2030 (local) and 0600 (local).

7. We must emphasise: that none of this represents the first step towards 24 hour flight operations at Manston. There is no public demand for night flying, and even if there were, the cost of staffing the airport throughout the night would make the whole operation totally uneconomic. In formal terms, and using the language of the Second Schedule of the Section 106 Agreement, we are consulting the Council on the following very limited night-time flying policy:

> **'That where scheduling imperatives and slot allocations so require, and where reasonable endeavours have been taken to avoid the need for it, the Airport's resident airline shall be permitted to land 12 aircraft per week between the hours of 2300 and 2400 and 4 aircraft per week between the hours of 2400 and 0100 providing such aircraft have a Quota Count of no more than 0.5'.**

8. We very much regret that the full six month consultation period is being curtailed. Here we are the victim of the airline industry's slot allocations cycle. S106 for summer schedules are allocated in at an international conference in November. Airlines' full scheduling exercise cannot be completed until this has happened. In EUjet's case this process ended last week and we are therefore bringing it to you at the first opportunity.

9. As part of the consultation process we now intend to take the following steps, the outcomes ofwhich will be published at the first opportunity:

> **(a) First, to commission Bickerdike Allen to undertake an independent assessment of the impact of occasional night-time aircraft noise on local communities recognising that the approach used for the assessment differs from that used for daytime flights;**
>
> **(b) Secondly, to invite EUj et and the Airport Director to review operating procedures with the aim of identifying operating measures that will minimise arrival noise; and-**
>
> **(c) Thirdly, in the light of the recommendations to emerge from these actions, to consider what further noise amelioration and mitigation measures - embodying the principles of UK best practice and the appropriateness of those principles**

to prevailing local conditions - might sensibly be introduced.

The results of this work will be available for full scrutiny and we are happy that they also be available to inform the consultation process.

We are writing in identical terms to Sir Alistair Hunter as Chairman of the Manston Airport Consultative Committee, who has kindly agreed to allow us to make a presentation to the meeting of the Manston Consultative Committee on 15 December. We should now be grateful if you would ensure that copies of this letter and its attachments are provided to Cabinet Members at the earliest opportunity.

Yours sincerely

Tony Freudmann
Chairman Director,
London Manston Airport plc

Paul Tipple
Corporate Affairs
London Manston Airport plc

KIACC INDEX

A: Property Register continued

plan takes effect subject thereto:-

"THE PRESIDENT OF THE AIR COUNCIL hereby acknowledges that the within written Conveyance shall not operate as a grant of any right to an easement over the adjoining land of the within named Vendor in respect of the Water pipe at present running through the Vendors land on to and under the property the subject matter of the within written Conveyance."

4 (21.05.1991) There are included in this title the following matters excepted by and the land has the benefit of the following rights reserved by a Conveyance of the land lying to the north of the western portion of the land in this title dated 6 February 1968 made between (1) The Secretary of State for Defence (2) The Sevenscore Estates Limited and (3) Alexander MacTaggart and others:-

"EXCEPTING AND RESERVING out of this Conveyance for the benefit of the adjoining or neighbouring land of the Vendor known as Manston Airfield (hereinafter called "the retained land") in part shown edged in green on the said plan and the estate owner or owners for the time being of the retained land and the occupier thereof the following things and rights that is to say:-

The electricity cables.....in the approximate positions shown by broken green lines.....on the said plan and all other cables wires pipes drains and channels (if any) in or over the property hereby conveyed and serving the retained land and the right to the free passage of electricity gas water and soil through the same to and from the retained land together with all appropriate easements rights and privileges for repairing maintaining renewing and removing the same"

NOTE: The broken green line referred to is shown by a blue broken line from H and H on the filed plan.

5 (21.05.1991) The land has the benefit of the rights contained in a Deed Poll dated 22 December 1960 made by The Secretary of State for Air.

NOTE: The servient land is adjacent to the eastern boundary of the land tinted blue on the filed plan.

6 (21.05.1991) The land has the benefit of the following rights reserved by a Conveyance of other land dated 21 December 1967 made between (1) The Secretary of State for Defence (Vendor) (2) The Right Honourable William Henry Francis Earl of Mount Charles (Purchaser) and (3) Norman Harold Steed (Sub-Purchaser):-

"RESERVING in fee simple out of this Conveyance for the benefit of so much of the adjoining or neighbouring land of the Vendor known as Manston Aerodrome and shown edged green on the plan (hereinafter called "the retained land") and the Estate Owner or Owners for the time being of the retained land and the occupiers thereof the right to use the existing water supply pipe and storm water drains in the approximate positions shown by blue and green lines respectively on the said plan the free passage of electricity gas water and soil from and to the retained land through the cables wires pipes drains and channels (if any) which are now in over or under the property hereby conveyed with all easements rights and privileges proper for repairing maintaining and reinstating the same"

NOTE: The land edged green referred to is the south eastern portion of the land in this title. The blue and green lines referred to are shown by a blue broken line from E to E and by brown broken lines from F to F and G to G respectively on the filed plan.

7 (21.05.1991) There are included in this title the following matters and rights reserved by a Conveyance of the land adjoining the southern boundary of the land edged and numbered 38 in blue on the filed plan dated 29 January 1968 made between (1) The Secretary of State for Defence (Vendor) and (2) Roy Mills (Purchaser):-

"RESERVING in fee simple out of this Conveyance for the benefit of so much of the adjoining or neighbouring land of the Vendor known as "Manston Aerodrome" or "R.A.F. Manston" (hereinafter called "the

A: Property Register continued

retained land") and the estate owner or owners for the time being of the retained land and the occupiers thereof the following things and rights that is to say:-

(a) The cables wires pipes drains and channels (if any) in or over the property hereby conveyed and serving the retained land and the right to the free passage of electricity gas water and soil through the same to and from the retained land together with all appropriate easements rights and privileges for repairing maintaining renewing and removing the same

(b) The right at all times to enter upon the property hereby conveyed with or without workmen and others for the purpose of maintaining inspecting or renewing the said fence marked "R.A.F. Manston Boundary Fence" on the said plan the Vendor making good any damage thereby caused to the property hereby conveyed"

NOTE: The fence referred to is the fence between the land conveyed and the land in this title.

8 (23.03.2001) There are included in this title the following matters excepted by and the land has the benefit of the following rights reserved by a Transfer of other land dated 7 March 1968 made between (1) The Secretary of State for Defence and (2) Kent County Council:-

"Except and Reserving in fee simple unto the Secretary of State for Defence or other the estate owner or owners for the time being of the remainder of the land comprised in the title above-mentioned and the occupiers thereof the drains and electricity cables shown by continuous green and red lines respectively on the said plan together with the right to the free passage of water soil and electricity through the same to and from the remainder of the land comprised in the title above-mentioned and such other adjoining or neighbouring land of the Secretary of State for Defence capable of benefiting thereby together with all appropriate easements rights and privileges for repairing maintaining and removing the same."

NOTE: The green line referred to is shown on the filed plan by a blue broken line between the points K to K so far as it falls within the land transferred. The red line does not affect the land in this title.

9 (20.02.1995) The land has the benefit of the following rights reserved by a Transfer of land adjoining the nothern boundary of the land in this title dated 8 February 1995 made between (1) The Secretary of State for Defence and (2) Struan Gordon Robertson:-

"EXCEPT AND RESERVED in fee simple to the Vendor the right to use the high voltage electricity main in the approximate position shown to be a red line on the said plan and all other cables wires pipes drains and channels (if any) in on or over the Property and serving the Retained Land and the right to the free passage of electricity gas water and soil through the same to and from the Retained Land together with all appropriate easements rights and privileges for repairing maintaining renewing and removing the same."

NOTE: The red line referred to has been reproduced on the filed plan.

10 (22.04.1996) The land has the benefit of the following rights reserved by a Transfer of the land adjoining the western boundary of the land in this title dated 20 March 1996 made between (1) The Secretary of State for Defence and (2) The Kent County Council:-

"There are reserved out of the property for the benefit in fee simple of the Retained Land the rights set out in the Schedule.

THE SCHEDULE

1. All cables wires pipes drains and channels (if any) in or over the property hereby conveyed and serving the Retained Land and the right to free passage of electricity gas water and soil through the same to and from the Retained Land together with all appropriate easements rights and privileges for repairing maintaining renewing and removing the same.

A: Property Register continued

2. The right to obtain install maintain remove or modify the existing lighting arrays and associated cables and other services on the property.

3. The right to install maintain remove or modify new lighting and associated cables and other services without charge on the verges footpaths or central reservations of the Property by agreement with the Purchaser."

NOTE: The Retained Land referred to is the land adjoining the Eastern boundary.

11 The land in this title and other land has the benefit of the rights granted by but is subject to the rights reserved by the Transfer dated 31 August 1999 referred to in the Charges Register.

12 The land in this title has the benefit of the rights reserved by but is subject to the rights granted by a Transfer of land adjoining part of the north west boundary of the land in this title dated 16 November 1999 made between (1) Kent International Airport PLC and (2) Manston Developments Limited.

¬NOTE: Original filed under K806190.

13 The land edged and numbered in green on the filed plan has been removed from this title and registered under the title number or numbers shown in green on the said plan.

14 (14.02.2001) The land has the benefit of the rights reserved by but is subject to the rights granted by a Transfer of the land edged and numbered K821976 in green on the filed plan dated 18 December 2000 made between (1) Kent International Airport PLC and (2) Alastair John Leslie Robertson.

¬NOTE: Original filed under K821976.

15 (14.03.2002) The land edged and lettered A in red on the title plan added to the title on 14 March 2002.

16 (14.03.2002) The land has the benefit of the following rights contained in a Deed Poll dated 14 October 1960 made by The Secretary of State for Air:-

¬"the Secretary of State in exercise of the power for this purpose given to him by Section 37 of the Requisitioned Land and War Works Act 1945 hereby declares that there is hereby conferred on him and his successors in title to the green land the easements specified in the Schedule hereto to the intent that the same shall be forever appurtenant to the green land for all purposes connected with the use occupation and enjoyment thereof and of all land and premises adjacent or near to the green land which are now or shall at any time hereafter be owned or occupied by the Secretary of State.

THE SCHEDULE

.....

The right in fee simple to lay construct use maintain inspect renew and remove on and under land in the Parish of Minster and St. Lawrence Extra in the County of Kent an underground cable with the necessary apparatus in the position approximately indicated by a broken red line on Plan 3 annexed hereto.

Together with the necessary right of entry on the said lands for the purpose of exercising the said rights the Secretary of State keeping the said ..... cable and apparatus in good repair and paying reasonable compensation for damage to crops or to the surface caused in the exercise of such rights."

NOTE: The green land referred to lies to the south of the land in this title. The broken red line is shown by a blue broken line between points J-J on the filed plan.

C: Charges Register continued

8 (21.05.1991) The lands edged and numbered 45 to 62 inclusive in blue on the filed plan became vested in the President of The Air Council by a Deed Poll dated 7 July 1928 executed pursuant to the provisions of the Lands Clauses Consolidation Act 1845 and no documents of earlier title have been produced to the Land Regustry. The land is accordingly subject to such restrictive covenants or easements as may have been imposed thereon prior to 7 July 1928 and are still subsisting and enforceable.

9 (21.05.1991) The land shown by blue broken lines from B to B and C and C on the filed plan is subject to the rights granted by a Deed dated 17 November 1933 made between (1) The President of The Air Council and (2) The Mayor Aldermen and Burgesses of The Borough of Margate.

¬NOTE: Original Deed filed under K702685.

10 (21.05.1991) An Agreement dated 4 January 1934 made between (1) Francis Cecil Cobb on behalf of Marsden Cobb and (2) The Mayor Aldermen and Burgesses of The Borough of Ramsgate relates to an adit or conduit affecting part of the land edged and numbered 65 in blue on the filed plan.

¬NOTE: Copy filed under K702685.

11 (21.05.1991) A Conveyance of the land edged and numbered 65 in blue on the filed plan and a strip of land adjoining the road dated 18 November 1936 made between (1) Francis Marsden Cobb (Vendor) (2) Francis Mervyn Chippendale Cobb (Receiver) and (3) The Secretary of State for Air (Purchaser) contains covenants details of which are set out in the schedule of restrictive covenants hereto.

12 The land edged and numbered 66 to 69 inclusive in blue on the filed plan is subject to the following rights reserved by a Transfer thereof dated 29 July 1940 made between (1) George Hogbin (Vendor) and (2) The Secretary of State for Air:-

"Except and reserved nevertheless to the Vendor or other the owners of that part of the land comprised in the title number above referred to which is not hereby transferred the right to lay and maintain gas and water pipes and electric cables through and under those strips of the land hereby transferred lying and being within ten feet on either side of the roadway running through the said land hereby transferred between the points marked "A" amd "B" respectively on the said plan"

NOTE: Points A and B referred to are lettered X and Y respectively on the filed plan.

13 (21.05.1991) The land shown by a blue broken line from D to D on the filed plan is subject to the rights granted by a Deed dated 1 October 1962 made between (1) The Secretary of State for Air and (2) Thanet Water Board.

¬NOTE: Original filed under K702685.

14 (21.05.1991) The land hatched blue on the filed plan is subject to rights granted by a Deed dated 7 March 1983 made between (1) The Secretary of State for Defence and (2) British Gas Corporation. The said Deed contains also Grantors restrictive provisions affecting the land hatched blue on the filed plan and support thereof from adjoining land.

¬NOTE: Duplicate Deed filed under K702685.

15 (21.05.1991) The land hatched blue on the filed plan is subject to rights granted by a Deed dated 8 June 1990 made between (1) The Secretary of State for Defence and (2) British Gas PLC. The said Deed contains also Grantors restrictive provisions affecting the land hatched blue on the filed plan and land in the vicinity thereof.

¬NOTE: Duplicate deed filed under K702685.

16 (21.05.1991) The land edged and numbered 39 to 44 inclusive in blue on the filed plan is subject to such restrictive covenants as may have been imposed thereon before 21 May 1991 and are still subsisting and

B: Proprietorship Register

This register specifies the class of title and identifies the owner. It contains any entries that affect the right of disposal.

Title absolute

1 (14.10.2014) PROPRIETOR: STONE HILL PARK LIMITED (Co. Regn. No. 9223403) of Baldwins Wynyard Park House, Wynyard Avenue, Wynyard, Billingham TS22 5TB.

2 (14.10.2014) The price stated to have been paid on 19 September 2014 for the land in this title and other property was £7,000,000.

3 (14.10.2014) The Transfer to the proprietor contains a covenant to observe and perform the covenants referred to in the Charges Register and of indemnity in respect thereof.

4 (14.10.2014) RESTRICTION: No disposition of the registered estate by the proprietor of the registered estate is to be registered without a written consent signed by the proprietor for the time being of the Charge dated 19 September 2014 in favour of Kent Facilities Limited referred to in the Charges Register.

5 (18.06.2018) The proprietor's address for service has been changed.

6 (28.02.2019) RESTRICTION: Until 25/02/2020 no transfer or lease of the registered estate by the proprietor of the registered estate is to be registered without a written consent signed by Secretary of State For Transport of Great Minster House, 33 Horseferry Road, London SW1P 4DR or their conveyancer.

C: Charges Register

This register contains any charges and other matters that affect the land.

1 The parts of the land known as the A253 which are included in the title are subject to rights of way.

2 (21.05.1991) A Conveyance of the land edged and numbered 37 in blue on the filed plan dated 8 July 1903 made between (1) Frederick George Hodgson and (2) Joseph Frederick Thompson contains restrictive covenants but neither the original deed nor a certified copy or examined abstract thereof was produced on first registration.

3 (21.05.1991) A Conveyance of the land edged and numbered 38 in blue on the filed plan and other land dated 2 July 1904 made between (1) Frederick George Hodgson and (2) Charles Dear contains restrictive covenants but neither the original deed nor a certified copy or examined abstract thereof was produced on first registration.

4 (21.05.1991) A Conveyance of the land edged and numbered 10 in blue on the filed plan dated 28 April 1906 made between (1) George Trapps and (2) James Cawson contains restrictive covenants but neither the original deed nor a certified copy or examined abstract thereof was produced on first registration.

5 (21.05.1991) A Conveyance of the land edged and numbered 36 in blue on the filed plan and other land dated 29 January 1924 made between (1) Frederick George Hodgson and (2) Henry Percy Draper contains restrictive covenants but neither the original deed nor a certified copy or examined abstract thereof was produced on first registration.

6 (21.05.1991) A Conveyance of the land edged and numbered 64 in blue on the title plan dated 31 March 1924 made between (1) Francis Marsden Cobb and (2) The President of The Air Council contains covenants details of which are set out in the schedule of restrictive covenants hereto.

7 (21.05.1991) By a Conveyance dated 12 August 1927 made between (1) Edward James Buttery Norris and (2) The President of The Air Council the land edged and numbered 9 in blue on the filed plan was conveyed subject to the covenants details of which are set out in the schedule of restrictive covenants hereto.

C: Charges Register continued

any way interfere with or damage any electric line retained or laid by Seeboard in the exercise of the rights and liberties hereby granted.

(b) Not to alter or permit or suffer to be altered the existing level of nor (subject as hereinafter provided) to cover or permit or suffer to be covered the surface of the yellow land in such a manner as to render the laying of an electric line thereunder or access to any electric line retained or laid thereunder or access to each end of the ducts impracticable or more difficult than it is at the date hereof PROVIDED ALWAYS and it is hereby agreed and declared that nothing in this covenant contained shall prevent the laying of appropriate surfaces on any part of the yellow land as forms the site of an intended road or footpath or other way after the initial laying of electric lines thereunder pursuant to the rights and liberties hereby granted.

(c) Without prejudice to the generality of the foregoing not to erect or permit or suffer to be erected any building or structure (other than such as are shown on the said plan) nor to plant or permit or suffer to be planted any trees on or within a distance of 1.5 metres of the yellow land."

NOTE: The yellow land referred to is hatched mauve on the title plan so far as it affects the land in this title.

25 (05.06.2009) The parts of land affected thereby are subject to the rights granted by a Deed dated 28 May 2009 made between (1) Infratil Kent Facilities Limited and (2)EDF Energy Networks (SPN) PLC.

The said Deed also contains restrictive covenants by the grantor.

NOTE:-Copy filed.

26 (14.10.2014) REGISTERED CHARGE dated 19 September 2014 affecting also other titles.

NOTE: Charge reference K743314.

27 (14.10.2014) Proprietor: KENT FACILITIES LIMITED (Scot. Co. Regn. No. SC136162) of 50 Lothian Road, Festival Square, Edinburgh EH3 9WJ.

Schedule of restrictive covenants

1 The following are details of the covenants contained in the Conveyance dated 31 March 1924 referred to in the Charges Register:-

"THE President for himself his successors and assigns so as to bind himself and his successors in his and their official capacity only and not so as to render the President or his successors personally liable for any breach of this covenant after he shall have parted with all interest in the said hereditaments hereby conveyed but with intent to bind the said hereditaments into whosesoever hands they may come and also all future owners and tenants of the said hereditaments hereby covenants with the Vendor his heirs and assigns that the President his successors or assigns shall not effect or permit the sale for consumption on or off the premises or the manufacture or part manufacture thereon of any Ale Beer Porter Stout or other Malt Liquor or of any Wines Spirits Cordials Liquers or other exciseable liquors Cyder Perry Mineral or Aerated Waters Ginger Beer or other similar beverages nor carry on or allow to be carried on any Restaurant Tea Shop or Garden or Eating house nor any business of the like nature on the said premises No Licence for the sale of any alcoholic liquors shall be applied for in respect of any premises situate on any part of the land hereby conveyed but these restrictions shall not operate so as to prevent the sale of any of the before mentioned beverages in any Canteen or Club established and carried on for the use of Members of His Majesty's Forces nor to prevent the erection of any Restaurant Tea Shop or Garden or Eating house used for the like purpose"

2 The following are details of the covenants contained in the Conveyance dated 12 August 1927 referred to in the Charges Register:-

C: Charges Register continued

capable of being enforced.

17 By divers Conveyances made by either George Trapps or his personal respresentatives George Benjamin Trapps and William Alexander Trapps which together comprise the lands edged and numbered 11 to 21 inclusive in blue on the filed plan the lands were conveyed subject to identical covenants details of which are set out in the schedule of restrictive covenants hereto.

18 (21.05.1991) By divers Conveyances made by George Trapps which together comprise the land edged and numbered 22 to 28 inclusive in blue on the filed plan the lands were conveyed subject to identical covenants to those set out in the schedule of restrictive covenants hereto relating to the land edged and numbered 11 to 21 inclusive in blue on the filed plan except that Clause 5 of the first schedule thereof reads as follows:-

"5. No house, shop, or part of a house or shop shall be erected of less value than as follows; On Main Road Plots £300 for a detached house or £450 for a pair of houses, on the other Plots £200 for a detached house or £350 for a pair of houses. The value of a house is the amount of its net first cost in material and labour of construction only, estimated at the lowest current prices. Only one house shall be erected on each plot."

NOTE: The plan referred to is the first and second portions of the Manston Park Building Estate referred to above.

19 (21.05.1991) By divers conveyances made by Frederick George Hodgson which together comprise the lands edged and numbered 29 to 35 inclusive in blue on the filed plan the lands were conveyed subject to identical covenants details of which are set out in the schedule of restrictive covenants hereto.

20 (21.05.1991) The land hatched brown on the filed plan is subject to rights granted by Deed dated 21 October 1992 made between (1) Secretary of State for Defence and (2) British Gas PLC

The said deed contains also Grantors restrictive provisions affecting the land tinted blue on the filed plan and land in the vicinity thereof.

¬NOTE: Duplicate deed filed k702685.

21 An Agreement dated 29 July 1999 made between (1) Kent International Airport PLC (2) Kent International Business Park Limited (3) Manston Developments Limited and (4) Wiggins Group PLC relates to the development of Manston Park and Manston Airport.

¬NOTE: Copy filed.

22 A Transfer of the land in this title and other land dated 31 August 1999 made between (1) Secretary of State for Defence and (2) Kent International Airport PLC contains restrictive covenants.

¬NOTE: Original filed.

23 (06.08.2002) The parts of the land affected thereby are subject to the leases set out in the schedule of leases hereto.
The leases grant and reserve easements as therein mentioned.

24 (06.07.2006) A Deed dated 2 August 1990 made between (1) Kent International Airport Limited (First Grantor) (2) T.G.Aviation Limited (Second Grantor) and (3) Seeboard PLC (Seeboard) contains the following covenants:-

"WITH the intent and so as to bind the yellow land and every part thereof and every part of the Property which lies within 1.5 metres of the yellow land into whosesoever hands the same respectively may come and to benefit and protect the rights and liberties hereby granted the First Grantor and the Second Grantor hereby severally covenant with Seeboard as follows:-

(a) Not to do or permit or suffer to be done any act which would in

Schedule of restrictive covenants continued

"subject to the provisions and restrictions set out in the Schedule hereto so far as the same are applicable to the hereditaments hereby conveyed and are still subsisting and capable of being enforced

THE SCHEDULE above referred to

Restrictive covenants and conditions referred to in the Conveyance to the Vendor in which Conveyance the expression the Vendor means George Trapps and the Purchaser means the said E.J.B. Norris.

1. The Purchaser is forthwith to make (if not already in existence) and afterwards to maintain a good and sufficient fence or hedge, 4 feet 6 inches high, to the approval of the Vendor next the roads right of way and on the sides of his plot marked T within the boundary and the Vendors reserve the right to graze or cut grass on such plot until fenced in.

2. No building is to project beyond the building line shewn on the Sale Plan and all houses shall be built facing the road.

3. The trade or an Innkeeper Victualler or Retailer of Wines Spirits or Beer is not to be carried on upon any plot.

4. No building shall be erected or used as a shop except on plots specified as "Shop Plots" on the sale plan and particulars except on plot 54 shewn on the sale plan.

5. No house shop or part of a house or shop shall be erected of less value than £250. Hotel £500. The Value of a house is the amount of its net first cost in materials and labour of construction only estimated at the lowest current prices. Only one house shall be erected on each Plot.

6. No bricks shall be made or burnt and no noxious or offensive trade business or manufacture carried on upon any plot.

7. No sand gravel clay chalk or soil shall be removed from any plot except for the erection of buildings thereon or any right of way granted or permitted across any plot.

8. The Junction Road appearing on the plans will be formed free of costs to the Purchaser and until the public authorities shall take upon themselves the repairs thereof the owner of each plot fronting same shall pay his proportion of any repairs or cost of maintenance of such road.

9. No caravan house on wheels or other chattel adapted or intended for use as a dwelling or sleeping apartment or any booth swing or roundabout shall be erected made or used or be allowed to remain on any plot and the Vendor may remove and dispose of any such erection or other thing, and for that purpose may break fences and forcibly enter any land upon which a breach of the stipulations shall occur and shall not be responsible for the safe keeping of anything so removed or any damage thereto

10. The growing crops are not included in this present sale and the Vendor reserves the right to enter upon the land for the purpose of removing the same on or before the 30th September next."

NOTE 1: The plan referred to is the Manston Park Building estate

NOTE 2: Copy plan filed under K702685.

3 The following are details of the covenants contained in the Conveyance dated 18 November 1936 referred to in the Charges Register:-

"THE Purchaser to the intent that the covenant hereinafter contained shall be binding on the property hereby conveyed and enure for the benefit of the Vendor and his successors in title and assigns owners for the time being of the land coloured green on the said plan but not so as to make the Purchaser personally liable in damages or otherwise for any breach thereof after he shall have parted with the property hereby conveyed hereby covenants with the Vendor and his successors in

Schedule of restrictive covenants continued

title and assigns not at any time to use or permit or suffer to be used the property hereby conveyed or any part or parts thereof as or for the purpose of an hotel public house or other licensed premises nor for the sale or consumption thereon of beers wines spirits or other alcoholic or exciseable liquors"

NOTE: The land coloured green referred to lies to the south of the land edged and numbered 65 in blue on the filed plan.

4 The following are details of the covenants contained in the Conveyances of the land edged and numbered 11 to 21 inclusive in blue on the title plan referred to in the Charges Register:-

"the Purchaser hereby covenants with the Vendor his heirs and assigns and also with the Purchasers of the other lots on the said Estate that she the Purchaser her heirs and assigns shall and will at all times hereafter in all things observe and perform the several stipulations and conditions expressed and contained in the said first schedule hereto so far as the same relate to the hereditaments hereby conveyed and to acts or things to be done or omitted to be done by the Purchaer her heirs and assigns PROVIDED ALWAYS that the foregoing covenant shall only be binding on the Purchaser her heirs and assigns during the period of actual ownership but shall run with the land

THE FIRST SCHEDULE ABOVE REFERRED TO

1. The Purchaser is forthwith to make (if not already in existence) and afterwards to maintain, a good and sufficient fence or hedge to the approval of the Vendor next the roads, rights of way, and on the sides of his plot marked T within the boundary, upon the plan drawn on these presents, and the Vendor reserves the right to graze or cut grass or other crops on such plot until fenced in.

2. No building is to project beyond the building line indicated on the plan hereto annexed, and each house shall front towards the shortest road frontage on the plot on which the same shall be erected.

3. The trade of an Innkeeper, Victualler, or Retailer of Wines, Spirits, or Beer is not to be carried on upon any plot except on plot marked "Hotel Site" on said plan.

4. No building shall be erected or used as a shop except on plots specified as "Shop Plots" on the said plan.

5. No house, shop or part of a house or shop shall be erected of less value than as follows: On Main Road Plots £300 for a detached house or $450 for a pair of houses, on the other Plots £200 for a detached house or £350 for a pair of houses or Hotel £500. The value of a house is the amount of its net first cost in material and labour of construction only, estimated at the lowest current prices. Only one house shall be erected on each plot.

6. No bricks shall be made or burnt, and no noxious or offensive trade, business or manufacture shall be carried on upon any plot.

7. No sand, gravel, clay, chalk or soil shall be removed from any plot, except such as may be necessary to be excavated for the purpose of building thereon and drainage therefor, or any right of way granted or permitted across any plot.

8. Until the Public Authorities shall take upon themselves the repairs of the roads and footpaths shewn on the said plan, the owner of each plot shall pay his proportion of any repairs or cost of maintenance thereof.

9. No caravan, house on wheels, or other chattel adapted or intended for use as a dwelling or sleeping apartment, or any booth, swing, or roundabout shall be erected, made, or used, or be allowed to remain on any plot, and the Vendor may remove and dispose of any such erection or thing, and for that purpose may break fences and forcibly enter any land upon which a breach of this stipulation may occur, and shall not be responsible for the safe keeping of anything so removed, or any damage thereto."

Schedule of restrictive covenants continued

NOTE: The plan referred to is the first and second portions of the Manston Park Building Estate referred to above.

5 The following are details of the covenants contained in the Conveyances of the lands edged and numbered 29 to 35 inclusive in blue on the title plan referred to in the Charges Register:-

"the Purchaser hereby covenants with the Vendor his heirs and assigns and also with the Purchasers of other lots on the said Estate that he the Purchaser his heirs and assigns shall and will at all times hereafter in all things observe and perform the several stipulations and conditions expressed and contained in the said first Schedule hereto so far as the same relate to the hereditaments hereby conveyed and to acts or things to be done or omitted to be done by the Purchaser his heirs and assigns PROVIDED ALWAYS that the foregoing covenant shall only be binding on the Purchaser his heirs and assigns during the period of actual ownership but shall run with the land

THE FIRST SCHEDULE above referred to

1. The Purchaser is forthwith to make (if not already in existence) and afterwards to maintain a good and sufficient fence or hedge to the approval of the Vendor next the roads, rights of way, and on the sides of his plot marked T within the boundary, the the Vendor reserves the right to graze or cut grass on such plot until fenced in.

2. No building is to project beyond the building line shown on the Sale Plan.

3. The trade of an Innkeeper, Victualler, or Retailer of Wines, Spirits or Beer is not to be carried on upon any plot except on plots marked "Hotel Site" on plan.

4. No building shall be erected or used as a shop, except on plots specified as "Shop Plots" on the sale plan and particulars, but the erection of such shops is optional.

5. No house, shop, or part of a house or shop shall be erected of less value than £200. The value of a house is the amount of its net first cost in materials and labour of construction only, estimated at the lowest current prices.

6. No bricks shall be made or burnt, and no noxious or offensive trade, business, or manufacture carried on, upon any plot.

7. No sand, gravel, clay, or soil shall be removed from any plot, except for the erection of buildings thereon, or any right of way granted or permitted across any plot.

8. No caravan, house on wheels, or other chattel adapted or intended for use as a dwelling or sleeping apartment, or any booth, swing, or roundabout shall be erected, made or used, or be allowed to remain on any plot, and the Vendor may remove and dispose of any such erection or other thing, and for that purpose may break fences and forcibly enter any land upon which a breach of the stipulations shall occur, and shall not be responsible for the safe keeping of anything so removed or any damage thereto.

9. The Vendor reserves the right to gather in and sell the crops now growing on the land hereby conveyed.

NOTE 1: The plan referred to is the second section of the Cliff-End Building Estate

NOTE 2: Copy plan filed under K702658.

Schedule of notices of leases

Registration date and plan ref.	Property description	Date of lease and term	Lessee's title

Title number K803975

1	12.06.1992 Edged and Nod 3 in brown and tinted brown	Site of an electricity Substation	29.05.1992 125 years (less 3 days) from 25.12.1987	K716128
2	31.01.2011 Edged and numbered 4 in blue	land at Kent International Airport	27.01.2011 10 years from and including 25/1/11	K976945

End of register

Baldwins Wynyard Park House, Wynyard Avenue, Wynyard, TS22 5TB

Manston Airport Case Team
The Planning Inspectorate
Room 3/8 Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

Date 2 May 2019

For the attention of Mr Kelvin MacDonald

Dear Mr MacDonald,

Proposed Manston Airport Development Consent Order (Application ref: TR020002)

Please find the submission of Stone Hill Park Limited ("SHP") for Deadline 6 enclosed.

The submission comprises this letter and various enclosures, which are outlined below;

1. SHP responses to the Examining Authority's Second Written Questions

1.1. SHP has provided responses to all written questions directed to SHP.

1.2. Whilst SHP considers it will be most efficient for the Examining Authority if it defers its comments on questions directed to the Applicant until Deadline 7 (where it can also comment on the Applicant's responses), initial responses have been provided in respect of a small number of questions addressed to the Applicant.

1.3. SHP consider this necessary due to;

- the extremely limited time left in the examination phase;
- the Applicant's continued failure to furnish necessary information to the examination or do so in a timely manner; and
- the Applicant's tendency to provide responses that lack veracity, are incomplete or risk misleading the examination.

2. **SHP's Comments on any further information requested by the Examining Authority and received to Deadline 5**

2.1. SHP comments on the Applicant's Written Summary of Oral Submissions put at the Compulsory Acquisition hearing held on 20 March 2019;

Baldwins Wynyard Park House, Wynyard Avenue, Wynyard, TS22 5TB

Manston Airport Case Team
The Planning Inspectorate
Room 3/8 Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

Date 17 May 2019

For the attention of Mr Kelvin MacDonald

Dear Mr MacDonald,

Proposed Manston Airport Development Consent Order (Application ref: TR020002)

Please find the submission of Stone Hill Park Limited ("SHP") for Deadline 7 enclosed.

The submission comprises this letter and various enclosures, which are outlined below;

1. SHP's Comments on the Applicant's Answers to Second Written Questions [REP6-012] attached as Annex 1

    1.1. In its comments, SHP provides evidence that demonstrates that the Applicant's responses lack veracity, are incomplete and/or risk misleading the examination and there is lack of evidence to substantiate the assertions made.

    1.2. SHP's submissions provide further evidence regarding material impediments to the implementation of the Applicant's proposals, including in relation to Aerodrome Certification (see OP.2.1), HRDF Beacon (see OP.2.6) and Public Safety Zones (OP.2.7).

    1.3. SHP would note the revised Funding Statement [REP6-015] is wholly underwhelming and adds nothing of any substance that would allow the Applicant's application to be fairly and adequately tested. The deficiencies in the Funding Statement, and funding position in general, are manifest and have largely been addressed through SHP's comments on the Applicant's answers to these written questions on Funding matters. We would respectfully request that these should be read in conjunction with SHP's Comments on the Applicant's Written Summary of Oral Submissions put at the Compulsory Acquisition hearing held on 20 March 2019 [REP6-052], SHP responses to the Examining Authority's Second Written Questions [REP6-053] and SHP's previous submissions on Funding (and related matters e.g. viability).

2. SHP's Comments on the Applicant's third draft revised draft dDCO [REP6-019] and the revised Explanatory Memorandum [REP6-020] attached as Annex 2

In view of the nature of the Applicant's submissions to date and the material issues raised by SHP and others, SHP would place on record its concerns that there is a material lack of information and evidence before the examination that would allow for an adequate testing of the evidence and a fair chance for SHP to present its case.

Yours sincerely,

[redacted]

For and on behalf of
Stone Hill Park Ltd

DEADLINE 7 SUBMISSION
STONE HILL PARK LTD'S COMMENTS ON THE APPLICANT'S RESPONSE TO EXA'S SECOND WRITTEN QUESTIONS
PINS APPLICATION REFERENCE: TR020002

Please find below SHP's comments on the Applicant's Answers to Second Written Questions [REP6-012].

In view of both (i) the degree to which comments are necessary as a consequence of the Applicant's approach to responding the written questions; and (ii) the very short time available in the examination timetable to provide comments, SHP has necessarily concentrated its comments on certain key areas. This is without prejudice to its case that other aspects of the application proposals remain fundamentally flawed.

In its submission, SHP has provided detailed comments where it considers the Applicant's answers have been disingenuous, misleading, incomplete or, at best, ill informed. Where such concerns have been raised, these have been supported by evidence contained within the comments and the supporting appendices.

SHP's comments have been prepared with assistance of its advisory team, however we would note that comments prepared by York Aviation have been extracted from a standalone note that is attached as Appendix 1. York Aviation has principally commented on points of relevance to the need case and the forecasts of usage for the development that underpin the entire NSIP Justification, including the assessment of socio-economic impacts.

Written Question Ec.2.2 Ecological Surveys What is the current status of the outstanding ecology surveys?
The Applicant's Response The Section 53 Notice of Entry permitted access to the site on 4 December 2018. Survey work comprised an external assessment of some of the buildings on site for bats. A subsequent Section 53 Notice permitted entry from 7 January until 1 March 2019. Surveys were undertaken between 17 January 2019 and 31 January 2019 and included those for winter heliotrope and commencement of bat hibernation surveys. Unfortunately, it has not been possible to complete the full suite of ecological surveys as expected as the Section 53 notice was revoked in mid-February 2019 preventing further access to land controlled by Stone Hill Park Ltd. The Applicant acknowledges that a payment to Stone Hill Park for £1,584 was delayed as a result of an administrative error however, this was rectified in good time and it was hoped that access for the surveys would not be revoked.

A number of attempts were made to arrange access to the site with Stone Hill Park Ltd, however, these attempts were unsuccessful and as such it has not been possible to access the site since February 2019.

It is now expected that access to the site will not be granted to the Applicant until after the Development Consent Order (DCO) has been made. Requirement 8 of the DCO has been put in place as a pre-commencement condition, to allow confirmation of the worst-case scenario assessed in the ES [APP-033] prior to commencement of construction works. It should be noted that since the ES [APP-033] was submitted, the ecological surveys carried out by Stone Hill Park Limited (SHP Ltd) have been made public and they confirm that the worst-case scenario reported in the Applicants ES [APP-033] is indeed highly conservative. The work carried out by SHP Ltd on the application for 3,700 residential dwellings, employment floor space and associated infrastructure can be found on the planning portal (Planning application reference: OL/TH/18/0660). It therefore remains the view of the Applicant that the worst-case scenario considered in the ES [APP-033] is highly conservative and that the provision for circa 38ha of mitigation land as defined in the Mitigation and Habitat Creation Plan (Appendix 7.5 [APP-045] of the ES [APP-033]) will be sufficient to mitigate the ecological effects of the Proposed Development.

SHP Comments on the Applicant's Response

SHP provided a detailed response to this question in its Response to Second Written Questions submitted at Deadline 6 [REP6-053].

As evidenced by SHP's response, the assertions made by the Applicant are highly misleading .

Of particular concern is the Applicant's claim that a *"number of attempts were made to arrange access to the site with Stone Hill Park Ltd, however, these attempts were unsuccessful and as such it has not been possible to access the site since February 2019."*

The evidence show this claim to be completely baseless. It is a matter of fact (as substantiated in SHP's evidence included with REP6-053) that in the 72 days that passed since SHP's emails to BDB and Wood dated 20 February 2019, neither the Applicant nor its advisers, even acknowledged or responded to SHP's email correspondence. SHP would challenge the Applicant to submit, to the examination, any evidence that would substantiate its claim to have made *"a number of attempts"* to arrange access after the s53 authorisation had terminated in February 2019.

SHP would further note that it is now clear that, for some time, the Applicant has had no intention of meeting the commitments given at DL1 [REP1-001] to undertake the many outstanding ecology and biodiversity surveys and submit further information required by the examination. SHP would also note that the Applicant has also made a number of assertions in its response that are unsupported by any detailed explanation or actual evidence.

Written Question CA.2.16

Representations from Affected Persons Provide details of negotiations with those Affected Persons who have submitted representations and who are not covered by other questions and comment on the likelihood of reaching an agreement on this in advance of the end of the Examination on or before 9 July 2019:

• Barry James Morris
• Kent Facilities
• The Master, Fellows and Scholars of the College of Saint John the Evangelist in the University of Cambridge
• Stone Hill Park Ltd
• Robin Willi[]

The Applicant's Response

Note: only the section relevant to SHP is shown below.

Stone Hill Park
The Applicant can confirm that discussions as to the acquisition of the site continue to take place between the parties. The Applicant will continue to progress discussions with a view to concluding the acquisition before the end of the examination period. It has been and remains the Applicant's preference to acquire the site by agreement rather than relying on powers of compulsion.

SHP Comments on the Applicant's Response

SHP consider the Applicant's answer to be misleading, disingenuous and unsupported by the evidence.

SHP would refer the ExA to the detailed answer provided by SHP in its response to written question CA.2.17 submitted at DL6 [REP6-053].

As set out in SHP's answer, the Applicant's strategy appears to have been focussed on maintaining a pretence to the ExA that it is making meaningful attempts to negotiate to acquire SHP's land, when the opposite is true.

SHP's answer demonstrates that the Applicant's unsubstantiated assertions that discussions between the parties *"continue to take place"* and that it "*will continue to progress discussions with a view to concluding the acquisition before the end of the examination period"* are wholly disingenuous.

The Applicant has demonstrated itself to be an unreliable counterparty. From the evidence before the examination it appears clear that the Applicant does not have the ability, willingness or sufficient funding to acquire the land.

As demonstrated by the wide body of evidence before the examination, the Applicant has shown a complete disregard for the DCLG Guidance related to procedures for the compulsory acquisition of land (2013) and the interests of affected landowners throughout this whole process.

Written Question CA.2.18

Associated Development: Land Requirement - Works Nos. 15, 16 and 17
The April 2013 DCLG Guidance on associated development applications for major infrastructure projects states that:
"The definition of associated development, as set out in paragraph 3 above, requires a direct relationship between associated development and the principal development."

Following the discussions at the Issue Specific Hearing on the draft DCO held in January 2019, the revised version of the draft Development Consent has added the words "airport-related" to the descriptions of Works Nos. 15-17 in Schedule 1.
The revised draft DCO does not define 'airport related'. Provide a definition of 'airport related' as it applies to the proposed scheme.

The Applicant's Response

Requirement 19 was added to the dDCO at DL5 – it links Works 15, 16 and 17 to the nationally significant infrastructure project consisting of works 1 to 11 and 13, requiring the development of the former works to support the operation of the latter, mirroring the test used in the DCLG Guidance on Associated Development.

A definition of 'Airport-related' for the purposes of Requirement 19 in Part 1 of Schedule 2 of the dDCO has been submitted at DL6 as development directly related to, or associated with, or supportive of operations at Manston Airport including, but not limited to, offices for various support functions and freight forwarders, freight distribution centres, flight catering, car hire activities, maintenance and valeting operations, support functions for aircraft maintenance, airline training centres, airline computer centres, security facilities, business aviation facilities and storage facilities for airlines.

SHP Comments on the Applicant's Response

It is noted that the Applicant's new requirement 19 added to the dDCO at DL5, rules out many of the types of activity the Applicant stated it was seeking to attract to the Northern Grass area in paragraph 14 of Annex 4 of its Updated NSIP Justification [REP1-005] including;

- passenger airline offices and crew facilities
- offices and flight planning facilities for flight schools;
- catering operation for passenger flights;
- covered secure and valet parking operations;
- rental car operators – overnight garage, cleaning and office facilities;
- garage and offices for airside public transport providers;
- airport taxi company garage, cleaning and office facilities;

- offices and warehousing for storage associated with MRO and aircraft recycling (including parting out) operations.

However, the Applicant has now added a new definition of 'Airport-related' in the dDCO submitted at DL6. This new definition is extremely wide. It would cover those uses outlined above, but would conflict with the Requirement 19, as many of the examples given would not *"support the operation of Work No.'s 1 to 11 and 13"* and would further conflict with the requirements of the relevant April 2013 DCLG guidance on associated development.

As noted in the ExA's question, ***"The definition of associated development, as set out in paragraph 3 above, requires a direct relationship between associated development and the principal development."***

Therefore, the first step is to understand what the principal development (i.e. the NSIP development) comprises. However, the Applicant has still not provided the examination with the explanation and justification of the Works that form the NSIP development and the Works that comprise Association Development, despite the request made by the ExA and the commitment given by the Applicant at the dDCO hearing held on 10 January 2019.

As SHP has demonstrated through its submissions, the list provided by the Applicant of the NSIP Development Works (1-11 and 13) does not comply with the requirements of Section 23(5)(b) of the PA2008. As a result, the Applicant's starting point (being the extent of the NSIP development) used for its assessment of associated development is wrong.

Under the PA2008, only development that has the requisite effect referred to in section 23(5)(b) which is *"to increase by at least 10,000 per year the number of air transport movements of air cargo movements for which the airport is capable of providing air cargo services",* could be classified as the principal development. Any development that does not have this requisite effect is therefore **not** part of the principal development. Section 115(1) of the PA2008 is clear that there are only **two** categories of development for which development consent may be granted. These are (a) development for which development consent **is required**, or (b) associated development.

As set out in SHP's multiple submissions on these matters, many of the works asserted by the Applicant to be NSIP development would have no effect on the airport's ability to operate air cargo movements whatsoever. Rather than repeat our previous submissions, we would refer the ExA to SHP's answer to written question DCO.2.33 [REP6-053], which summarises the issues that would need to be considered by the ExA and provides a list of SHP's detailed, evidence based submissions on the applicability of the Applicant's purported NSIP development and Associated Development.

As stated in the Guidance, associated development *"requires a direct relationship between associated development and the principal development."* It is therefore clear how the examples given in Annex B of the April 2013 DCLG Guidance, *"Freight distribution centre, including freight forwarding and temporary storage facilities",* would be an acceptable form of associated development, whereas most of the examples given by the Applicant would not.

The definition of 'airport related' added at DL6 by the Applicant, drives a coach and horses through the DCLG Guidance.

Basically, through its new wording added to the dDCO, the Applicant apparently believes that development need only be related to, associated with, or supportive of operations of an airport (whether that be related to cargo, passenger, business aviation, flight training etc).

The Applicant's complete lack of understanding of the Guidance is why SHP has repeatedly requested that the Applicant honour the commitment it gave to provide an explanation and justification of the works that form the NSIP development and associated development, so that its application can be subject of proper scrutiny.

Written Question CA.2.19

Associated Development: Land Requirement - Works Nos. 15, 16 and 17
The DCLG Guidance on associated development applications for major infrastructure projects states that:
"Development should not be treated as associated development if it is only necessary as a source of additional revenue for the applicant…."

Appendix 10 of Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices, submitted at DL5 on 29 March 2019 [REP5–029], states at paragraph 2.1 that:

"At this point, it is difficult to ascertain who will be occupying a specific amount of space, and on what terms that tenant will be looking for. The applicant has been in extensive conversations with potential end-users to occupy space on the Northern Grass for Airport related purposes, however, these conversations remain commercially confidential."

Explain how this statement serves to reassure the ExA that the test in Guidance is being met.

The Applicant's Response

The Northern Grass is of a type that is necessary support for the airport, and if it is not on the Northern Grass it will be required elsewhere, albeit in a less suitable location. The Northern Grass is the most suitable location for such development as it is brownfield land adjacent to the airport and is allocated for airport use in the local plan. If the development does not take place on the Northern Grass then it is likely to arise further afield in a piecemeal and uncontrolled manner with a worse impact on the local area and less efficient interaction with the airport, and so it is in the public interest that as much of it as possible is sited on the Northern Grass.

The fact that the precise nature of the development likely to take place on the Northern Grass is not yet known does not mean that it is only necessary for a source of additional revenue, which it is not. While it will bring revenue, that is not the only reason for the proposed associated development on the Northern Grass, as set out above.

SHP Comments on the Applicant's Response

The Applicant's answer provides no reassurance to the ExA that the Guidance test is being met.

The Applicant is still unable to explain what the development on the Northern Grass will comprise - this partly explains why it has sought to widen the type of development that would be permitted (see SHP comments on question CA.2.18 above).

Nor has the Applicant been able to provide any justification for the overall scale or the nature and scale of its individual components

As SHP has set out in its previous submissions, the ExA does not have before it documentation which is fit for purpose and SHP has not, by definition, had the opportunity to properly understand, test or make representations in relation to a case being made against it for the compulsory acquisition of its land.

Also noted below are further comments extracted from York Aviation note (see Appendix 1):

"The Applicant's response fails to address the extent to which the proposed development on the Northern Grass is likely and/or intended to provide a cross subsidy to the principal development. If there was a need for such uses to support the operation of Manston Airport, for which we can find no supporting evidenced based on airport operations elsewhere (see comments on the answer to OP.2.5), the suggestion that such facilities would need to be located elsewhere on an unplanned basis is simply not relevant. The Applicant has failed to substantiate the need for the proposed quantum of development on the Northern Grass. The answer given is nothing more than obfuscation."

Written Question CA.2.25

Acquiring by voluntary agreement
DCLG Guidance related to procedures for the compulsory acquisition of land (2013) advises at paragraph 25 that, as a general rule, authority to acquire land compulsorily should only be sought as part of an order granting development consent if attempts to acquire by agreement fail.
The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices, submitted at DL5 on 29 March 2019 [REP5–029], states at paragraph 12.3 that:
"*SHP had suggested that the Applicant lease the site for a period. Mr Freudmann inaccurately summarised the offer as being for 25 years. In fact it was for 125 years*."
The length of the potential lease appeared from Mr Freudmann's comments to be a clear factor in RSP's decision on this offer.
If this is not the case, set out the reasons for RSP's decision on the suggestion by SHP that the Applicant lease the site.

The Applicant's Response

The Applicant understood the lease proposed by SHP to be for a period of 125 years at the time the proposal was received. At the CA hearing Mr Freudmann misspoke regarding the length of the proposed lease. The duration of the proposed lease was not a reason for refusing the offer. As noted in the Applicant's Written Summary of Case put Orally – Compulsory Acquisition Hearing [**REP5-011**], the Applicant's letter responding to the offer and setting out its concerns regarding the offer was included by SHP as an appendix to its Responses to Written Questions. For ease of reference, the letter (dated 21 March 2018) is attached (at Appendix CA.2.25 in TR20002/D6/SWQ/Appendices). It can be seen from the attached that there were a number of issues with the offer raised by the Applicant to which SHP did not respond satisfactorily. It was in light of those unacceptable conditions that the proposal was not accepted. In any event, the Applicant and SHP have been in negotiations regarding the site's freehold for some time. The Applicant is hopeful that these negotiations can be concluded satisfactorily shortly.

SHP Comments on the Applicant's Response

There are a number of points to unpack from the Applicant's answer.

Firstly, Mr Freudmann more than "misspoke" regarding the length of the lease, his assertion that a 25 year lease was "absurd" demonstrates the lack of good faith which has characterised any "negotiations".

Secondly, the Applicant did not refuse the offer, it simply ignored SHP's subsequent letter of 9 April 2018. In doing so, the Applicant showed it had no regard for its obligations under the DCLG Guidance.

The Applicant refers to its letter of 21 March 2018, which it asserts sets out its concerns regarding the offer. The Applicant then asserts that SHP did not respond satisfactorily, and in light of the "unacceptable conditions" the proposal was not accepted. This assertion is misleading and not supported by the evidence.

The Applicant has glossed over the correspondence from SHP to BDB dated 9 April 2018, which responded to the BDB letter of 21 March 2018. This letter of 9 April 2018 is, apparently, the unsatisfactory response referred to in the Applicant's answer. The sections of this letter (attached as Appendix CA.2.7 to SHP's Response to First Written Questions [REP3-303]) that are relevant to the lease offer are summarised below;

Section 5:

- SHP explained that the framework set out in the letter of 15 March 2018 was a clear framework to move matters forward but that the onus must be on the Applicant to engage with SHP, not the other way round;
- SHP requested that RSP explain why it had said *"any encumbrances attached to the lease would have to allow the development of the site unhindered and equivalent to owning the freehold"*; and

- SHP requested clarification whether the Applicant would be willing to accept a specific restriction against any future residential development of the land.

Section 6:

- In the Conclusion section, SHP stated the following;

  "If RSP is serious about actually delivering its proposals, the potential lease structure we set out is a solution that would provide an opportunity to resolve the issue and draw a line under the position. Ultimately, if RSP fails to engage with us on this basis, it will be even clearer that it is not serious about its proposals. If that remains the case it is clear that your client's failure to comply with paragraph 25 of the Guidance related to the compulsory purchase of land will remain only one of the many reasons why an application for development consent order would not satisfy the requirements of section 55 of the Planning Act 2008."

As explained above, the Applicant did not respond to, or even acknowledge the letter of 9 April 2018. The Applicant clearly believed that it was under no obligation to comply with the DCLG Guidance related to procedures for the compulsory acquisition of land (2013).

Unfortunately, this is just one of the many examples that demonstrates the lack of good faith in which the Applicant has approached the DCO process.

Written Question CA.2.28

The basis for assessing the value of the land for the purposes of Article 9 was discussed at the CAH held on 20 March 2019.

At that CAH, a representative of the Applicant, Mr Smith from CBRE, indicated a relationship between the estimation of value and the designation of, and policies relevant to, the site of the proposed scheme in Thanet DC's emerging local plan.

The Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices states at Appendix 1, paragraph 3 that:

"The Applicant has allowed for a quantum of contingency sufficient to accommodate such a change in Thanet District Council's emerging plan."

i. State, the amount of contingency allowed for in the estimate of value.

The ExA notes that the Written Summary of Stone Hill Park Ltd's (SHP) Oral Submissions put at the Compulsory Acquisition Hearing held on 20 March 2019, submitted at DL5 on 29 March [REP5-029] restates part of Appendix 6: Compensation Assessment to SHP's Written Representations [REP3-025].

In paragraph 8.2, Avison Young (formerly GVA) states:

"The compensation provision made in RSP's funding statement is insufficient to meet the compensation obligations resulting from a made DCO. It is important to note that RSP's most recent offer of £20m excludes any value associated with residential development potential, demonstrating the need for RSP's funding provision and business case to be reassessed to reflect significantly higher compensation liabilities."

ii. Provide a reasoned response to this statement.

The Applicant's Response

i. Contingency for such changes is included in the land compensation figure of £7.5m. It is not possible to quantify what element of that total corresponds to such a contingency, as contingency is inherent in any assessment of 'hope value'. In any event in this case the potential changes to the Thanet District Council Local Plan will have no bearing on the level of compensation. The site is not being promoted for any particular use in the emerging Local Plan but it remains in the countryside where there is a general emerging policy presumption against inappropriate development which by definition is harmful to the countryside especially where adverse environmental effects cannot be avoided or mitigated. The site will not become a housing allocation as it is not needed to meet TDC's housing needs. However, the Local Plan Inspectors have recommended the need for a 'contingency policy' in the emerging Local Plan so that the site is safeguarded for aviation uses through policies in the emerging Local Plan until the outcome of the DCO is known. Policy text is currently being drafted for discussion at the Local Plan Examination on 31st May 2019. Notwithstanding this, the Applicant's consultants (CBRE and RPS) believe the Stone Hill Park project to be undeliverable and contrary to relevant planning policies so the prospects of securing a planning permission for housing redevelopment are very slim. Therefore the emerging local plan policies will have no effect on the land value.

ii. RSP's offer to acquire the land was not based on its value but rather a commercial decision to remove the majority of the land subject to compulsory acquisition. As mentioned above, the Applicant's consultants do not believe that a residential development is deliverable at the site, nor is the site being promoted in the emerging Thanet Local Plan for housing and therefore its value does not reflect such a development.

SHP Comments on the Applicant's Response

i. Once again, the Applicant's answer is considered to be lacking in veracity. The answer is also inconsistent with the Applicant's answer to question G.2.1.

Firstly, the Applicant has not directly answered the question, instead adopting a strategy of obfuscation.

Secondly, in stating that *"the Local Plan Inspectors have recommended the need for a 'contingency policy' in the emerging Local Plan so that the site is safeguarded for aviation uses through policies in the emerging Local Plan until the outcome of the DCO is known"*, the Applicant has misrepresented the Local Plan Inspectors and in doing so, has misled the ExA.

Thanet DC's evidence base does not justify a policy safeguarding the site for aviation use and the position taken forward in the Local Plan is one of 'complete neutrality' over the future of the airport site to allow the DCO process to be concluded without prejudice. Whilst the Local Plan Inspectors did recommend that the new Local Plan needed to have a section that addressed the Manston site and included a some form of policy pending a full review, the local plan Inspectors most certainly **did not** recommend *"that the site is safeguarded for aviation purposes"*. It is completely disingenuous for the Applicant to make such a claim.

Thirdly, the Applicant also ignores the fact the future of the site will be subject of a review following adoption of the new local plan, and as SHP noted in its response to question G.2.1 submitted at DL6, Counsel for Thanet DC noted at the local plan examination hearings that if the DCO process fails it obviously opens up huge opportunities for the Council to plan housing growth in the long term. This is not consistent with the Applicant's assertions.

Fourthly, the Applicant makes certain assertions about its consultants' beliefs, but provides no evidence to substantiate these assertions. There is a significant difference between assertions supported by detailed supporting evidence, and unsubstantiated assertions, the latter being the approach consistently adopted by the Applicant.

ii. The Applicant has not provided any reasoned explanation, or provided any evidence whatsoever, to support the assertion that residential development is not deliverable on SHP's land.

The comments made above in (i), regarding the potential for the site to address Thanet DC's housing growth challenges and the Applicant's continued approach of making unevidenced assertions, are also equally relevant here.

Written Question CA.2.29

In the Written Summary of SHP's Oral Submissions put at the CAH held on 20 March 2019, submitted at DL5 on 29 March [REP5-029] SHP state at paragraph 7.6 that:
"The Applicant should not be able to rely on the powers in the Compulsory Purchase (Vesting Declarations) Act 1981, as amended by Article 26, in respect of SHP's land. These powers, where they would relate to any of SHP's freehold land, are wholly inappropriate."

Comment on this statement and for the reasons given for it in the SHP submission.

The Applicant's Response

The Applicant does not consider that there is any reason why SHP's land should be able to be acquired by General Vesting Declaration rather than Notice to Treat in the event that compulsory acquisition powers are granted. The reasons given are that (a) the Applicant should be satisfied that SHP owns the land, and (b) the Applicant may abuse the process and give an unduly low estimate of compensation so that it need only pay a low amount in an advance payment. The Applicant rejects these assertions.

While the Applicant has engaged in diligent enquiry to establish the owners of the land it is possible that undiscovered owners of land or rights may still exist, which could be acquired using the GVD method. Almost every DCO allows the GVD method to be used despite diligent enquiry having been employed to establish ownership in those cases; there is no special reason for not doing so in this case.

The Applicant has employed CBRE, one of the leading companies advising on compulsory acquisition valuations, and should be entitled to rely on its advice. To suggest otherwise would be to cast doubt on the reliability of such a company, and by extension, other companies providing expert advice.

SHP Comments on the Applicant's Response

In its answer, the Applicant firstly accepts SHP's position by stating that it *"does not consider that there is any reason why SHP's land should be able to be acquired by General Vesting Declaration rather than Notice to Treat in the event that compulsory acquisition powers are granted."*

However, the Applicant then immediately contradicts this position by saying it rejects the reasons given by SHP and goes on to make a case why GVD should also be allowed on the basis that it *"is possible that undiscovered owners of land or rights may still exist"*.

In its comments, the Applicant has given generic reasons for why GVD method may be required in DCOs, rather than address the ExA's question, which requested the Applicant focus its comments on SHP's statement that GVD should not apply to SHP's land. It appears that the Applicant has chosen to answer a different question from that posed by the ExA, on the basis it is completely unable to provide any explanation or justification why the GVD method would need to apply to the freehold land interests held by SHP.

For the avoidance of doubt, SHP is not suggesting a blanket restriction against the use of GVD method. It is perfectly understandable that the Applicant would seek GVD rights over other parts of the DCO order land where the interests are small, and fragmented (e.g. land relating to the pipeline) to address the risk that *"undiscovered owners of land or rights may still exist"*.

However, for the reasons set out in the Written Summary of SHP's Oral Submissions put at the CAH held on 20 March 2019 [REP5-0290], there must be a specific carve out of the land interests held by SHP, which are registered at the Land Registry under a number of specific title numbers.

Without prejudice to SHP's case, specifically carving out these freehold land interests held by SHP, would both address SHP's concerns on this matter and provide the Applicant with the flexibility it is seeking.

With reference to the Applicant's last assertion regarding its reliance on CBRE advice, we would note the following.

- The Applicant has not submitted any evidence to the examination from CBRE that can be adequately and fairly tested;
- Instead, the Applicant has made a series of assertions about what the CBRE advice states, without supporting evidence;
- When the subject of even the most basic testing, the Applicant's assertions regarding the CBRE advice has been proven to be flawed. For example, in its Funding Statement [APP-013] the Applicant stated (paragraph 16) that it had obtained advice from surveyors CBRE about the total costs of acquiring the land for the project. However, at the CA Hearing on 20 March 2019, the Applicant claimed the figure provided by CBRE did not include any allowance for the Jentex site, land for which the Applicant was seeking powers of compulsory acquisition. The two positions are mutually exclusive, therefore the Applicant's assertions regarding the CBRE advice are demonstrably false in at least one of these cases.
- In communications between CBRE and SHP's adviser, Avison Young (previously known as GVA), attached as Appendix CA.2.7 to SHP's Response to First Written Questions [REP3-303], it is clear that CBRE materially understated (by c. 180 acres) the level of SHP's land ownership, and did not have an understanding of the status of the emerging local plan or the offer its client made to acquire the SHP land (that it has made no effort to progress over the last months).
- As neither the CBRE advice, nor the underlying information on which that advice would need to be based, has been submitted to the examination as supporting evidence for the Applicant's assertions, it is not possible to test anything, including whether CBRE were given accurate information by the Applicant.
- In view of the manner in which the Applicant has materially exaggerated and misrepresented the significance of evidence that has been made publically available (e.g. the "PWC letter"), in the absence of proper evidence, the ExA can have no confidence that (i) the Applicant has characterised the CBRE advice accurately and (ii) the information provided to CBRE, on which its advice was based, was complete and accurate.

Written Question CA.2.31

In the Written Summary of SHP's Oral Submissions put at the Compulsory Acquisition Hearing held on 20 March 2019, submitted at DL5 on 29 March [REP5-index number to be allocated] SHP state at paragraph 7.3, with reference to Article 18 (Authority to survey and investigate the land) that:
"…the wide powers sought by the Applicant to survey and investigate land are inappropriate and are likely to have a blighting impact on land held by SHP."
i. Comment on this statement.
ii. Have such possible blighting effects been taken into account in your estimate of possible compensation payable and reflected in the figure in Article 9?

The Applicant's Response

i. The powers contained in article 18 will only become available if and when the DCO is granted; they cannot have a blighting effect now, and are indeed equivalent to those in section 53 of the Planning Act 2008. Indeed, the Department for Transport has recently carried out extensive works at the site which are much greater in extent than such surveying powers would entail. If the Applicant is granted the DCO and it contains compulsory acquisition powers over Stone Hill Park's land it will exercise those powers very soon after the DCO and so any blighting effect would be very short-lived. In any event Stone Hill Park has is no entitlement to statutory blight as it does not have a qualifying interest and there is no general ability to claim compensation for blight.
ii. As set out above this is not a valid head of claim, and even if it were it would be for a very short duration and hence a very low amount.

SHP Comments on the Applicant's Response

i. SHP has a commercial agreement with the Department for Transport under which it is being remunerated. It is not clear why the Applicant can consider the undertaking of works as part of a commercial agreement with a Government department is remotely comparable with the granting of unrestrained access rights to an entity such as the Applicant, which has such an unacceptable track record regarding access.

As the evidence before the examination clearly demonstrates (e.g. SHP's response to question Ec.2.2 [REP6-053]), where the Secretary of State set out conditions in the s53 authorisations that were considered necessary to protect the legitimate land interests of the landowners, the Applicant had no regard to them. The evidence further suggests that the Applicant accessed the SHP land unlawfully in 2017, the Applicant made unfounded threats of criminal sanctions against SHP, the Applicant ignored Inspectorate's advice and has materially breached every authorisation or agreement related to access that it has ever had the benefit of.

Written Question DCO.2.10

Associated Development
The Revised 2.1 Draft Development Consent Order submitted at DL5 on 29 March 2019 [REP5-index number to be allocated] has added a definition of associated development as follows:
""associated development" has the same meaning as in section 115 (development for which development consent may be granted) of the 2008 Act"

S115 (2) of the 2008 Planning Act states that: ""Associated development" means development which is associated with the development"

Explain how the introduction of this definition supports your categorisation of 'associated development' in, inter alia, Schedule 1 of the Revised 2.1 Draft Development Consent Order submitted at DL5 on 29 March 2019 [REP5-index number to be allocated].

The Applicant's Response

'Associated development' has a general meaning in the Planning Act 2008. There is nothing in the Act or in guidance stating that associated development is 'necessary' or 'required' for the nationally significant infrastructure project (NSIP). It is clear that development at an airport that is not part of the NSIP but is airport-related is 'associated' with the NSIP by virtue of being of a similar nature, part of a single project, and only included because of the existence of the NSIP, as is the case here. The guidance only states that it should support the operation of the NSIP (amongst other things), as in this case.

SHP Comments on the Applicant's Response

The Applicant must surely realise that the breadth, nature, scale and type of associated development proposed by the Applicant is not remotely comparable with anything that has been recommended for approval or authorised by the Secretary of State and, requires the closest scrutiny.

However, the nature of its answer demonstrates why it has been unable to meet the request of the ExA, and the commitment it gave at the dDCO hearing on 10 January 2019, to provide the examination with the explanation and justification of the Works that form the NSIP development and the Works that comprise Association Development.

There are so many parts of the Applicant's answer that are just plain wrong.

Firstly, as York Aviation note in their comments in Appendix 1, and as set out in previous comments, *"the Act requires associated development to be directly related to the principal development. It is not sufficient for such development to be merely "associated" with the principal development."*

We would strongly recommend that the Applicant review sections 5 of Appendix 1: Rebuttal of NSIP Justification appended to SHP's Written Representations [REP3-025] to gain a detailed understanding of the DCLG Guidance on associated development, the application of its four core principles and an evidence based reasoned assessment that demonstrates the associated development proposed by the Applicant does not comply with Guidance. We would note that the Applicant has not sought to refute any of the submissions made by SHP on this matter and the ExA has not directed any questions to SHP on its submissions - the Rebuttal of NSIP Justification has been supplemented by multiple submissions by SHP (please refer to SHP's comments on the Applicant's answer to CA.2.18).

In the context of compulsory acquisition, it is remarkable that the Applicant has not even attempted to justify the necessity for its extensive claimed associated development.

Written Question DCO.2.17

Article 9 - Guarantees in respect of payment of compensation, etc. The Revised 2.1 Draft Development Consent Order submitted at DL5 on 29 March 2019 [REP5-index number to be allocated] includes "a guarantee by a parent company of the undertaker" in Article 9(2)(f).

Which company will be the parent company of the undertaker?

The Applicant's Response

The undertaker, i.e. the Applicant, does not have a single parent company, but is 90% owned by RiverOak Investments (UK) Ltd and 10% owned by RiverOak Manston Ltd.

SHP Comments on the Applicant's Response

Based on the publically available information held at Companies House, RiverOak Investments (UK) Ltd and RiverOak Manston Ltd, have called up share capital of £1,000 and £1 respectively, however all the capital remains unpaid.

Between them, the two companies have invested a total of **£nil** into the Applicant.

As noted in SHP's comments on the Applicant's answer to question F.2.19, all funding has been made by the Belize entity, M.I.O. Investments Ltd. Yet, the Applicant refuses to provide any transparency over the ownership, or funding of this company.

Written Question DCO.2.25

Article 18 - Authority to survey and investigate the land
The ExA is considering amending Article 18(7)(a) to read "*Operation Stack has been declared by Highways England and/or Kent Police*".
Comment.

The Applicant's Response

Agreed and updated in DL6 version of the DCO [**TR020002/D6/2.1**].

SHP Comments on the Applicant's Response

SHP is concerned that the ExA has not made any reference to other required changes to Article 18 as explained in paragraphs 3.3.-3.7 of SHP's submission [REP4-064]. Further information and context was provided in SHP's response to question Ec.2.2 [REP6-053] and further background is provided in SHP's comments on the Applicant's response to question Ec.2.2 above.

In its submissions, SHP has provided detailed evidence of the Applicant's aggressive and unreasonable behaviour, where it appears to have had no regard to any party's interests other than its own.

As the evidence before the examination demonstrates, where the Secretary of State set out conditions in the s53 authorisations that he considered necessary to protect the legitimate land interests of the landowners, the Applicant had no regard to them. The evidence further suggests that the Applicant accessed the SHP land unlawfully, the Applicant made unfounded threats of criminal sanctions against SHP, the Applicant ignored Inspectorate's advice and has materially breached every authorisation or agreement that related to access.

With regard to the specific provisions of Article 18, we would refer the ExA to SHP's Cover letter to its DL4 Submission [REP4-064], particularly paragraphs, 3.3, 3.6 and 3.7, extracts of which are given below;

> *"3.3 The wide powers of access sought are inappropriate and are likely to have a blighting impact on land held by SHP and other landowners. In its revised Explanatory Memorandum (paragraph 3.44), the Applicant argues that it is required in order to "remove the necessity to compulsorily acquire that land and thus reduce the land brought within the Order limits." Whilst this may be the case for small areas of land, it is certainly not the case for the land interests held by Stone Hill Park Ltd, which are critical for the Applicant's plans. The primary intent of the drafting would be to appear to be delay the point at which the Applicant is required to acquire land, effectively giving itself a 5 year Option. The effect of this Article is one of blighting, as it has the potential to restrict the ability of landowners to undertake commercial operations on its land or impinge on the existing commercial operations, including for many years. At the very least, this Article should not apply to land interest held by Stone Hill Park Ltd."*
>
> *"3.6 It is noted that the Applicant has provided some drafting under sub headings 7 and 8 in Article 18 relating to the temporary suspension of the right of access to survey when Operation Brock or Operation Stack are in place. Firstly, we would note that the purpose is overly restrictive and fails to consider other circumstances where access would need to be restricted under the Operation Stack/Brock agreement (e.g. site preparation or development works). Secondly, as the services are provided by SHP under a Parking Services Agreement, any notification would be required to be delivered by SHP, rather than the Secretary of State. Thirdly, the drafting fails to include the protective Conditions that the Secretary of State for Housing, Communities and Local Government considered necessary to protect the Landowner's and Occupier's legitimate interests under its prior s53 authorisations.*
>
> *"3.7 Given the Applicant's consistent history of breaching the terms of previous authorisations agreements that provided for access to the land and the aggressive tactics it has employed regarding access over the last two years (e.g. including disregarding clear advice from the Inspectorate and*

DCLG in pursuing its aggressive attempts to access the land under s.172 of the Housing and Planning Act 2016), wide ranging powers of the type sought by the Applicant would be highly prejudicial to any landowners or occupiers of the land."

The Applicant has ignored SHP's comments in its latest draft. SHP also note that the drafting of ExA's DCO does not appear to reflect any of the issues raised in SHP's submissions.

Written Question DCO.2.33

Schedule 1: Authorised Development
Justify the inclusion of Work No.12 — The construction of a new passenger terminal facility with a maximum building height of 15m under 'Associated Development' rather than under the s14 and 23 list of works

The Applicant's Response

The NSIP is to increase the capability of the airport to provide cargo facilities – the passenger terminal is therefore not part of that but is rather classified as associated development. The increase in passengers will not reach the threshold of 10 million per annum that would make it an NSIP in its own right.

SHP Comments on the Applicant's Response

In its answer, the Applicant has accepted the principle set out in SHP's Response to this question given at DL6 i.e. that for any development to qualify under section 23 of the Planning Act 2008, it must have the requisite effect referred to in section 23(5)(b) which is *"to increase by at least 10,000 per year the number of air transport movements of air cargo movements for which the airport is capable of providing air cargo services".* Any development that does not have this requisite effect is therefore **not** part of the principal development.

We would refer the ExA to sections 5 and 6 of Appendix 1: Rebuttal of NSIP Justification appended to SHP's Written Representations [REP3-025] and our previous DL6 response to this question. These extensive submissions clearly demonstrate (with supporting evidence) that there are many elements of the proposed development that the Applicant has listed as NSIP development that do not meet the required criteria under s23 of the Planning Act 2008 and there are also many elements of the purported Associated Development that do not comply with the relevant guidance criteria.

The submissions also note the Applicant's failure to provide the examination with the explanation and justification of the Works that form the NSIP development and the Works that comprise Association Development, despite the request made by the ExA and the commitment given by the Applicant at the dDCO hearing held on 10 January 2019. The only conclusion that can be reached, is that the Applicant is unable to explain, justify and evidence their assertions.

Written Question DCO.2.34

Schedule 1: Authorised Development
The Revised 2.1 Draft Development Consent Order submitted at DL5 on 29 March 2019 [REP5-index number to be allocated] includes the words "airport related" within the description of Works Nos. 15. 16 and 17.

Show how the references to Use Classes B1 and B8 serve to ensure that these works are 'airport related'.

The Applicant's Response

The references to classes B1 and B8 do not serve to ensure that the works are airport-related (which is ensured by the use of the word 'airport-related'), but restrict the use classes that are permitted to the two specified. Requirement 19 of the DCO ensures that works 15, 16 and 17 must only be developed and used to support the operation of the NSIP.

SHP Comments on the Applicant's Response

As noted in SHP's comments on the Applicant's responses to CA.2.18 and DCO.2.10, the Applicant's answer is contradictory. The new definition of 'Airport Related" development is far wider than the development that would be permitted by Requirement 19. If the Applicant had invested the time in preparing an explanation and justification of the purported associated development, as it had committed to do (in response to a direct request from the ExA), it would have a greater understanding of the type of development that could be authorised under the Planning Act 2008.

Written Question DCO.2.44

Schedule 2 – Requirements
Requirement 19 - Airport-related commercial facilities
Requirement 19 - Airport-related commercial facilities states that:
"Works Nos. 15, 16 and 17 must only be developed and used to support the operation of Works Nos. 1 to 11 and 13."

The ExA note that the word 'support' is used in April 2013 MHCLG Guidance on associated development applications for major infrastructure projects.

i. Define, including through the use of examples, what is meant by "support" in this Requirement.
ii. How would this ensure that works 15, 16 and 17 are required for aviation purposes?

The Applicant's Response

i. The word support is, as has been noted, intended to reflect the use of the word in MHCLG guidance on associated development to avoid any charge that Works 15 to 17 are not compliant with such guidance. The guidance does not explain the meaning of support in that context; the Applicant therefore understands it to have its ordinary meaning of 'strengthen, maintain' (Collins), i.e. the facilities provided by those works would, together with the airside facilities, provide a more complete service for the airport's cargo customers.

ii. By supporting works that are a nationally significant infrastructure project concerning aviation, this wording would ensure that they were for aviation purposes (although note that the word 'required' does not appear in the guidance). To make doubly sure, however, each work is additionally required to be 'aviation-related'.

SHP Comments on the Applicant's Response

i. In commenting on the Applicant's answer, it is important to set out the context in which "support" is used in the April 2013 MHCLG Guidance. "Support" is only referred to in the main document in paragraphs 5(i) and 6.

Paragraph 5(i) of states;

"The definition of associated development, as set out in paragraph 3 above, requires a direct relationship between associated development and the principal development. Associated development should therefore either support the construction or operation of the principal development, or help address its impacts."

Paragraph 6 states;

"It is expected that associated development will, in most cases, be typical of development brought forward alongside the relevant type of principal development or of a kind that is usually necessary to support a particular type of project, for example (where consistent with the core principles above), a grid connection for a commercial power station."

In paragraph 5(i), "support" is used as a means of further explaining what constitutes a *"direct relationship between associated development and the principal development."* Therefore, in this context, there must be a direct relationship and associated development should support either the construction or operation of the principal development (i.e. the NSIP development) – it is not an either / or situation. In this case, the principal development comprises only development that has the requisite effect referred to in section 23(5)(b) which is *"to increase by at least 10,000 per year the number of air transport movements of air cargo movements for which the airport is capable of providing air cargo services"*.

In paragraph 6, "support" used as a means of giving an example of what type of development would be considered associated development. The Guidance uses the example of a grid connection for a commercial power station. It is clear that a direct relationship exists and that the grid connection would support the operation of the NSIP. Without it, the NSIP would not be able to operate.

If the Applicant was serious about trying to assist the examination, it should have sought to provide reasoned explanation of how its proposed development is in line with the examples set out in Annex A and Annex B of the Guidance, and then referred to other examples of similar types of associated development that have been included within other DCOs that have been recommended and/or approved by the Secretary of State. However, it is obvious that the Applicant's proposed associated development is not consistent with the core principles of the MHCLG Guidance and there are no examples it can point to. Hence, it has not been able to provide justification.

In the final part of its answer, the Applicant does at least acknowledge that Works 15 to 17 would have to show a direct link to how they support cargo operations, which would rule out many of its proposed uses. As explained in SHP's comments on the Applicant's answer to CA.2.18 (above), there a large parts of the proposed associated development that do not have a direct relationship with or support cargo operations and therefore would not qualify as associated development.

ii. In its answer, the Applicant uses the phrase *"[B]y supporting works that are a nationally significant infrastructure project concerning aviation".*

As York Aviation comment in Appendix 1, "*the exemplar uses given in the proposed definition of aviation related include uses totally unrelated to providing "a more complete service for the airport's cargo customers". Given the clear requirement for associated development to be directly related to the operation of the principal (in this case cargo) development, it is important that there is absolute clarity in the DCO as to the appropriate test and its applicability."*

As set out out above and more fully in SHP's comments on question CA.2.18, it is clear that under the legislation and relevant Guidance there must be a direct relationship - it is not sufficient for the Works to only have a link to anything aviation or airport related.

Written Question DCO.2.46

Additional Articles or Requirements
The ExA is considering inserting a new Article under principal Powers which specified that the operation of the airport is subject to a total annual air transport movement limit and is subject to a total annual General Aviation movement limit. The quantum of these limits will be set out by the ExA in further drafts of the DCO following further Examination through Written Questions and Issue Specific Hearings.
Comment

The Applicant's Response

It is the Applicant's view that having the limits in the Noise Mitigation Plan (as at present) and requiring the development to be operated in accordance with the Noise Mitigation Plan, a certified document, has the same legal effect as having the limits in the DCO itself. The Applicant believes that having all noise mitigation measures (which an ATM limit would principally be) in once place would be more convenient.

SHP Comments on the Applicant's Response

SHP understands that the Applicant may find it *"more convenient"* to have the limit in the Noise Mitigation Plan. However, the limit is not only relevant to noise and should be in included in the dDCO. The Applicant has given no reasoned explanation as to why the limits should not be in the dDCO itself.

Written Question DCO.2.49

Additional Articles or Requirements
The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated] states at paragraph 10.1 that:
"*The Applicant does not agree with SHP's proposals for inclusion in the dDCO, except that it would be prepared to adopt the equivalent to the Crichel Down rules in relation to SHP's interest*."
Provide possible drafting for inclusion in the draft DCO embedding the principles inherent in the Crichel Down rules.

The Applicant's Response

Suggested article 19(3) and (4) (not currently included in latest draft):

(3) The undertaker will treat the Crichel Down Rules as applying to land acquired by it under this article it as if it were a UK government department.

(4) In this article 'Crichel Down Rules' means the rules contained in 'Guidance on Compulsory purchase process and the Crichel Down Rules' published by the Ministry of Housing, Communities and Local Government in February 2018 or any successor to such rules.

SHP Comments on the Applicant's Response

The Applicant's suggested inclusions are wholly inappropriate.

With regard to its proposed article 19(4), it is important to note that the rules contained in 'Guidance on Compulsory purchase process and the Crichel Down Rules' (February 2018) have been drafted to apply to Government departments, that must operate to certain standards, are accountable and where there is transparency and accountability over its actions.

The Applicant is a SPV that is wholly funded (and majority owned) by anonymous investors – as noted in SHP's comments above on DCO.2.17, neither of the Applicant's shareholders, RiverOak Manston Ltd or RiverOak Investments (UK) Ltd, has invested any funds. The Applicant has actively resisted transparency, and many of its submissions have been shown to be highly misleading as evidenced throughout SHP's submissions.

SHP also note the degree to which certain statutory bodies have been required to make submissions that challenge the veracity of the Applicant's assertions about certain matters. Even if the rules were appropriate for this specific situation (which they are not), the ExA and affected parties could have no confidence that the Applicant would abide by the obligations (and spirit) of the relevant Guidance.

As noted above, the rules contained in the Guidance are not appropriate for this particular set of circumstances and SHP has provided its proposed appropriate provisions (and rationale) in its response to this question in its DL6 submission.

Written Question F.2.1

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.1 that:
"restructuring was estimated to be complete by the end of April."

The Applicant must note that the ExA require that any answers to these second questions to be submitted at DL6 (3 May 2019) must reflect and be informed by that completed restructuring.

The Applicant's Response

Noted. Restructuring has now been completed.

SHP Comments on the Applicant's Response

It is worth noting that in the Applicant's Response for DL1: Enclosure 1 to Main Letter re. s51 Advice on Funding it stated that:

"The Applicant has recognised that the lack of transparency in relation to the Belize entity in particular has given rise to a number of questions."

It is therefore literally incredible that the Applicant considers the so-called restructuring to have improved the level of transparency. A review of the information submitted by the Applicant at DL6 and other publically available information shows;

1. The only change is that the 9,000 shares in the Applicant (each with a nominal value of £0.0001) that were previously held by MIO Investments Ltd have been transferred to, RiverOak Investments (UK) Ltd ,a new UK SPV incorporated on 23 April 2019. That UK SPV is now owned 60% by a BVI company, HLX Nominees Ltd, on which no information is available (although when undertaking a search on Google, the company is named in the Panama papers leaks).

2. The 9,000 shares that were transferred had a nominal value of **only £0.90.**

3. It is considered highly unlikely that the transfer price of these shares was anything other than £0.90, as the shares in the Applicant (which have a total nominal value of £1), have no intrinsic value.

4. The true value of the Applicant's shares is the cumulative sum of the value of the shares in each of its subsidiaries. However, as all the expenses, costs and investments of these entities have been fully funded by loans from MIO Investments Ltd (now claimed by the Applicant to exceed £15m), it is not possible to see how there could be any value in the shares of the Applicant's subsidiary companies.

5. As explained by Mr Rothwell at the CA hearing on 20 March 2019, the only "assets" held by the RiverOak companies is the Jentex land it acquired in 2018, which is owned by RiverOak Fuels Limited. MIO Investments Ltd, as providers of the loan to RiverOak Fuels Ltd, would require to have its loan fully repaid (with interest, fees and costs), which significantly exceeds the £2.3m paid for the land, before any value would attach to its shares.

6. The same would be true of the other loans claimed to be provided to RiverOak Operations Limited. Based on the Applicant's recent submissions, these loans appear to be total c.£12.5m. As there are no assets in RiverOak Operations Ltd, the shares have no intrinsic value.

7. It is important to note that **ALL** the funding has been provided by the Belize based MIO Investments Ltd on which no relevant information has been provided. The Applicant intends that MIO will continue to provide funding but provides no evidence to support its assertion.

8. In SHP's DL6 6 Submissions in SHP's comments on the Applicant's written summary of oral submissions put at the CA hearing [REP6-052], SHP set out a number of issues / concerns regarding the JV Agreement, why it does not say what the Applicant says it does and why the £15m "loan agreement" is essentially meaningless as any payments are completely at the discretion of MIO Investments under the terms of the wider documentation.

In summary, it is clear that the Applicant has done nothing meaningfully to improve transparency.

The majority beneficial ownership of the Applicant's shares has simply been transferred from MIO to another offshore company. The new UK SPV provides no more transparency. Furthermore, as the sum total of the equity investment by the shareholders of the Applicant appears to be £1 (yet to be paid), the information on the funders is of more relevance than the shareholding entities that have made no investment and provided zero funding.

In section 2.3 and 2.10 of SHP's comments on the Applicant's written summary of oral submissions put at the CA hearing [REP6-052], an explanation of the Joint Venture Agreement submitted by the Applicant at DL5 was provided.

In summary, the documentation shows that M.I.O. Investments (as Capital Investor as defined in the JV Agreement) effectively retains veto rights over any material action of the Applicant. As provider of all the funding, over which it has full discretion, in absence of any other funder to replace MIO Investments, MIO Investments has control over the decision making of the Applicant. Yet, no relevant information has been disclosed on MIO Investments.

It is also clear that the new investors heralded by the Applicant throughout the examination phase have not materialised.

Written Question F.2.2

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated] states at paragraph 3.1 that:
"restructuring was estimated to be complete by the end of April."

The Applicant must note that the ExA require that any answers to these second questions must be accompanied by an Updated Funding Statement (in both tracked and clean versions) with an explanation of, and a justification for, any changes between it and the submitted version [APP-013]

The Applicant's Response

A revised Funding Statement is provided at DL6 (reference TR020002/D6/3.2 clean copy; TR020002/D6/3.2T tracked copy preceded by explanation of the changes).

SHP Comments on the Applicant's Response

SHP would note the revised Funding Statement is wholly underwhelming.

It adds nothing of any substance that would allow the Applicant's application to be fairly and adequately tested. The deficiencies in the Funding Statement are manifest and the changes have largely been addressed through SHP's comments on the Applicant's answers to these written questions on Funding matters, and also in part through SHP's DL6 submissions, SHP's Comments on the Applicant's Written summary of oral submissions put at the Compulsory Acquisition hearing held on 20 March 2019 [REP6-052] and SHP responses to the Examining Authority's Second Written Questions [REP6-053].

Written Question F.2.3

The Applicant is reminded that Regulation 5(2)(h) requires that an application be accompanied by a statement to indicate how an order that contains the authorisation of compulsory acquisition is proposed to be funded.
The Applicant is further reminded that DCLG Guidance related to procedures for the compulsory acquisition of land (2013) advises at para. 9 that the applicant should be able to demonstrate that there is a reasonable prospect of the requisite funds for acquisition becoming available.
The Applicant is reminded that information in the public domain at http://rsp.co.uk/news/the-formation-and-funding-of-riveroak-strategic-partners/ states that:
"*comprehensive details of our funding partners and investment arrangements will of course be provided to PINS as part of the DCO application, providing solid evidence of our ability to meet all of the financial obligations associated with the acquisition, reopening and operation of the airport*."
The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that:
"…the investors wished to remain confidential…"

i. Explain how this latter statement conforms to, and supports, a system of Examination which is designed to be open and transparent.
ii. Explain how this latter statement confirms to RSP's own commitment to provide comprehensive details of its funding partners.
iii. Suggest ways in which the ExA may recommend to the Secretary of State on issues surrounding the availability of funding in the face of a desire for confidentiality relating to that issue.

The Applicant's Response

i. and ii. The Applicant acknowledges the Planning Inspectorate's desire for openness and transparency in the examination process. The Applicant has sought to provide sufficient information in all instances to assist the ExA in its examination of this application. However, the ExA will equally appreciate the unavoidable constraints of commercial confidentiality, particularly in the context where private individuals are involved in funding the project and investing in major infrastructure.

A balance must be struck between providing sufficient information to the ExA to enable it properly to consider the application and report to the Secretary of State whilst at the same time protecting the commercial interests of investors.

Plainly it is in the national interest to encourage private investment in infrastructure which is to the benefit of the UK economy. Indeed it was to encourage this kind of investment that Business Investment Relief was introduced in 2012. Business Investment Relief is an HMRC-approved scheme introduced to encourage non-domiciled UK residents to invest in the UK and does not require those using it to be disclosed. For the ExA to insist on full disclosure of those individual investors has the potential to undermine this type of investment in the UK.

iii. If the ExA has any residual concerns as to the funding position following DL6, the Applicant suggests that it provides the ExA with an unredacted statement, identifying the individuals who have invested and are committed to further investment, together with a version where such confidential information is redacted. The ExA then takes the former into account and publishes the latter. If it does not wish to take information into account that is not openly available then it leaves the issue to the Secretary of State to decide (e.g. in the form of a recommendation to grant the DCO subject to the Secretary of State being satisfied as to the availability of funding).

SHP Comments on the Applicant's Response

i. and ii. The Applicant's claim that "*has sought to provide sufficient information in all instances to assist the ExA in its examination of this application"* is disingenuous and is contrary to evidence submitted to the examination.

It is apparent that the Applicant was given section 51 advice well before it submitted its application, and again following acceptance of its application on 14 August 2018 regarding the Inspectorate's concerns regarding the information on Funding. Yet, the Applicant has consistently failed to provide the examination with the requested information.

In its answer, the Applicant appears to be advocating for a "Wild West" approach, whereby any legitimate concerns and the ExA's commitments to openness, transparency and impartiality should be put to one side so as not to risk investment in the UK from anonymous "non-dom" investors. These "investors" are seeking to deprive another party of its land.

The Applicant's arguments have no merit, and when considered in the proper context – against a backdrop where the Applicant has continually failed to provide requested information to the examination and other submissions have not been substantiated and shown to lack veracity – appear to be part of the Applicant's strategy to obfuscate and avoid scrutiny of its application.

iii. The Applicant's suggestion that should the ExA not wish to take information into account information that is not openly available, it should leave *"the issue to the Secretary of State to decide (e.g. in the form of a recommendation to grant the DCO subject to the Secretary of State being satisfied as to the availability of funding)",* is plainly ludicrous and demonstrates an arrogance towards the process. It would be in clear breach of the

'Guidance for the examinations for development consent' (March 2015) and undermine the principles of fairness, transparency, impartiality and proportionality and would be prejudicial to the interests of other parties.

Written Question F.2.4

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated] states at paragraph 3.2 that:

"The Applicant's intention is that RiverOak Manston Limited, a UK registered company, would be its sole owner"

Information in the public domain, held at Companies House, shows that, at 18 July 2018, RiverOak Manston Limited (Company number 10286975) had a share capital of 4 shares at £1.00 each and that the accounts for a dormant company were made up to 31 July 2017 were filed on 11 April 2018.

i. State whether Manston Limited is still a dormant company.
ii. Provide filed accounts made up to 31 July 2018 or later.

The Applicant's Response

The restructuring that has recently taken place has resulted in MIO transferring its interest in RiverOak Strategic Partners Limited to RiverOak Investments (UK) Limited, a newly incorporated company registered in the UK. The result of this is that RiverOak Strategic Partners Limited is now owned as to 90% by RiverOak Investments (UK) Limited and as to 10% by RiverOak Manston Limited. The revised group structure is shown at Appendix F.2.4 in TR020002/D6/SWQ/Appendices.

i. Neither RiverOak Investments (UK) Limited nor RiverOak Manston Limited are dormant companies. As the letter from RSP's accountants confirms (at Appendix F.2.4 in TR020002/D6/SWQ/Appendices), RiverOak Manston Limited and RiverOak Investments (UK) Limited are both investment holding companies.
ii. The filed accounts for RiverOak Manston Limited are at Appendix F.2.4 part C (in TR020002/D6/SWQ/Appendices). As this is an investment holding company rather than a trading company these accounts do not have a profit and loss statement.

SHP Comments on the Applicant's Response

i. RiverOak Manston Ltd filed dormant company accounts on 15 April 2019 for the year ended 31 July 2018. These accounts show the Company had called up capital (not paid) of £4. Note a to the accounts states that *"For the year ending 31 July 2018 the company was entitled to exemption under section 480 of the Companies Act 2006 relating to dormant companies."*

Whilst the letter at Appendix 2.4 part B does state that the company has not been classified as a dormant company due to the holding of investments, it is assumed that this is just a classification provided by Calder & Co for the purposes of its own table.

It would be helpful if the Applicant could provide clarification, or at least an explanation as to how, under the Companies Act 2006, a company be both dormant and "not dormant" at the same time.

It is also important to note that, based on Companies House records, none of the accounts filed by the RiverOak entities have been audited. This is despite Mr Freudmann making numerous references to "RiverOak's auditors" at the Compulsory Acquisition hearing.

Written Question F.2.5

Information in the public domain, held at Companies House, shows that the filed accounts for the Applicant, RSP Ltd, a dormant company, are those made up to 31 July 2017.
Provide filed accounts made up to 31 July 2018 or later.

The Applicant's Response

RSP Ltd is not a dormant company within the meaning of the Companies Act - see the letter from accountants (at Appendix F.2.4 in TR020002/D6/SWQ/Appendices). The filed accounts up to 31 July 2018 are provided at Appendix F.2.5 (in TR020002/D6/SWQ/Appendices).

SHP Comments on the Applicant's Response

RiverOak Strategic Partners Ltd filed dormant company accounts on 15 April 2019 for the year ended 31 July 2018. These accounts show the Company had called up capital (not paid) of £1.

Note a to the accounts states that *"For the year ending 31 July 2018 the company was entitled to exemption under section 480 of the Companies Act 2006 relating to dormant companies."*

Whilst the letter at Appendix 2.4 part B does state that the company has not been classified as a dormant company due to the holding of investments, is this just a classification provided by Calder & Co for the purposes of its own table?

It would be helpful if the Applicant could provide clarification, or at least an explanation as to how, under the Companies Act 2006, a company be both dormant and "not dormant" at the same time.

It is also important to note that, based on Companies House records, none of the accounts filed by the RiverOak entities have been audited. This is despite Mr Freudmann making numerous references to "RiverOak's auditors" at the Compulsory Acquisition hearing.

Written Question F.2.6

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] has omitted any reference to the answers given at the Compulsory Acquisition hearing related to the Applicant's subsidiary companies and other related companies.

Your answer to our question F.1.2 states that:
"The Applicant, RiverOak Strategic Partners Limited, has three subsidiary companies: RiverOak Operations Limited, RiverOak AL Limited and RiverOak Fuels Limited."

i. Provide filed accounts made up to 31 July 2018 or later for the three companies listed in the Applicant's response to ExA question F.1.2: RiverOak Operations Limited, RiverOak AL Limited and RiverOak Fuels Limited.
ii. Confirm whether Riveroak MSE Limited should be added to the list of subsidiary companies.
iii. If so, provide filed accounts made up to 31 July 2018 or later for Riveroak MSE Limited.

The Applicant's Response

i. The filed accounts for RiverOak AL Limited up to 31 July 2018 are provided at Appendix F.2.6 (in TR020002/D6/SWQ/Appendices)The accounts for RiverOak Operations Limited up to 31 July 2018 are not yet available for the reasons explained in the account's letter at Appendix. RiverOak Fuels Limited (which owns the Jentex site) is a newly incorporated company and has not yet completed a year's trading. Therefore it has no filed accounts.

ii. Yes. RiverOak MSE Limited should be added to the list of subsidiary companies and now appears on the organogram at Appendix F.2.4.

iii. RiverOak MSE Limited is a newly incorporated company established to acquire the title to the airport site. It has been trading for less than a year. Therefore it has no filed accounts.

iv. An organogram of the companies' structure is provided at Appendix F.2.4 part A (in TR020002/D6/SWQ/Appendices). RiverOak Investments (UK) Limited and RiverOak Manston Limited are holding companies that own the Applicant, RSP Limited. RSP Limited is also a holding company which holds 100% interest in four subsidiary companies; RiverOak AL Limited, RiverOak Operations Limited, RiverOak Fuels Limited and RiverOak MSE Limited.

RiverOak AL Limited is a trading company and holds the lease on the approach lights on the eastern end of the runway. RiverOak Operations Limited is a trading company that will be responsible for the operation of the airport in the event that the DCO is granted. RiverOak Fuels Limited is a newly established company that acquired title to the Jentex fuel site in September 2018. RiverOak MSE Limited is a newly established company that is intended to hold the title to the freehold of the airport.

v. As explained above RiverOak Strategic Partners Ltd is the undertaker.

SHP Comments on the Applicant's Response

i. It is noted that the Applicant has chosen not to supply accounts for RiverOak Operations Ltd for its year ending 31 August 2018. As the Companies House deadline for submitting these accounts is 31 May 2019, it is concerning that the Applicant has been unwilling to provide information to the examination. Unlike the accounts of the other companies referred to in questions 2.4 and 2.5, at least the accounts of RiverOak Operations Ltd would show more than just £1 or £4 of (unpaid) share capital.

It is also important to note that, based on Companies House records, none of the accounts filed by the RiverOak entities have been audited. This is despite Mr Freudmann making numerous references to "RiverOak's auditors" at the Compulsory Acquisition hearing.

ii. No comment required

iii. Whilst RiverOak MSE Ltd has not filed accounts, there is no reason why the Applicant could not provide up to date management accounts. Indeed, given the historic nature of all financial information provided, there is no reason why the Applicant could not have provided management accounts for the period to 31 March 2019 for all relevant companies. However, it has chosen not to facilitate the examination.

iv. The Applicant has provided an organogram and provided a brief explanation of the roles. However, it would be far more revealing if the Applicant was to give an explanation as why the companies have been structured in this way.

It has not done so, however, one explanation would be that the "investors" have sought to separate out assets from liabilities, so that in any financial distress position, assets are held in a different company from the liabilities, thereby ensuring that arms-length creditors would have no recourse to the assets. For example;

- RiverOak AL Ltd holds a lease that has certain payment liabilities and no assets. In the event that RiverOak AL Ltd is not provided with funding to continue making the lease payments, the creditor would ordinarily have no right of recourse against any other RiverOak entity or any assets they held.

- RiverOak Fuels Ltd holds the Jentex land. However, no creditors of any other RiverOak companies would have recourse against this assets of this company.

- RiverOak Operations Ltd. This company appears to be the Company incurring the ongoing costs of the DCO. It has no assets and is reliant on discretionary funding from MIO. Therefore, in a situation where the Applicant withdrew from the DCO, any creditors of this company would ordinarily have no recourse to any other company in the RiverOak group.

- RiverOak Strategic Partners Ltd. This Company has no assets and no funds. It is however, exposed to the liabilities that relate to its role as Applicant, e.g. successful costs awards, remaining payments due to the Planning Inspectorate for the costs of the examination.

With no net asset value, and no intrinsic value in any of the subsidiary companies (given MIO Loans would have first right on any distributions), creditors or potential creditors of the Applicant would be wholly reliant on the discretion of the shareholders or funders of the Applicant for payment.

As neither RiverOak Manston Ltd nor RiverOak Investment (UK) Ltd have invested any funding to date (based on the information before the examination), it would seem highly unlikely that they would fund any of the Applicant's liabilities. Similarly, it would appear highly unlikely that MIO Investments or its anonymous investors would elect to settle any outstanding liabilities due by the Applicant. Accordingly, there is no evidence of any financial standing.

Written Question F.2.8

Information in the public domain, held at Companies House, shows that note 10 to the Financial Statements for Freudmann Tipple International Ltd for the period ended 30th March 2018 states that:
"During the year, the company held funds in trust for Riveroak Operations Limited, a company of which Mr A Freudmann is a director. At the balance sheet date, the company held £588,906."

The Applicant's response to ExA question F.1.2 [REP3-195] lists RiverOak Operations Limited as a subsidiary company of the Applicant.

i. Describe the relationship between the Applicant and Freudmann Tipple International Ltd.
ii. State the amount held in trust for Riveroak Operations Limited by Freudmann Tipple International Ltd as at 30th March 2019.
iii. State the purpose for which these funds are held.

The Applicant's Response

i. The relationship between the Applicant and Freudmann Tipple International Ltd relates to the provision of banking services. Pursuant to the trust deed (at Appendix F.2.8 in TR020002/D6/SWQ/Appendices) between the Applicant and Antony Freudmann, the Applicant has the exclusive use of the bank account of FTI Limited, referred to at recital A of the trust deed.

ii. The amount varies from the time to time. Funds are drawn down from the investors and then expended on costs associated with the project. As at 30th March 2019 the balance was £250,904.07

iii. These funds are held to cover costs associated with the project.

SHP Comments on the Applicant's Response

i. The relationship between the Applicant and Freudmann Tipple Ltd is highly unusual, with Mr Freudmann required to operate the bank account of a different company at the direction of the Applicant and grant a power of attorney in favour of the Applicant. Under clause 4.1.1 of the agreement attached as Appendix F.2.8 to the Applicant's submission, it states that the arrangement shall continue until the Applicant or RiverOak Operations Limited sets up a bank account in its own name. It is noted that Freudmann Tipple Ltd is not a party to the agreement, raising questions as to whether it has consented to this arrangement as would be required.

It is recognised that the requirements for opening UK bank accounts are much more onerous than in the past as a result of the requirements for banks to undertake detailed identity checks on directors, shareholders and any beneficial owners holding more than 25% of the equity interest in a Company. Checks are also required to be undertaken as to the likely source and uses of such funds to ensure that the bank is in compliance with 'know your customer' and money laundering regulations.

Having taken advice from a major UK Bank, SHP have been advised that the Freudmann Tipple International arrangement is highly unusual. Whilst the Bank would not completely rule out such an arrangement, the Bank advised that the proposal would be marked as high risk and the Bank's checks would be more extensive than those required to actually open an account in the name of the Applicant or its subsidiary. The Bank would also need to satisfy itself with the terms of the Trust Deed.

In view of the efforts required to have Freudmann Tipple International's bankers consented to this arrangement, it is not clear why the Applicant did just not open its own bank account. It adds yet another layer of complexity to an already opaque structure.

Written Question F.2.13

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that:

"The shareholders of MIO Investments are the project's investors"
Information in the public domain at http://rsp.co.uk/news/the-formation-and-funding-of-riveroak-strategic-partners/ states that:
"We have provided all required details of our company ownership structure to Companies House"
i. Provide a copy of the documentation provided to Companies House.
ii. Provide a link to the Companies House website showing where details of MIO Investments are to be found.

The Applicant's Response

i. MIO's interest has now been transferred to RiverOak Investments (UK) Limited a newly incorporated company registered in the UK. The company's structure is shown on the organogram at Appendix F.2.4 in TR020002/D6/SWQ/Appendices. The directors of RiverOak Investments (UK) Limited are Nick Rothwell, Rico Seitz, Gerhard Huesler and HLX Nominees Limited (the same directors as MIO Investments).

ii. MIO is registered outside the UK and is not registered at Companies House.

SHP Comments on the Applicant's Response

i. SHP would note that MIO Investments remains the sole investor in the Applicant's project. There is no evidence before the examination that any other party, including the shareholders of the Applicant, has invested, or committed, any funding to the project.

Written Question F.2.14

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that:

"The shareholders of MIO Investments are the project's investors"

In the Applicant's Response for DL1: Enclosure 1 to Main Letter re. s51 Advice on Funding you state that:

"The Applicant has recognised that the lack of transparency in relation to the Belize entity in particular has given rise to a number of questions."

Information in the public domain at http://rsp.co.uk/news/the-formationand-funding-of-riveroak-strategic-partners/ states that:

"MIO Investments Limited is a company registered in the Commonwealth territory of Belize."

i. Show how the continuing use of MIO Investments as the project's investors serves to address the lack of transparency in relation to the Belize entity.
ii. Provide details of, or a link to, company details for MIO Investments.

The Applicant's Response

i. MIO's ownership in the Applicant has now been transferred to RiverOak Investments (UK) Limited, as UK registered entity as explained above.

ii. MIO is a Belize registered company and its company number as shown on the organogram provided Appendix F.2.4 in TR020002/D6/SWQ/Appendices is 162208. Its certificate of incorporation, register of directors and memorandum and articles of association are provided at Appendix F.2.14.

SHP Comments on the Applicant's Response

i. The Applicant has not addressed the question asked by the ExA, which was focussed on MIO Investments. There is no information before the examination to suggest that RiverOak Investments (UK) Ltd is anything other than the holder of 90% of the shares in the Applicant (which has a total nominal value of 90p). SHP would note that MIO remains the sole investor in the Applicant's project. There is no evidence before the examination that any other party including the shareholders of the Applicant has invested, or committed, any funding to the project.

ii. The Applicant has provided no information / evidence of the shareholders, investors or funders of MIO Investments. It has not provided the financial statements of MIO Investments. Under the Belize regulations, none of this information is required to be made publically available.

Written Question F.2.15

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that:
"*The shareholders of MIO Investments are the project's investors … their loans to MIO Investments had been subject to due diligence and approval by HMRC under the Business Investment Relief scheme and declared in their tax returns.*"
You have provided redacted copies of three letters, each dated 1 December 2016, from Business Investment Relief, HMRC (reference numbers 0498, 0499 and 0500).
Each of these letters refers to "*the proposed investment in RiverOak Strategic Partners Ltd*" not, as you state, to MIO Investments.

The letters from HMRC state that:
"*If any of the circumstances or the nature of the investment differ from those described by you, or other facts come to light which have an impact on whether the investment is a qualifying investment, HMRC will not be bound by this opinion.*"
Would the opinion of the HMRC remain valid if the nature of the loan has changed?

The Applicant's Response

See Appendix F.2.15 of the Applicant's Response

SHP Comments on the Applicant's Response

SHP would note that the financial statements of the Applicant for the years ending 31 July 2017 and 31 July 2018, show nil investment in the form of new share capital or loans. The Applicant is a dormant company with £1 of share capital (unpaid).

On the basis MIO Investments or any other party has not invested equity funding in or provided loans to the Applicant, it is not clear from the Applicant's answer that the correct set of facts have been disclosed to HMRC.

Written Question F.2.16

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that:

"The shareholders of MIO Investments are the project's investors … their loans to MIO Investments had been subject to due diligence and approval by HMRC under the Business Investment Relief scheme and declared in their tax returns."

You have provided redacted copies of three letters, each dated 1 December 2016, from Business Investment Relief, HMRC (reference numbers 0498, 0499 and 0500). Each of these letters states that:
"I remind you that: As the person claiming relief, you are wholly responsible for the accuracy of the information supplied to HMRC. This opinion is based solely on the information you provided and will not apply in any circumstances beyond those described by you."

Given these two statements, justify your statement that "the loans to MIO Investments had been subject to due diligence… by HMRC".

The Applicant's Response

See Appendix F.2.16 of the Applicant's Response

SHP Comments on the Applicant's Response

As noted in SHP's comments on CA.2.15 above, no funding in way of equity or loans has been made into the Applicant based on the financial statements lodged at Companies House. It is therefore not clear that the information provided to HMRC was accurate.

Written Question F.2.17

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that:
"The shareholders of MIO Investments are the project's investors … their loans to MIO Investments had been subject to due diligence and approval by HMRC under the Business Investment Relief scheme and declared in their tax returns."

You have provided redacted copies of three letters, each dated 1 December 2016, from Business Investment Relief, HMRC (reference numbers 0498, 0499 and 0500). Each of these letters states that:

"Although we have provided this assurance please be aware that we do have reservations about the above company's likely trading position. As such we expect you and your agent to keep the position under review and to expect that HMRC will do likewise. With that in mind it would be helpful if, for the two years after the claim is made, a "white notes" entry is made on your tax return to summarise the position as this may help avoid us having to open formal enquiries."

i. Comment, in respect of each of the three investors, on the statement by HMRC that, it does "have reservations about the … company's likely trading position".
ii. Has the claim been made?
iii. Have "white notes" entries been made on the tax returns for the three investors? iv. Has HMRC opened formal enquiries into any of the three investors?

The Applicant's Response

See Appendix F.2.17 of the Applicant's Response

SHP Comments on the Applicant's Response

The Foot Anstey note states that *"there are a number of eligible trading companies into which RSP has made investments."* However, based on the published financial statements and other submissions, RSP does not appear to have made any investments into the various subsidiary companies. Indeed RSP only has called up share capital of £1 (which is unpaid).

Written Question F.2.18

The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.1 that:
"the restructuring [is] *taking longer than expected in part due to the ongoing discussions with Stone Hill Park (SHP) regarding the acquisition of the site."*
Explain how the ongoing discussions with Stone Hill Park regarding the acquisition of the site have delayed the restructuring.

The Applicant's Response

The discussions with Stone Hill Park themselves took longer than expected because the Department for Transport changed the terms of the deemed planning permission in January 2019 from that contained in the Town and Country Planning (Operation Stack) Special Development Order 2015 (as amended by the 2017 Order) to that contained in the Town and Country Planning (Manston Airport) Special Development Order 2019, which made extensive changes to the extent and scope of the permission with consequent effects on the acquisition. The coming into force of the 2019 Order was then accompanied by extensive works at the site by the DfT, as the ExA will have seen on the accompanied site inspection, further complicating the terms of the acquisition.

The progress of discussions with Stone Hill Park indicated that a voluntary disposal was likely. The Applicant has always been committed to acquiring the site by agreement if possible. To that end it has continued to engage with Stone Hill Park during the DCO examination and reached a point at which acquisition by agreement appeared likely. During the course of these discussions a new agreement was reached between Stone Hill Park and the DfT, the implications of which were not immediately transparent to other parties considering investment in the project. They required much more time to consider those implications than was available in the context of the DCO process. Given the urgency of providing the ExA with further information as to the restructure and of bringing ownership of the Applicant onshore an alternative restructure was put in place, Under this restructure, funds continue to be available to complete a negotiated acquisition.

SHP Comments on the Applicant's Response

As noted in SHP's response to this question and SHP's response to the written question CA.2.17 submitted as part of SHP's DL6 submissions [REP6-053], it is SHP's firmly held view, supported by the evidence, that the Applicant's engagement and correspondence with SHP has been purely tactical, and aimed at allowing the Applicant to maintain a pretence to the ExA that discussions are ongoing.

Whilst the Applicant refers to a new agreement with the DfT, the Applicant has misrepresented the position.

Written Question F.2.19

Resource Implications – Implementation of the Project

The Applicant is reminded that that DCLG Guidance related to procedures for the compulsory acquisition of land (DCLG (2013) Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land, April) states that:

"Any application for a consent order authorising compulsory acquisition must be accompanied by a statement explaining how it will be funded. This statement should provide as much information as possible about the resource implications of … implementing the project for which the land is required."

The Planning Inspectorate's advice to the Applicant under s.51 of PA2018, in a letter dated 14th August 2018 states that:

"…the Inspectorate considers that the Funding Statement poses substantial risk to the examination of the application."

Show what steps you have taken thus far to minimise that risk.

The Applicant's Response

The Applicant has made significant efforts to minimise the risk identified by the ExA in its section 51 advice. It has carried out a restructuring to replace the Belize registered company with a company registered in the UK. It has amended the joint venture agreement which now applies as between RiverOak Manston Limited and RiverOak Investments (UK) Limited to ensure that these companies are responsible for meeting the costs of compulsory acquisition and costs associated with the noise mitigation plan. The letter from PwC submitted with the application shows that the directors of RiverOak Investments (UK) Limited hold substantial funds to meet those costs, and the JVA commits them to using those funds to meet the costs associated with compulsory acquisition, and costs associated with the noise mitigation plan.

In addition the Applicant has provided further information as to the group structure including a letter from the accountants Calder and Co (at Appendix F.2.4 in TR020002/D6/SWQ/Appendices) and an updated Funding Statement at DL6 (document reference TR020002/D6/3.2).

SHP Comments on the Applicant's Response

The Applicant's answer is not credible. It is riddled with inconsistencies, misleading statements and errors that only serve to confuse the reader, as noted below.

Firstly, the restructuring is nothing more than window dressing as explained in more detail in our comments on question F.2.1. The Belize entity is still providing all the funding. It may have been replaced as 90% shareholder of the Applicant (i.e. 90p nominal value of shares) by a new SPV that is majority owned by a BVI company, but it is a fact that the shareholders of the Applicant have invested no equity (the share capital of £1 is unpaid) or provided any funding, whatsoever. The Belize entity, M.I.O. Investments Ltd remains the sole funder and has significant control through the JV Agreement submitted at DL5 as explained in section 2.10 of SHP's comments on the Applicant's written summary of oral submissions put at the CA hearing [REP6-052].

Secondly, the claim that the joint venture agreement has been amended to apply to *"RiverOak Manston Limited and RiverOak Investments (UK) Ltd to ensure that these companies are responsible for meeting the costs of compulsory acquisition and costs associated with the noise mitigation plan"* is bizarre.

This is directly contradicted by paragraph 12 of the Revised Funding Statement submitted at DL6, which refers to the JV Agreement submitted as appendix to [REP5-011] and M.I.O. Investments providing said commitment as funders of the project. These significant inconsistencies between the Applicant's submissions make it even harder to discern what the evidence is supposed to tell the reader.

If in fact the JV Agreement has been amended, why was the amendment or variation deed not submitted to the examination at DL6? It is particularly relevant, as, based on the documentation currently before the examination, the JV Agreement will have terminated as soon as MIO Investments Ltd transferred its shareholding in the Applicant under clause 16.1.1 of the JV Agreement (Appendix 4 of the Applicant's Written Summary of Oral Submissions put at the CA Hearing [REP5-011].

Thirdly, the Applicant continues to misrepresent what the PWC letter actually says. As we have stated previously and made clear at the CA hearing, the PWC letter simply confirms that certain levels of funds were held in a bank accounts on certain dates that Helix operate on behalf of certain clients. It does nothing more and provides no link to M.I.O. Investments or the Applicant's project.

The letter most certainly does not show, as the Applicant incorrectly claims, "*that the directors of RiverOak Investments (UK) Ltd hold substantial funds to meet those [compulsory acquisition / noise mitigation] costs"*. Furthermore the Joint Venture Agreement does not commit them to us "those" funds to meet the compulsory acquisition and noise mitigation costs.

The degree which the PWC letter has been misrepresented and exaggerated by the Applicant is inexplicable. It brings a recent "Facts First" advert that ran on CNN to mind. The advert starts with a picture of an apple and the voiceover states;

> *"This is an apple. Some people might try and tell you that it's a banana. They might scream banana, banana, banana over and over and over again. They might put BANANA in all caps. You might even start to believe that this is a banana. But it's not. This is an apple."*

The point we are trying to highlight is that Applicant continually repeats falsehoods about the significance of the PWC letter in the hope that they will eventually be believed. We would strongly request that the ExA seeks advice from the DfT or other Government department on whether the Government would ever place any reliance whatsoever on the letter of the sort included in the Applicant's application.

Fourthly, the additional information provided in the Applicant's answer to F.2.6 provides nothing of any relevance to the question posed by the ExA.

Written Question F.2.20

The Applicant is reminded that the DCLG Guidance related to procedures for the compulsory acquisition of land (DCLG (2013) Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land, April) states that:

"Any application for a consent order authorising compulsory acquisition must be accompanied by a statement explaining how it will be funded. This statement should provide as much information as possible about the resource implications of … implementing the project for which the land is required."

You stated in F.1.11 that:

"The Applicant will submit an updated funding statement as soon as the restructuring mentioned in the DL1 cover letter (REP1-001) is complete."

The ExA notes that an updated Funding Statement has not been provided at DL5 despite the Applicant's statement in its Response for DL1: Enclosure 1 to Main Letter re s51 Advice on Funding that:

"…it is anticipated that [the restructuring] will be complete and that further details can be put into the public domain by DL3 (8 February)."

Explain why you have failed to meet your anticipated deadline of 8 February, and subsequent Deadlines 4 (8 March) and 5 (29 March).

The Applicant's Response

The delay in the submission of a revised Funding Statement is a result of the delay in concluding the restructuring of the company. There are two reasons for the delay to the restructuring. The first being that external parties originally intended to participate in the restructuring were unable to meet the timescales inherent in the DCO examination process. Consequently a modified restricting has taken place which has brought the original MIO ownership onshore as anticipated at the compulsory acquisition hearing in March. That restructure was completed at the end of April. The second related reason concerns the complications surrounding the potential acquisition of the site as set out in response to question F.2.18 above.

SHP Comments on the Applicant's Response

The Applicant's admission that it has not been able to bring on board new investors during the examination process is revealing. However, it is wholly unsurprising given the lack of credibility attaching to the Applicant's proposals that would have been apparent to any credible potential investor that was following the examination closely. It is clear that the Applicant is unable to raise new funding from 3rd parties.

Written Question F.2.21

The Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated] states at paragraph 3.15 that:

"The Applicant has now spent £14.5m on the project …"

Provide proof of this statement.

The Applicant's Response

The Applicant has spent £12.8 million on the process to date as certified by its accountants (at Appendix F.2.21 part B in TR020002/D6/SWQ/Appendices). In addition £2.418 million on the acquisition of the Jentex site as shown in the completion statement (at Appendix F.2.7 part B in R020002/D6/SWQ/Appendices), giving rise to a total of £15.2 million spent on the project to date.

SHP Comments on the Applicant's Response

SHP would note the Applicant has provided no evidence on which any reliance can be placed that £12.8m of costs have been expended on the DCO process to date.

Again, the Applicant refuses to provide real evidence or detail, and has supplied a high level LIMITED ASSURANCE note from Calder & Co, that effectively confirms amounts received and spent. It is clear that Calder and Co has not undertaken a detailed review to audit actual expenditure to ensure that it does in fact apply to the project.

SHP cannot understand the Applicant's reluctance to provide any transparency. If all the costs have been appropriately incurred for the purposes of this project, then it could quite easily have provided a schedule that set out the main costs incurred.

For a DCO process, it would be expected that the fees of BDB Pitmans, Wood and RPS would comprise the vast majority of the Applicant's expenditure on legal and professional fees, and indeed its overall expenditure. Even if the Applicant was only to list out the fees (net of VAT) for each of these 3 firms, and have each provide a confirmatory note, which would provide some form of transparency that is sorely lacking.

Under the terms of the Business Investment Relief ("BIR") scheme that is being used by the Applicant's funders, clawback of the relief can be triggered where certain any potentially chargeable events occur.

In certain circumstances the entire amount of BIR can be clawed back even where breaches are minimal, therefore it is important that the ExA has sufficient transparency over the nature of the Applicant's costs to ensure that clawbacks would not be triggered. Clawbacks could have a material impact on the tax position of investors/funders and their ability to provide further funding (for which there is currently no evidence before the examination).

Written Question F.2.22

The Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated] states at paragraph 3.15 that:

"…[the] funders continue to have a further £30m set aside to include its costs until the grant of the DCO and to pay for land acquisition and noise mitigation costs."

You have provided a redacted copy of the joint Venture Agreement at Appendix 4 to Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated]. This Agreement is characterised as being a Loan Note Instrument constituting up to £15,000,000 interest-free non-convertible loan stock 2025.

Show where the remaining £15,000,000 is set aside.

The Applicant's Response

The PwC letter submitted with the application (Appendix 3 of APP-103) confirms the existence of two separate bank accounts, each with in excess of £15 million in unencumbered funds. Those bank accounts are held by investors in MIO Investments and now in RiverOak Investments (UK) Limited. The Joint Venture Agreement commits £15 million to funding the project that being the combined cost of compulsory acquisition and costs associated with the noise mitigation plan. There are further funds available when required albeit not specifically committed to the project. It is highly unlikely that RSP and its capital partners would walk away from the very significant financial and time commitment they have invested in this project to date.

SHP Comments on the Applicant's Response

Again, the Applicant has avoided the question posed by the ExA.

The Applicant refers to the PWC letter which confirmed the existence of two bank accounts with unencumbered funds. There is no evidence before the examination that substantiates that these bank accounts are held by investors in MIO Investments Ltd and RiverOak Investments (UK) Ltd, whoever they may be. There is also no evidence that these funds are still available or will continue to be available.

Written Question F.2.25

You have provided a redacted copy of the joint Venture Agreement at Appendix 4 to Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated].

This includes references to RiverOak Investment Corp. described as a Delaware limited liability corporation.

i. Provide the UK Company Registration number for RiverOak Investment Corp.
ii. Explain the role of RiverOak Investment Corp in the proposed project.

The Applicant's Response

i. RiverOak Investment Corp. is not registered in the UK so has no UK company registration. Its Delaware registration number is 3028870 see Appendix F.2.25 part A (in TR020002/D6/SWQ/Appendices).

ii. RiverOak Investment Corp (RIC) has no involvement in the proposed project. RIC was the original promoter of the project, but the Applicant bought all the rights in and obligations of the project from RIC in mid-December of 2016, at the same time that the Joint Venture (RSP) was formed. RIC has not had any involvement since it sold its interest in 2016. Prior to December 2016, George Yerrall and Niall Lawlor were partners of RIC and Tony Freudmann was acting as a consultant to RIC. On advice, RSP, a UK registered company was created to promote the DCO application. A letter to the then leader of Thanet District Council explaining RIC's role at the time is attached at Appendix F.2.25 part B in TR020002/D6/SWQ/Appendices.

SHP Comments on the Applicant's Response

ii. The Applicant's answer is contradictory. The Applicant attempts to explain that RSP was created to promote the DCO on advice, but also confirms that RIC decided to sell its interest and have no further involvement after the disposal in mid-December 2016. The creation of RSP, was wholly independent of RIC, being set up by Mr Freudmann in July 2016 with himself as the sole shareholder. RIC was not involved, therefore it is unclear how this relates to the RIC letter that was appended to the Applicant's answer. Again the answer given is imprecise.

Written Question F.2.26

You have provided a redacted copy of the joint Venture Agreement at Appendix 4 to Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated].

This states at paragraph 9.2 that:

"The first Business Plan shall be prepared by the Board as soon as reasonably practicable following the occurrence of the Project Success Event"

i. Explain the status of the business model provided at Appendix F.1.5 of Appendices to Answers to First Written Questions [REP3-187].
ii. Define 'Project Success Event'.

The Applicant's Response

i. The first Business Plan referred to in paragraph 9.2 is a commercially sensitive internal document which informed the investors' decision to fund the DCO process. The business model provided to the ExA is derived from the Business Plan but is an edited version of that document for reasons of commercial confidentiality.
ii. "Project Success Event" is defined in the Joint Venture Agreement (Appendix 4 to REP5-011) as:

the later of the following events:

• the Secretary of State for Transport (or such other relevant government officer) having granted a Development Consent Order pursuant to sections 104 or 105 of the Planning Act 2008 (including powers, rights and authorisations needed to acquire the and registered at the Land Registry with title number K803975) provided that no application for permission to bring judicial review proceedings has been made within the requisite time period for bringing such application (being, as at the date of this agreement, six weeks from the date of the Secretary of State's decision to grant the Development Consent Order); and
• a final judgment from a court of competent jurisdiction dismissing any judicial review proceedings in respect of the Development Consent Order.

SHP Comments on the Applicant's Response

i. The Applicant appears not to understand its own JV Agreement and the definitions therein. Paragraph 9.2 of the JV Agreement refers to the first Business Plan that is prepared after a Project Success Event. As inferred in the Applicant's answer to F.2.26(ii), there has not been any Project Success event yet and therefore the Business Plan referred to in paragraph 9.2 could not have been prepared. The Applicant must be referring to

a different Business Plan. Whilst this may appear to be relatively minor observation, it is another example of the Applicant not knowing what its own application and documents say.

It now appears that the Applicant is unwilling to provide any further evidence to the examination on its business plan. SHP has set out in its previous submissions there is a material lack of information and evidence before the examination that would allow for an adequate testing of the evidence and a fair chance for SHP to present its case.

Written Question ND.2.1

Forecasts
While accepting that there may be no standard methodology for forecasting air freight, in the Need and Operations Hearing (21/03/19) it was accepted that the Azimuth report [APP-085] did not account for viability and that the forecasts contained within the ES were indicative.

Given the above, are the Azimuth forecasts effectively therefore an assessment of potential, or a wish list?

The Applicant's Response

The Azimuth Report doc ref] provides an assessment of potential demand in the South East of England, which is known to experience significant capacity constraints. Volume II of the report provides a qualitative study of potential demand for Manston airport, informed by the assessment of overall demand in the South East in Volume I The forecast contained in Volume III in turn draws on the qualitative study of potential demand. The forecast is more than a wish list or assessment of potential. Rather, it is an evidence based assessment of likely levels of cargo and passenger traffic at Manston.

The viability assessment is a separate consideration. It is informed by the forecast demand for Manston airport and considers whether the infrastructure required to meet that demand can viably be delivered. The fact that the forecast is separate from the viability assessment reinforces the independence of the forecast. It was not prepared to produce any specific number of ATMs to show that the project would be viable. It was for the Applicant to consider whether the project was commercially viable. This was not part of the Azimuth Report.

This would be the case in any sector. For example, the forecast for the need for a particular pharmaceutical product would show the number of people likely to be affected by a particular condition over a period of years. A viability study would show whether the size of the potential market would warrant the investment in research and development of a product to target the condition.

As with the air transport forecast for Manston Airport, the need is clearly demonstrated through the need case and the forecast, with viability considered separately.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The Applicant continues to claim that Vol II of the Azimuth Reports "is an evidence based assessment of likely levels of cargo and passenger traffic at Manston". This is patently nonsense as was made clear at the Oral Hearing on Need and Operations, where Dr Dixon conceded that she had provided a general assessment of the scale of the market that Manston might attract rather than a specific forecast of what it would attract when specific considerations of cost and viability are properly taken into account. In this answer, the Applicant seeks to construe that commercial viability is considered independently of Azimuth forecast, which may be true in relation to the viability to the Applicant in its own business model (albeit this is not what is stated in the Application Documents – see York Aviation Report February 2019, para. 7.3). However, a forecast of the use of an airport cannot be made without giving consideration to the relative price to users. Usage is not independent of cost, as indeed Northpoint acknowledge in their report submitted at Deadline 4 at para. 67. Price is vital to understanding the extent to which any capacity provided might actually be used in practice. Given the Applicant's stated intention to be a 'price setter' and the high level of charge per movement or per tonne indicated in the 'business model' spreadsheet submitted, applying these to the likelihood of the capacity being taken up or, in other words, the forecasts being realised is essential."

Written Question ND.2.2

Forecasts
The forecasts in the Azimuth report [APP-085] result partly from discussions with industry figures. Of these 24 interviewees seven could be described as local businesses, with a further two as Kent promotional bodies.

At the Need and Operations Hearing (21/03/19) you stated that these were supplemented with interviews and conversations with other experts and industry figures.

Provide further evidence over such conversations and discussions, including a list of those interviewed and their conclusions relating to the proposed scheme.

The Applicant's Response

Numerous conversations and discussions took place with industry members which informed the figures in the Azimuth Report. These include representatives from key UK airports and from a range of airlines. These discussions are commercially sensitive and necessarily confidential, both in the detail of the conversation and in the identity of the airport/airline.

The Applicant has also been in contact with industry bodies including attending the London Infrastructure Summit at the invitation of London First, is in regular contact with international aviation organisations such as Bas International, worldwide aircraft charter experts, and potential users of Manston Airport such as Sound Moves.

Interviewees were not invited to express conclusions on the proposed scheme. Rather, they were asked to provide insight on current limitations and opportunities in the sector. A key issue raised in those discussions was the capacity constraints in the UK's airport infrastructure in the South East. Constrained airports generally tend to favour the passenger market with the result that dedicated freighters can experience difficulties getting landing/take-off slots, rapid handling and sufficient and suitable warehousing.

SHP Comments on the Applicant's Response

SHP considers it astonishing that the Applicant can think it reasonable to respond in the manner it has to direct, clear requests for information from the ExA.

With regard to the answer provided we would refer the ExA to the following comments extracted from York Aviation's note (see Appendix 1):

"We note that the ExA asked for evidence on "interviews and conversations with other experts and industry figures" carried out by the Applicant and their "conclusions relating to the proposed scheme". It is extraordinary that there are only 3 examples cited in response, none of which are leading cargo industry experts.

First of all, an invitation to attend the London Infrastructure Summit is nothing more than an invitation to send a delegate to a conference. There is no evidence that RSP has been invited to speak at the summit, nor the extent to which the proposed development at Manston is supported by London First or other sponsors of the Summit.

The second company/organisation cited, BAS international, are a broker leasing aircraft for business aviation use. They are not a player, major or otherwise, in the international airfreight sector. Any comments made by them will relate solely to slot constraints for business aviation activities at the main London airports and are not relevant to the position for freighters.

The third company, Sound Moves, operate a niche business for moving music equipment and staging. At best, this would be a limited operation with a handful of flights a year. By way of example, they are stated as currently using Doncaster Sheffield Airport for their operations (Answer ND.2.5). Total cargo ATMs at Doncaster in 2018 were less than 150 according to CAA Airport Statistics, of which Sound Moves will not account for all of the movements. This would represent a very small niche operation.

In total, this response provides no evidence of an ongoing dialogue with any of the users which it is claimed by the Applicant might use Manston for cargo operations. In order for the Applicant's forecasts to be realised, it would be necessary for an operator of dedicated cargo flights on a substantial scale to be attracted. There is absolutely no evidence that the Applicant is actually engaged in any sort of dialogue with such operators."

Written Question ND.2.3

Forecasts - Exports At the Need and Operations Hearing (21/03/19) it was stated that of the proposed perishable goods, there was a clear demand for importing such goods and also for exporting fish and shellfish. Markets also being targeted include F1 cars and racehorses.

i. Confirm the expected business generated from such exports (in terms of tonnages and ATMs.
ii. Confirm (or otherwise) that there would be little market for exporting other perishable goods.
iii. Which airport(s) do fish and shellfish currently export from?
iv. iv. Which airport(s) do a) race horses, b) F1 cars, and c) luxury cars currently import and export from? v. Would the export of such goods from Manston have displacement effects in socio-economic terms?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response by the Applicant ignores nature of fish and shellfish trade. Somewhat misleadingly, the Applicant cites figures for total export volumes related to seafood. This includes exports in refrigerated ships to countries such as Ireland, France and Spain which are 3 of the 4 top markets and, self evidently, most likely to be served by refrigerated ships or trucks. As is made clear in the Steer Report for Airlines UK (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, para. 20) [REP5-031], export of salmon products makes up a substantial portion of the trade and this is distributed globally using bellyhold capacity available from Heathrow, with the US being a large market related to its place in the top 4 export markets for fish from the UK.

In any event, it is far from clear how 1 flight a week (for 26 weeks of the year) would meet the requirements of this trade and would offer any practical time advantage such as to justify the use of air freight rather than sea or truck.

Other niche markets related to race horses, F1 and rock bands are cited as potential for Manston. However, it is far from clear how the suggestion of 2 based aircraft operating 4 flights a week would be viable for an airline. Furthermore, there is no evidence of this scale of demand for such niche markets. The comment made that Manston may only receive part loads on such aircraft strongly suggests, in any event, that any such operations would not be aircraft based at Manston. Furthermore, as has previously been pointed out at the Hearings, other airports such as Stansted and Doncaster are better located in relation to much of the horse racing trade and East Midlands would be the best located airport for F1 operations which are to a large extent centred in the East Midlands Region in the vicinity of Silverstone.

The claim that such services might use Manston relies, once again, on the unsubstantiated assertion that MAG will seek to displace such freighter activity from Stansted. Even if that was the case, which we do not believe, for such niche air cargo operations, it is hard to see how 1 or 2 flights a week by such activity would justify the investment of £186 million necessary to reopen Manston as a cargo airport in the first instance."

Written Question ND.2.4

Forecasts - Exports

Paragraph 3.2 of Volume 3 of the Azimuth Report [APP-085] states that export would be to countries including global for parcels and packages, China for the export of luxury items, the Middle East for export of fish and shellfish, Pakistan for the export of consumer goods, Russia for the export of luxury items and the US for a range of exports.

Provide further information on the precise nature of such exports and likely market size, aside from those dealt with under ND. 2.3.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The Applicant again provides secondary data about export and import markets. This response is not supported by any analysis of what commodities would use Manston or why. On what basis is it considered realistic that Manston would obtain a 6% share of import tonnage and 14% share of export tonnage to/from the UK's top 15 Non-EU trading partners. No explanation is provided as to what would drive a preference by exporters to use Manston? All the response does is to take the Azimuth forecast as a given and then describe the consequences. This provides no evidence as to the likelihood of it being achievable."

It is also worth placing the Applicant's claims that, if all tonnages are used, the forecast assumes Manston secures 6% of non-EU imports and 14% of non-EU exports, in context.

Firstly, Table 14 of the CAA statistics for 2018 show there was a total of 2.067 million tonnes of air freight to/from non-EU International trading partners. Of this, Table 14 shows 87% was carried in bellyhold and only 13% (279k tonnes) in dedicated freighters. Therefore, applying an appropriate split between imports and exports, the Applicant appears to be claiming it will capture 60%-70% of the entire market for non-EU air freight carried in dedicated freighters. This is simply not credible.

Secondly, the Applicant's answer again highlights the fundamental contradictions between the forecast freight flows and the assertions made regarding the e-commerce integrator model. This contradiction has been explained in previous submissions, and it is noted that it is the subject of a further question from the ExA.

Written Question ND.2.5

Forecasts

It is stated in the Applicant's Written Summary of Case put Orally – Need and Operation Hearing [Submitted at DL5, Ref not yet assigned] that Manston would offer "*unconstrained, state of the art freight, digitalised freight handling facilities - speciality handling (for race horses); refrigerated storage facilities; flexible warehousing (eg to accommodate*
outsized freight) and security clearance" and that this would be an offer will provide "something that has not been done in this country before"

i. How would such an offer differ from those already available at existing UK airports?

ii. Do other UK airports offer speciality handling for race horses?

iii. Do other UK airports offer refrigerated storage facilities and accommodation for outsized freight?

iv. "*State of the art freight, digitalised freight handling facilities*" implies a high level of automation and efficiency. Has the provision of such facilities been taken into account in the socio-economic forecasts?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response simply repeats thesis of congestion at other airports, which we dispute (see York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 – ND.1.13, ND.1.15, ND.1.16, ND.1.18) and that Manston will be state of the art meaning that it will attract operators away from these other airports (i.e. displacement of activity). This appears to ignore investment in new state of the art cargo handling facilities at East Midlands and Heathrow, in particular the developments underway at both locations by SEGRO.

This response also contains the extraordinary claim that Manston would offer a "value for money proposition", despite the fact that the business model shows the costs of using the facility to be between 3 and 6 times the charges levied at other airports (see York Aviation Report February 2019, para. 7.36). There is no evidence that other airports would not provide facilities for "refrigerated storage and outsized freight" if there was a business case for doing so.

The response goes onto say that automation would have no effect on predicted job numbers. However, on the one hand the Applicant claims airports like East Midlands are not operating state of the art facilities employing the latest technology, on the other hand it persists in wrongly applying the overall employment density (jobs per workload unit including non-aviation jobs) for East Midlands as the basis for its employment projections (see further comments on answers to SE.2.2 and SE.2.4 below). This is contradictory and inconsistent."

Written Question ND.2.6

Forecasts A question was put at the Need and Operations Hearing (21/03/19) concerning proposed freight tonnages per movement contained within the forecasts, which appear to be lower than was historically the case. Section 8.7 of the Altitude Aviation January 2018 report (included with Appendix 5 of SHP's Written Representations [REP3-025]) refers, and notes that East Midlands is the only airport in the EU top 20 (by tonnage) with a lower ratio of freight tonnes per freighter flight than the average projections for Manston, which is explained in Altitude Aviation's view by the extensive integrator operations at East Midlands Airport and that airports without integrator operations (or with a mix) tend to achieve significantly higher freight tonnes per freighter flight.

Provide further justification for your ratio of freight tonnes per freighter flight.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The tonnage per movement set out in the Azimuth report is reflective of the erroneous fleet mix, including a substantial number of ATR72 turboprop aircraft necessarily carrying a limited load. The explanation provided by the Applicant in this response is simply illogical. If the intention is for the e-commerce integrator to be supplying product to fulfilment centres in the UK, why would outbound flights by larger aircraft carry 100% load and inbound flights 20%. Nor does it make sense for the small feeder flights to carry 100% inbound as this would imply that Manston would be functioning as a hub operation with product shipped in on small aircraft to be shipped out again on larger aircraft. This does not fit with the business model otherwise described by the Applicant or its attempt at a justification as to why such an e-commerce integrator would locate at Manston. The whole story of the role of e-commerce is illogical. To the extent that there is a market for this type of activity, it is to bring product to the UK for UK-wide distribution. Any hub would logically be located near the centre for production of the goods within the UK, to the extent to which there are UK goods for export, and be far more likely to be in the Midlands for the distribution of inbound goods and not at Manston."

Written Question ND.2.7

Forecasts – Bellyhold and Pure Freight
It is stated in the Applicant's "Written Summary of Case put Orally – Need and Operation Hearing" [submitted at DL5, Ref not yet assigned] document that the applicant believes that the cost difference between flying cargo on freighters as compared to bellyhold transit are not as substantial as stated by other parties. The ExA notes a commitment to undertake further research into this area.
i. When will the results of such research be available?
ii. Should such research not have been completed earlier to help inform the business case?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

i. The Applicant has been unable to provide any evidence to substantiate its assertions, or dispute the evidence from York Aviation.

ii. The assertion *"[T]his information was not required as part of the business case"* and the rationale given is truly astonishing.

The Applicant has now admitted that neither (i) the forecasts prepared by Azimuth Associates nor (ii) the so-called "business plan" gave any consideration to the relative costs of transferring air freight. This is simply not credible, given the importance of costs to stakeholders.

As highlighted in Appendix 2.1 to SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [Rep5-029], paragraph 4.1.9 of Volume II of the Azimuth Report [APP-044] states that one of the interviewees, when asked to rank issues that are important to its business, responded, *"Cost is always the most important"*.

In order to properly inform discussion, not only does the ExA need to know what the costs are, it needs to see a fully transparent business case justifying those costs (as well as the revenues) and explaining how they are consistent with a deliverable development.

We also note below additional commentary from the York Aviation note (see Appendix 1):

"It is notable that the Applicant is unable to identify any research or data which disputes our analysis of the order of cost difference between dedicated freighter operations and bellyhold freight (York Aviation Report February 2019, para. 4.7) [REP3-025], but, nonetheless says it continues to dispute the estimated order of magnitude of the cost difference. It is simply not credible for the Applicant to say that the cost difference is not relevant to RSP's business model as there will be other reasons why dedicated freighter aircraft will be used. This may be true for niche specialist cargos but does not apply to the bulk of general cargo. It is this latter cargo which makes up most of the trucking operations, the interception of which Northpoint rely on to justify its version of the tonnage forecasts for Manston (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, paras. 37 and 38) [REP5-031]. All the evidence points to cost efficiency being a significant factor in the decision as to how cargo is moved, particularly for trucked freight upon which the Applicant continues to rely in this response.

In the light of the business model information provided by the Applicant, it is not credible to claim that Manston would offer "a strong value for money proposition". To the extent that asserted time savings are a factor due to lack of congestion, the Applicant offers no quantification of the value of these time savings to cargo shippers, taking into account access times from the origin/destination of the goods, which could be offset against the higher charges it proposes to levy. "

Written Question ND.2.8

Forecasts
The Northpoint report [REP4-031] contains statistics concerning air cargo trends in the UK and major EU cities, considering that a change in air freight tonnage since 2000 can be explained as being relatively recent in nature and local to London and the South East, and that this is as a result of capacity constraints.

A further interpretation could be that the rest of the UK outperformed London and the South East, due to availability and the location of East Midlands, in the centre of the country with the South East, Midlands and northern cities within reach.

What is your view on this interpretation?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"Whilst faster growth of freight activity at East Midlands Airport may not be reflective of a stronger regional economic performance, it is reflective of the emergence of a 'golden triangle' for UK Logistics operations in the Midlands, which is able to serve large parts of the UK effectively. It is clear that East Midlands is geared up for major increase in freight tonnage supported by extensive logistic infrastructure development in the East Midlands Gateway and with the express support of local planning policy. Trucking of freight to Liege and to East Midlands is reflective of the air freight industry structure not the specific consequence of constraint in London and reflects the efficiency of centrally located hub operations. The repeated assertion that East Midlands is facing capacity constraints is not borne out by the facts, including evidence that the Airport is constructing additional aircraft stands as demand grows alongside facility developments by other parties such as UPS and Amazon (see York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 – ND.1.15 [REP4-065] and https://mediacentre.eastmidlandsairport.com/new-facilities-for-east-midlands-airport-passengers/) [REP4-065]."

Written Question ND.2.9

Forecasts
The chart set above paragraph 8 in the Northpoint report [REP4-031] appears to show a levelling out in 2017.

Is this more symptomatic of the overall period since 2000 as opposed to a longer trend from 2014 going upwards?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In this response, the Applicant seeks to dismiss the impact of the current downturn in global air freight tonnages. It is important to note that we did not factor the short term down turn into our assessment of whether there is a need for additional cargo handling capacity at Manston (see York Aviation Report, February 2019, Figure 4.7). Even without slowing the growth in the early years, there is no need for Manston."

Written Question ND.2.10

Forecasts

The Northpoint report [REP4-031] contains references to work carried out by Ramboll and Oxford Economics in 2014. York Aviation on behalf of Stone Hill Park Ltd state that the quotations used from this work are selective and uses graphs inconsistently. They consider that this work explains why fewer dedicated freighters are needed at London due to bellyhold capacity. Charts are provided from the work showing actual and forecast London Trend Bellyhold and dedicated freight growth from 19902050, with the same charts for the UK.

Provide further commentary on this report, addressing the points raised by York Aviation.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response seeks to downplay the significance of the use of the wrong charts from the Oxford Economics/Ramboll work for Transport for London (TfL). It is clear that, when properly read, this work demonstrates that the growth in demand is for bellyhold capacity not pure freighters in the London area. This is a key point. When read as a whole, in the context of the Mayor's position in relation to the need for hub capacity to serve London (on which York Aviation were concurrently working alongside Oxford Economics and Ramboll), it is clear that this analysis reflects the shortage of hub capacity for passenger and bellyhold operations combined rather than any shortage of capacity for dedicated freighters."

Written Question ND.2.11

Forecasts At the Need and Operations Hearing (21/03/19) it was stated that the forecasts contained within the Azimuth report [APP-085] were indicative.

i. Provide more information on such forecasts and their indicative nature.

i. If indicative, what is rationale of using named carriers in developing the forecasts?

ii. How certain are you that the indicative volumes and aircraft types would be likely to fulfil such forecasts? iv. Do the forecasts provide a realistic indication in your view; have the forecasts been subject to sensitivity testing/analysis?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The final version of Azimuth Reports may not identify carriers specifically but the fleet mix in the ES, which was stated by Wood at the Hearings to be derived solely from the work of Azimuth, does and this level of detail has been used to inform the environmental assessment along with the specific markets proposed and sector lengths (relevant to air quality and climate change considerations). The Applicant cannot resile from this as its evidence.

The response continues to claim that the forecasting methodology is robust, relying on Northpoint's attempt to corroborate the Azimuth results (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5 (paras. 28-38) [REP5-031]. The response fails to provide the additional evidence to justify the forecasts requested by the Ex A and self-confessedly has failed to take key factors into account (see comment on ND.2.1 above)."

Written Question ND.2.12

Forecasts - Integrator

At the Need and Operations Hearing (21/03/19) it was stated that the integrator indicated in the forecasts would be a new integrator, as opposed to attracting an existing integrator from an existing airport. Mention was made of Amazon Air and Alibaba.

The ExA notes the evidence in this regard of York Aviation on behalf of Stone Hill Park Ltd, who state that Amazon has an embryonic operation in the UK with a leased Boeing 737 freighter operating to East Midlands Airport and is opening a 500,000 sq.ft. warehouse and sorting centre adjacent to this Airport, and that Alibaba has committed to establishing its main European hub at Liege Airport [Written Summary of Stone Hill Park Ltd's Oral Submissions put at the Need and Operations Issue Specific Hearing Held on 21 March 2019, submitted at DL5 reference not yet assigned].

i. Outline any discussions you have had with new integrators and quantify the likelihood of such operators coming to the Airport in the second year of operation, with reference to their expansion or growth in similar markets to the UK.

ii. Would such integrators not be predisposed to a more centrally located airport where the whole of England could be reached more easily?

The Applicant's Response

i. Discussions have taken place with new integrators in the US and the Far East. This is a dynamic and rapidly developing sector to which huge sums of money have been allocated for the creation of new channels of distribution in the UK and throughout Europe. So far indications are that at least two of the new integrators would make an early commitment to Manston as soon as its status as an operating airport can be confirmed.

ii. The attraction of Manston to such integrators is that it has no daytime slot constraints, unlike EMA for example, and also its proximity to the UK's largest market in London and the South-East of England.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The Applicant claims that two of the new integrators would make an early commitment to Manston but this is not supported by any evidence, nor are such integrators referred in response to question ND.2.2. In any event, East Midlands Airport is expanding facilities expressly for Amazon, which is developing a major fulfilment centre as part of the East Midlands Gateway. The answer does not provide any evidence that could be relied on. The assertion that East Midlands Airport has daytime slot constraints is without evidence and highly unlikely to be true."

Written Question ND.2.13

Forecasts – Integrator

At the Need and Operations Hearing (21/03/19) it was stated that the new integrator would be different to old integrators and would not be reliant on night time flights. In this regard the ExA notes the evidence provided by Altitude Aviation [Written summary of Stone Hill Park Ltd's oral submissions put at the need and operations Issue Specific Hearing held on 21 March 2019, submitted at DL5, reference not yet assigned] which provides a table which lists all flights for the first three Amazon Air aircraft registrations (as listed alphabetically) for the week 15-21 March 2019 in the USA. This table shows a large number of night flights.

i. How would such an integrator dovetail with the proposed night flight ban at Manston?
ii. Provide examples of existing flight schedules from new integrators where they exist to demonstrate likely flight times (in terms of times of day).

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"Despite the evidence provide by Altitude Aviation Advisory at Deadline 5 [REP5-029], the Applicant continues to assert that new e-commerce integrators would prefer to fly during the day on the basis that flights are not related to the achievement of delivery times but to restocking of fulfilment centres. However, in order to meet the delivery times required, goods need to be dispatched in the morning from these centres, requiring the restocking operation overnight. Overall, this response is muddled and inconsistent with other answers (ND.2.6, 2.14). If the requirement is for goods from overseas to be air freighted into stock fulfillment centres in the UK, this is inconsistent with the earlier answer that the widebodied aircraft would be carrying 100% outbound loads but only 20% inbound. This simply does not make sense. If the small feeders aircraft from Europe are bringing in imports to be distributed overseas by widebodied aircraft, how does that relate at all to stocking of fulfilment centres in the South East of England."

Written Question ND.2.14

Forecasts – Integrators

At the Need and Operations Hearing (21/03/19) Rockford International Airport was raised as an example of rapid growth at an airport mainly due to the presence of an e-commerce integrator. The ExA notes the stated proximity of this airport to Chicago.

i. Amazon Air operate in the US where distances are significant between centres of population. How would such a model relate to possible operations in the UK, where population centres are closer together and trucking times therefore shorter?
ii. What are the characteristics of Rockford Airport in terms of local population, access to markets, positioning within the US and night flight controls, and how do these relate to Manston Airport and to the UK market?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In this response, it is claimed that the e-commerce integrator would be serving routes mainly to the US and Far East. It is totally unclear why an e-commerce integrator would be concentrating on exporting goods to the Far East and the USA as stated in the response to ND.2.6. Surely the key feature of Rockford and the role it plays in the US supply chain is its central location between E and W coasts of the USA. The UK equivalent would be East Midlands and for Europe, this role is fulfilled by airports such as Liege and Leipzig."

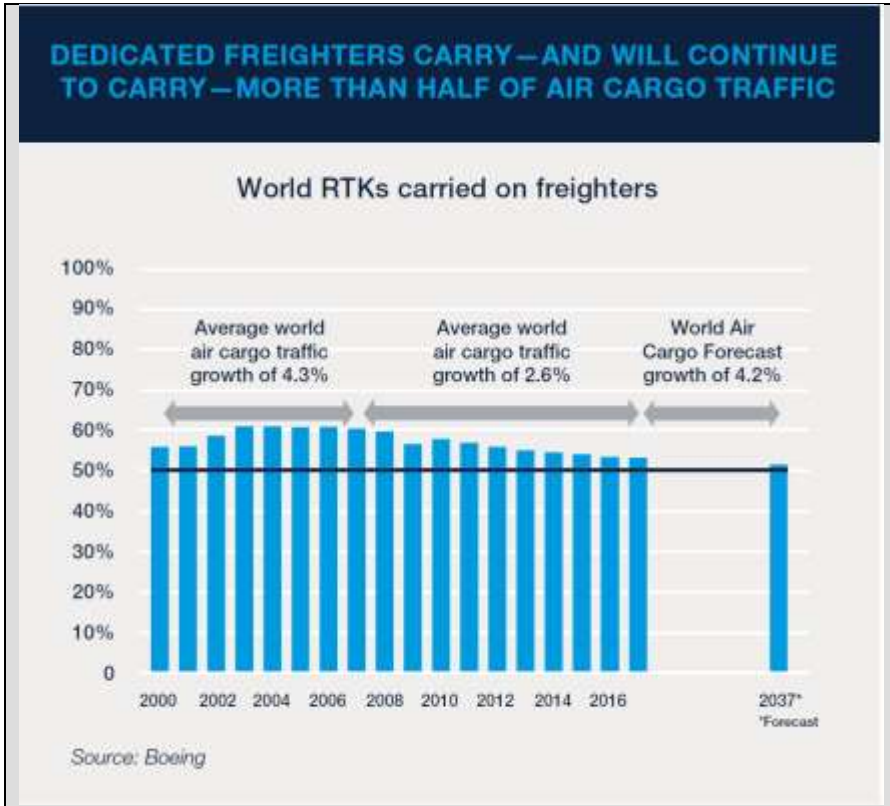
It is also worth noting, that the increase in freight flowing through Rockford principally related to UPS's presence, and the transfer (i.e. displacement) of UPS operations (13 daily flights to Rockford International) from Des Moines airport. This was set out in in paragraph 3.19.4 of SHP's DL6 submission [REP6-055.

Written Question ND.2.15

Forecasts
Various evidence [including but not limited to APP-085, REP3-195] refers to freight forecasts provided by Boeing and Airbus.

i. What is the purpose of such forecasts – why do Boeing and Airbus produce such forecasts?
ii. Have they been historically correct?
iii. Boeing predict highest Europe rises in freight between the continent and South America and East/South Asia. Would such markets be best suited by bellyhold from hub airports to by pure freighters?
iv. Do the reports state or infer that pure freight is increasing at the same rate or higher than bellyhold?

The Applicant's Response Please refer to the Applicant's answer as set out in REP6-012.
SHP Comments on the Applicant's Response Comments extracted from York Aviation note (see Appendix 1): *"The response provided regarding the accuracy of Boeing and Airbus forecasts shows that Boeing was reasonably accurate in a 20 year projection of the total aircraft fleet but overstated demand for pure freighter aircraft by 25%. What the graphic provided shows is a reasonable degree of accuracy in forecasting total aircraft and revenue passenger miles but a significant overstatement of demand for pure freighters. The Applicant is wrong to state that Boeing does not project a decline in the share of freight carried in dedicated freighters globally. The Boeing 2018 Forecasts (https://www.boeing.com/resources/boeingdotcom/commercial/market/commercial-market-outlook/assets/downloads/2018-cmo-09-11.pdf) actually show a predicted reduction in the share of FTKs on freighters:*



The reduction in the share of freighter aircraft movements will exceed that of RTKs due to increased tonnage per aircraft. If cargo growth undershoots 4.2% p.a. as seems likely given short term trends, the role of freighters is likely to be less (compare the previous period with 4.3% growth to the more recent period with 2.6% growth when the role of freighters declined).

The analysis of currently served routes from Heathrow only serves to emphasise the breath of destinations available on a bellyhold basis from Heathrow. It is the Government's intention that a substantial proportion of the new capacity offered by R3 will be used to allow additional global points to be served. To the extent that there remain gaps in the network, it is difficult to see how the operation of dedicated freighter aircraft to fill these gaps would be viable as levels of demand are likely only to warrant infrequent services, which would result in freight being delayed compared to using well established bellyhold hub routings."

Written Question ND.2.16

Your answer to ND 1.17 [REP3-195] appears to state that food is a high value, low weight freight type.

Is this a correct interpretation of your answer?

The Applicant's Response

Yes. 95% of the fruit and half of the vegetables in Britain are imported. Since 1992, the amount of food being flown into the UK has risen by 140% and is predicted to rise further each year. This category includes such items as green beans, asparagus, strawberries and out-of-season or exotic fruit, and fish and shellfish.

SHP Comments on the Applicant's Response

Whilst the Applicant has arguably answered the question by stating *"Yes",* it has provided no commentary to evidence this. A list of types of fruit, vegetables and shellfish that may be flown in/out of the UK without any analysis of the size and geographies of the relevant markets that require transportation by air freight is meaningless.

Comments extracted from York Aviation note (see Appendix 1):

"This response does not address the question posed. Fruit and vegetables are relatively high weight/low value compared to say diamonds or specialist pharmaceuticals or electrical components, for example."

Written Question ND.2.17

Your documents cite various evidence sourced from reports produced by York Aviation for Transport for London and the Freight Transport Association. At the Need and Operations Hearing (21/03/19) the author of these reports disagreed with your interpretation of such reports, considering that the evidence had been sourced out of context and did not take account of the conclusions of the reports.

i. What is your view on this?

ii. Do you still maintain that the York Aviation reports support your proposal, contrary to the view of the authors of these reports?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In relation to the repeated references to York Aviation's work for TfL and the FTA, the reports when read in their entirety do not support the Applicant's view. Whilst TfL may well have stated that the reports were unambiguous and that they had relied on them, it is our understanding that they were not specifically asked in relation to the implications for Manston. The Applicant needs to provide evidence to support its claims. It is simply not reasonable to accept the Applicant's interpretation of these reports over those of the authors, particularly when evidence has been produced to demonstrate that the methodologies used within them when applied to the current market position simply demonstrate that there is no role or need for Manston (York Aviation February 2019 Report, paras 4.31 to 4.41) [REP3-025]. We do not resile from the point made in the report regarding the potential additional trucking cost to shippers but it does not follow that the solution was ever the need for a dedicated freighter airport, rather the need was and is for more hub airport capacity at London providing bellyhold freight capacity, which R3 at Heathrow will provide. The ANPS rightly recognises that the 3rd runway at Heathrow is the means of addressing this need."

SHP would also respectfully refer the ExA to paragraph 4.5 (and relevant sections of Appendix NOPS.5.1) of SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [Rep5-029].

Written Question ND.2.18

Forecasts

York Aviation [Written summary of Stone Hill Park Ltd's oral submissions put at the need and operations Issue Specific Hearing held on 21 March 2019, submitted at DL5, reference not yet assigned] on behalf of Stone Hill Park state that the reason that trucking is common place within the general and integrator sectors relates to the price of aviation fuel, noting that since 2000, the price of aviation fuel has risen by 123%. They consider that this increase in the cost of air freight, and dedicated freighter operations in particular, is the primary reason why consideration of air freight trends prior to 2000 is no longer relevant and that the slowdown in growth in air freight tonnage reflects a shift in the balance towards trucking and even towards shipping for some goods that might previously have used aviation.

Comment on this viewpoint, providing evidence.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"To assist the ExA, we have set out below the information on fuel prices relative to 2000. This is taken from Platts (https://www.spglobal.com/platts/en/oil/refined-products/jetfuel). The chart provided by the applicant deals only with fuel prices since 2012, the relativity to 2000 is shown below.

$201.62 cts/gal

	SHARE IN WORLD INDEX	CTS/GAL	$/BBL	$/MT	INDEX VALUE 2000=100%
Platts Global Index	100%	201.62	84.68	667.73	231.48%
Platts Regional Indices					
Asia & Oceania	22%	194.91	81.86	646.72	233.90%
Europe & CIS	28%	200.10	84.04	662.25	226.43%
Middle East & Africa	7%	192.00	80.64	636.22	240.81%
North America	39%	207.47	87.14	688.39	231.65%
Latin & Central America	4%	209.42	87.96	677.27	243.65%

This data (as referred to in the York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, para. 19) [REP5-031] confirms that fuel prices have risen by 131.5% since 2000. This increase brought about the change in the trend towards more trucking and less use of dedicated freighters. The more recent smaller magnitude falls have not been sufficient to reverse this trend.

The hypothesis that air freight does not lend itself to trucking does not bear examination. As the Steer Report for Airlines UK makes clear (see York Aviation Report February 2019, paras. 4.13-4.15) [REP3-025], there is substantial trucking into Heathrow from Europe to avail of transatlantic bellyhold capacity so the flow is not just one way.

The comments made in the response about rapid delivery with e-commerce appears, again, to contradict the claims above that e-commerce integrator freight will be less concerned with overnight speed of delivery and so be willing to operate in the hours when Manston is open."

Written Question ND.2.19

Show where and how you have factored in possible impacts from Brexit on your proposals, both in terms of economic effects and in terms of possible additional intra-European flight checks and security.

The Applicant's Response

It has not been necessary to explicitly factor in possible impacts from Brexit into the Applicant's proposals, because:

- The implications of Brexit are not yet fully known. It may well be the case that the UK's interest in forging new trading links beyond the EU will further add to the demand for Manston airport. Any problems or delays at port borders may also increase the attraction of Manston to the market. Given the uncertainty around Brexit these are not factors which have been taken into account in the forecasts.

- The Airport is being set up to trade globally and as such any distancing that is introduced between the UK and the EU would simply be dealt with in the same way as exists today between the UK and non-EU jurisdictions.

It is recognised that there may be some additional checks to be performed for passenger operations as a consequence of Brexit but these are not envisaged to be a major issue. Indeed, the airport passenger facilities are intended to be configured such that non-EU flights will be accommodated, which may simply mean all non-domestic services depending on the eventual outcome of Brexit.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response fails to address the possible economic effects of Brexit on GDP and demand. This is likely to far outweigh any temporary friction at the border, particularly given the emphasis on agreeing electronic solutions to border controls."

Written Question ND.2.20

Stansted Airport

In answer to question ND1.18 concerning Stansted Airport you provide a graph showing capacity available at the Airport. The graph shows substantial capacity available for flights at Stansted between 00:00 and 05:00, as well as 08:00-10:00 and 20:00-21:00 and lesser 21:00-24:00.

Is this correct?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response simply repeats unsubstantiated assertions about capacity constraints at Stansted. We have already made the position clear at ND.1.13, ND.1.18, ND.1.31, ND.1.39 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4. [REP4-065]".

Written Question ND.2.21

Stansted Airport

At the Need and Operations Hearing (21/03/19) it was stated that the recent planning consent to allow Stansted Airport to expand to 43mppa also removed caps on flight types, thereby allowing more passenger flights at the expense of cargo ATMs.

Would an effect of the removal of the CAP at Stansted also allow for more cargo flights than previously allowed?

The Applicant's Response

The case made for removal of the CAP at Stansted was to allow an increase in passenger traffic. As such, and since Stansted has not neared its limit of 20,500 CATMs (there were 9, 478 CATMs in 2018), it is impossible to claim that Stansted Airport has removed the cap on cargo flights so as to allow for more cargo flights than previously allowed. The removal of the cap is to allow an increase in passenger traffic.

The increase in passenger capacity is likely to take up the available capacity for flights identified in response to question ND.2.20.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The adjusted limits at Stansted, consequent upon the recent planning consent still provide for 60% growth in cargo flights at Stansted (see ND.1.18 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4) [REP4-065]"

Written Question ND.2.22

Stansted Airport

It is stated in answer to question ND1.18 [REP3-195] that there is no dedicated freight facility at Stansted that allows for freight turnaround. York Aviation [REP4-065] on behalf of Stone Hill Park Ltd note the existence of the dedicated freight World Cargo Centre of some 55,000m2 warehousing and office, with nine dedicated stands.
i. Comment on this facility, with dedicated and separate apron area for cargo flights as opposed to passenger flights.
ii. Would Fed Ex also provide a freight turnaround service for third parties (for a fee)? iii. What freight other than FedEx integrator freight does Stansted handle?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The contents of this response in relation to physical capacity at Stansted are again just speculation. The position in relation to available stand capacity for freighter aircraft at Stansted is set out at ND.1.8 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 [REP4-065]. The answer provided by the Applicant appears to ignore the existence of the apron to the east of the Cargo buildings which is available and used for freighters. From the Google Earth image previously submitted (Answer ND.1.8), it is clear that there is no airside road connection to these stands from the passenger terminal so they would be unsuitable for regular passenger use.

We strongly believe that the current CAA data indicating that no freight is currently being carried on the Emirates services from Stansted since its inauguration on 2018 is incorrect (See Stonehill Park's Deadline 6 submission in relation to the Need and Operations Hearing, para. 4.43) [REP6-055]. "

Written Question ND.2.23

Stansted Airport

You state that in your view MAG publicly may continue to market Stansted as open for new freight business, privately and commercially, but they may in reality be increasingly resolved to discourage more ad hoc freighter movements (FEDEX are consistent/regular business), with the resulting traffic going to East Midlands or probably cross-channel.

If the Airport is as constrained, or becoming as constrained as you consider, would it not make sense for MAG to be promoting East Midlands Airport, being under the same ownership, and where, as you accept in the DL4 Northpoint report "there is significant growth potential"?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This answer provided by the Applicant fails to grasp the significant investment at East Midlands Airport in expanded modern freight facilities. New facilities will be just as state of the art as anything at Manston. This answer provided is nothing more than speculation."

Written Question ND.2.24

East Midlands Airport
How has the significant growth potential at East Midlands Airport been accommodated for in your forecasts/demand capacity modelling?

The Applicant's Response

Manston will primarily be targeting non-bellyhold traffic generated by, or delivered to, London and the South East using general cargo freighter aircraft, not the traditional integrators that dominate EMA's freight traffic base. We therefore see Manston and EMA as complementary, especially in the context of capacity constraints at other London and South East markets. Given this background and the GIS trucking time plots provided at deadline 3 [in **REP3-187**], we consider the scope for competition between EMA and Manston is limited and thus a complicated choice algorithm was not required in the project demand modelling.

This is why the Applicant relies on the Azimuth report, which was developed on the basis of an independent bottom-up assessment, rather than a comparative strategic evaluation using gravity model coefficients.

Northpoint's strategic top-down review of forecasts, which does include other airports to form a national level overview of demand and capacity, corroborates the Azimuth report, using broadly similar CAGR growth rates to Azimuth.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response appears to be based on the concept that there is a unique market for dedicated freighter aircraft serving London and the South East in isolation from the rest of the country. There is no evidence that this is the case and goods flown from London often originate in the rest of the country but are consolidated in the vicinity of Heathrow as part of the process of seeking the most cost effective means of transport for goods, taking into account both time and cost. There is ample evidence that much of the air freight currently flown from London airports has origins or destinations in the rest of the country (see York Aviation Report February 2019, paras. 2.18, 4.25-4.27) [REP3-025]. Manston would inevitably be in competition with East Midlands to attract a share of this traffic and, given the overall location of demand across the UK, it would be reasonable to expect East Midlands to be the preferred alternative for any overspill from the London airports. The Applicant simply has not factored how the industry works in practice into its forecasts, including the role of East Midlands as a growing logistics hub."

Written Question ND.2.25

East Midlands Airport

It is stated in the Applicant's Written Summary of Case put Orally – Need and Operation Hearing document that Figure 4 of the Azimuth report (APP-085), shows businesses served by integrators at East Midlands Airport, and that, as is apparent from the map, this Airport serves a wide catchment area, including

the big market of London. It is then noted that Manston Airport is ideally located to serve this South East market. This appears to be stating that Manston would be able to attract some of the freight currently routed through East Midlands Airport.

Explain how this displacement of business has been accommodated within the socio-economic forecasts.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The Applicant is not strictly correct to argue that there would be no displacement of activity from East Midlands. In the counterfactual case of no development at Manston, East Midlands would be expected to accommodate a large part of the demand and is investing, with partners such as UPS, in facilities to enable it to do so, supported by local planning policy (see York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4, ND.1.15) [REP4-065]. If Manston were to enter the market and achieve any share of the projected market, this would be diverted from other UK airports and would need to be taken into account in any national level assessment.

Nor is it correct to construe that the conventional integrators (DHL, UPS etc) constitute a distinct market from the 'new' e-commerce integrators (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, paras. 42-45) [REP5-031]. There is growing commentary in the media regarding the competitive inter-relationship between Amazon Air and the conventional integrators, which clearly see displacement of activity (e.g. https://dailymemphian.com/article/4718/Amazon-Prime-One-Day-Will-it-hurt-or-help-FedEx). It is clear that the markets are not distinct. In any event, Amazon is already present at East Midlands and if it was somehow attracted to Manston instead, this would be displacement.

There is no evidence that East Midlands is turning general freighters away, the limited operation is more reflective of the limited market for such freighters, which could use East Midlands if any activity was, in future, displaced from Stansted. The critical factor here is proximity to the freight forwarding cluster at Heathrow, where loads are consolidated, not the general South of East of England market. In this context, Manston offers little to no reliable advantage.

Hence, some element of any growth at Manston would effectively be displacement, so leading to reduced economic activity at other airports and reduced employment that would need to be taken into account at the national level of the employment forecasts as presented by Azimuth."

Written Question ND.2.27

The Northpoint report [REP4-031] points to a 'window of opportunity' for freight at Manston prior to the Heathrow Northwest runway opening, where time exists for Manston to gain a foothold in the freight market and then expand thereafter. You also state that recent increases in Gatwick freight volumes would likely return to Heathrow once the third runway opened, and in the Need and Operations Hearing (21/03/19) you stated that this was different to the proposal in this case due to the difference between bellyhold and pure freight.

i. Expand on this viewpoint, including on how you consider your scheme to be complementary to the preferred scheme outlined in the Airports NPS.

ii. Why would the 'window of opportunity' be important if your role is complementary?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The dominance of long haul freight at the London airports is reflective of the global connectivity offered by Heathrow in bellyhold. The fact that most freight is shipped this way is reflective of bellyhold capacity available. Given the available bellyhold capacity at Heathrow and, increasingly, at other UK airports, there has been little need for dedicated long haul freighters. It is for this reason that the ANPS sees R3 at Heathrow as the primary means to ensure that the UK's air freight requirements are met for the longer term.

Although the ExA's question asked about the "window of opportunity" for Manston, as raised in the Northpoint Report submitted at Deadline 4, the answer now seeks to construe Manston's role as entirely complementary to Heathrow. It would be helpful to the Examination if the Applicant could clarify what their position is. In practice, if there was realistically a complementary role for Manston, why would this not have manifested itself by growth at Manston prior to its closure in 2014, given long standing congestion and shortage of slots at Heathrow and in the light of the ambitious plans for air freight growth being advanced by its previous owners and operators (including Plane Station for which Tony Freudmann was a Director). It is more likely now that any potential complementary role would be materially lessened as a consequence of the additional capacity provided by R3."

Written Question ND.2.28

At the Need and Operations Hearing (21/03/19) you were questioned on why other UK airports, whether in the South East, Midlands or south Yorkshire would not seek to take advantage of the demand which you state exists for pure freight flights, particularly given the availability of permitted development powers.

Your answer centred around the ease on which the proposal could allow a brand new, modern, automated and digitalised airport to be built on a 'greenfield' site as opposed to an existing airport.

i. Expand on your reasoning that it would be simpler to build such facilities at Manston as opposed to existing operational airports with their access to land and permitted development powers
ii. Reference was made to mechanisation. Expand on this with regard to likely job levels at Manston.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The response seems confused regarding permitted development rights, as the ExA has pointed out the latest issued questions of 10th May. Cargo aprons and supporting operational buildings could be built as permitted development under Class F of the General Permitted Development Order 2015, albeit they would be subject to environmental screening and potentially environmental assessment dependent on scale. The 15% restriction applies only to passenger terminal buildings. Again, the Applicant's answer depends on the unsubstantiated thesis that the other airports (East Midlands and Stansted) will seek to displace general freighter activity.

There is no reason why the other airports could not use Permitted Development rights or otherwise apply for permission for such state of the art buildings as the Applicant proposes for Manston if there was, indeed, a business case for them.

It is important to recognise that the risk of aircraft being subject to delay at an airport is not due to slot constraints at the airport in question as these slots relate to planned operations. Rather, the issue of "cargo aircraft being delayed for some considerable time waiting for a slot" is more often related to the

need to obtain an ATFM (Air Traffic Flow Management) slot from Eurocontrol related more generally to congestion in the airspace over Europe as a whole. Manston will also be subject to such potential delays, which happen regardless of congestion or not at the departure airport.

This answer further repeats the claim that automation will not affect 'existing' jobs but that is not the point. An automated airport will almost inevitably have a lower employment density than a current cargo airport (see further comments on answers to SE.2.2 and SE.2.4 below). This will impact on the employment forecasts going forward."

Written Question ND.2.29

European airports

Various evidence [including but not limited to APP-085, REP3-195] relates to European Airports, with Frankfurt, Paris, Amsterdam, Leige and Leipzig variously being cited as examples of airports where dedicated freighters thrive. York Aviation [REP4-065] on behalf of Stone Hill Park consider that the greater number of dedicated freight aircraft at these continental airports is partly explained by the well-developed freight forwarding infrastructure based around them given the global connectivity offered by hubs and the airlines based there, with the freight infrastructure and consolidation centres from their bellyhold operations also making them first choice for dedicated freighters. Leige and Leipzig appear to be integrator hubs, like East Midlands Airport.

Comment on these assertions and viewpoints.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response misrepresents our position. Integrator bases, and their supporting infrastructure, rely on central locations able to serve large markets, i.e. Leipzig and Liege, and East Midlands in the UK on a smaller scale. Manston is simply in the wrong location to be favoured for this type of operation.

The concentration of infrastructure around the main hubs relates to infrastructure supporting bellyhold operations which also, in the case of Frankfurt, supports some dedicated freighter activity to compensate for the lower volume of bellyhold capacity available there.

As noted at ND.1.10 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 [REP4-065], the use of the DfT capacity chart from UK Aviation Forecasts 2017 is not relevant as it relates only to passenger terminal capacity and the circumstance of no third runway at Heathrow. We have not expressed concern about the competitive effect of Manston on the case for R3 but the exact converse."

Written Question ND.2.30

Locational factors

The ExA note that, although your Transport Assessment has not assumed that the Lower Thames Crossing would be implemented, you consider that the Lower Thames Crossing would allow easier access to the M11/A14 corridor, and consequently allow for quicker and more reliable times to the biomedical industry and technology companies in Cambridge, the M11 Growth Corridor and prospectively to the planned Varsity Corridor.

The ExA notes that the M11 provides access to Stansted and that access to East Midlands can be achieved via the dual A14 and M1.
i. Would Stansted Airport not be more accessible to industries in the Cambridge area?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response by the Applicant contains the unevidenced claim that Manston would offer "lower shipping costs". This flies in the face of the Applicant's own business model showing materially higher charges and the evidence related to the relative cost of dedicated freighter operations compared to bellyhold, which stands unrebutted. This statement is not consistent with the 'price setter' claim made by the Applicant."

Written Question ND.2.31

UK airport capacity

Your answer to ND1.10 [REP3-195] states that little additional terminal or runway capacity has been added to the UK national infrastructure in many decades. However, the ExA is aware of the construction of the 2nd runway at Manchester at the turn of the century and of other terminal enhancements or constructions around the UK in recent times, including Heathrow Terminal 5.

i. Provide evidence for your assertion that little additional terminal or runway capacity has been added to the UK national infrastructure in many decades
ii. Are there other ways and means of providing new runway capacity aside from building new runways?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response contains a long treatise on the length of time taken to build new runways in the UK. However, the response does not address the ability of airports to add cargo handling capacity where and when needed.

The second part of the answer deals only with the scope for adding hourly capacity on a runway that is already operating at its maximum. Utilisation of a runway can be increased by providing additional infrastructure, e.g. stands, terminals, to allow greater utilisation of existing available capacity and by increasing utilisation over a day. In many cases, the declared runway capacity at an airport may reflect the operation of other constraints, often stand/apron constraints, which mean that the full use of the runway cannot in practice be achieved without the provision of other infrastructure, some of which may be permitted development or otherwise considerably easier to obtain planning consent for."

Written Question ND.2.32

Your answer to ND1.40 [REP3-195] states that mail services have not been included in the forecasts contained within the Azimuth report [APP085] as they tend to require night operations, yet such services are included in the ES forecasts, with 770 postal services forecast by year 20.

Which is the correct forecast?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"It is now asserted by the Applicant that the 770 B737 movements shown as operating Postal Services will not in fact be related to mail services, as shown in the ES, due to the night movement restrictions now proposed. This implies they would be for some other unstated purpose. Given the Azimuth 'forecast' relied on for the ES was produced bottom up, airline by airline/route by route, rather than developed from consideration of an overall share of the market, the need for these services does not exist independent of the airline/route expected to operate them. Hence, if these are not mail services, they have to be stripped out of the forecasts. Similarly, any other specific operations which could not operate at night due to the planned restrictions, such as integrator operations, would also have to be stripped out."

Written Question ND.2.33

Freighter movements

Your answer to ND1.41 [REP3-195] notes that 2018 CAA data shows a total of 53,628 cargo ATM's for 2018 and states that almost all ATM's are non-domestic since freight is rarely used to move cargo within the UK. Stone Hill Park [REP04-067] note that this figure includes more than 21,000 domestic cargo ATMs and that in total there were 33,727 nondomestic cargo ATMs in 2018 for the whole of the UK. This evidence also states that for England and Wales 58% of the non-domestic cargo ATMs related to East Midlands Airport, with 17% Stansted, and that around 57% for East Midlands and 37% for Stansted of these flights were estimated to be night flights.

This leads to an estimation that there were nearly 19,000 daytime nondomestic cargo ATMs in England and Wales in 2018.
i. Provide more evidence on your assertion above that almost all Cargo ATM's are non-domestic since freight is rarely used to move cargo within the UK
ii. Comment on the evidence provided by Stone Hill Park and any impact/effect this may have on your forecasts and the likelihood of them coming to fruition.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

i. It would have been far more helpful to the examination if the Applicant had properly acknowledged, up front in its response, that its assertion that *"almost all Cargo ATM's are non-domestic since freight is rarely used to move cargo within the UK"* was materially incorrect.

Instead, the Applicant has attempted to minimise this fundamental failure and obfuscate rather than just admit its errors.

A closer review of the response (by reference to the CAA statistics) at least shows the Applicant has now accepted SHP's evidence was accurate, and that the CAA statistics demonstrate that the Applicant materially overstated the number of non-domestic ATMs in the UK by up to 59% (i.e. almost all of 53,628 vs. 33,727).

However, the Applicant's answer seeks to divert attention away from the subject of the ExA's question (i.e. freighter movements), before stating that it *"maintains that most UK cargo flights are non-domestic". "Most"* has a very different meaning from *"almost all",* particularly in the context of such a small market, which is dominated by the major integrators.

ii. The Applicant has made a number of assertions that it has not even attempted to substantiate. Firstly, it disputes the evidence (supported by real data) provided by SHP that there are only 19,000 daytime non-domestic cargo ATMs. The Applicant simply asserts that it does not consider the estimate to be sound, but can give no reason why. As an entity that purports to be serious about developing an airport, there is no excuse for the Applicant not understanding its target market inside out. We would also refer the ExA to the following comments from York Aviation;

"This response seeks to rebut the point made by Stone Hill Park regarding CAA data by reverting to using Boeing RPK forecasts and applying these to non-domestic freighter movements to argue that there is sufficient market for Manston. This is nonsense, as we made clear in the York Aviation November 2018 (para. 2.47) and February 2019 (para. 3.23) reports [REP3-025]. This is once again a misapplication of data and growth rates by the Applicant.

It is unclear where the up to 1.5 million tonnes cited of excess cargo comes from but, to the extent that this derives from the Northpoint Report submitted at Deadline 4, we have explained how this is not a proper or realistic approach in the York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, paras. 28-38 [REP5-065]."

Written Question ND.2.34

Business model

The Applicant's "Written Summary of Case put Orally – Need and Operation Hearing" [submitted at DL5, ref not yet assigned] document provides a commentary note on the summary business model. It states that a cargo operation at Manston will be accessing demand that is either diverted elsewhere or not functioning due to the severe capacity constraints in the South East of England. This, it is stated, "exists at a general non-specific level and an idiosyncratic level pertinent to Manston itself" and that consequently Manston as a cargo operation will be, "within reason, a price-setter rather than a taker"

i. In an aviation and geographical context, what characteristics are peculiar to Manston over other UK airports?
ii. Define 'idiosyncratic' in this context
iii. In the event of such 'severe capacity constraints', why would demand not overspill to other UK airports outside of the South East, such as East Midlands, Birmingham or Doncaster Finningley?
iv. Given this, and the availability of road freight, how much of a 'price setter' could Manston be?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The only advantages that the Applicant claims for Manston are its runway length, which is no longer than several other airports in the UK, its geographic location in the UK, which is more of a disadvantage then an advantage relative to the totality of the market,and the fact that it is currently unused. This latter point is not an advantage as it means that anyone wishing to use it will have to bear the full cost of bringing it into use.

The response again claims, without evidence, that Azimuth's 'forecasts' take into account growth at other airports and that it can intercept demand otherwise being trucked between the UK and Europe. There is no evidence as to why this should be the case (see above in relation to the Northpoint Report).

The response implies that shippers will be willing to pay anything to achieve speed of transit. This is simply not so and shippers will balance speed and cost, other than for very specialist consignments (e.g. organs for transplant) where speed is absolutely the critical factor. This latter part of the market is only a small part of the whole."

Written Question ND.2.35

Passenger forecasts York Aviation [REP3-025 – Updated Critique of Assessment of the Need and Justification for the development of Manston Airport as an Air Freight Hub – Chapter 5] consider the passenger potential of the proposed development in detail, concluding that the proposed development might achieve around half of the number of passengers (750,000) forecast within the Azimuth report [APP-085], but to do so there would need to be an allowance for passenger aircraft movements in the night period. They also consider that the build up to such levels of passenger throughput would be significantly slower than projected.

i. Provide further justification for your passenger forecasts and evidenced counter arguments to this viewpoint.
ii. Would such forecasts be achievable bearing in mind the commitment in the Noise Mitigation Plan [REP4-023] that an aircraft could not take-off or be scheduled to land at night between 2300 and 0600, and further noting potential freight traffic which may wish to use the periods immediately before and after the night time restriction?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The response cites projections for passenger operations produced by Aviasolutions in its 2016 Report for Thanet District Council as validating the Azimuth passenger 'forecasts'. Significantly, these projections did not take into account the potential for greater use of infrastructure at Gatwick and Luton airports, both of which are proposing to increase their capacity on their existing runway infrastructure. To the extent that the Aviasolutions projections for Manston were heavily dependent on 'spill' from other airports, these increases in capacity will remove the spill component to a large extent, leaving the projections dependent on the assumption of 800,000 passengers a year as attainable from a Ryanair base. Furthermore, when Aviasolutions put together its projection, the prospect of a restriction on night operations at Manston was not known so Aviasolution will not have factored in the deterrent effect that would have on any airline basing aircraft at the Airport.

The remainder of the response simply restates the assertions regarding the potential passenger markets from the Azimuth Reports without providing further evidence or explanation. Claims that the Azimuth 'forecasts' take into account the elderly who would prefer to use small airports and the importance of pilgrims are simply distractions. The response does not provide any quantification of the size of these markets.

In relation to Southend Airport, it has seen strong growth in recent years but examination of its latest published accounts for FY2017/8 (London Southend Airport Ltd – Companies House) shows that its operating losses worsened from £3.6 million to £6.5 million, which strongly indicates that it has been 'buying traffic'. On the basis of the aeronautical charges proposed by RSP for Manston in its business model, it would not be realistic to assume that similar growth could be seen at Manston without substantial erosion of the projected income.

The list provided of Ryanair flights after 23.00 at regional airports may be correct but the important consideration is not what proportion of flights operate at night but the impact that a night constraint would have on the flexibility to maximise use of any based aircraft over a week. This is an important consideration for an airline considering where to base aircraft and needs to be taken into account (see para. 4 of York Aviation's Note of Oral Evidence given at the Noise Hearing submitted at Deadline 5) [REP5-065]. The Applicant should be asked explicitly if Ryanair is aware of the night flying policy and whether it is still committed to basing 3 aircraft in these circumstances and at the price that RSP expects to charge for using the Airport as shown in the model. The fact that Ryanair has no based aircraft at Exeter simply highlights that flexibility to schedule some flights to operate after 23.00 is essential to attaining based operations."

Written Question Ns.2.18

Aircraft fleet mix

The applicant at the Need Hearing on the 21 March 2019 made clear that conventional integrator operations are no longer expected at Manston and that such movements would be made instead by 'New' e-commerce integrators operating a different pattern of flights not requiring night operations.

Given that 48% of the movements in Year 20 are shown in the ES (Appendix 3.3 [APP-044]) to be by a conventional integrator, of which half were expected to be using quiet ATR-72 turbo-prop aircraft, the substitution of these movements by a 'New' integrator would be expected to use more Boeing B737 types rather than turbo-props.

The Applicant stated at the Need Hearing ISH2 that the noise assessments were made on the basis of the specific fleet mix set out in Appendix 3.3. of the ES [APP-044], including by reference to the individual aircraft and their engine types operated by the named airlines in that Appendix.

Given the likely change in the nature of the operators and the fact that several of the airlines do not operate freighter aircraft of the types specified (see York Aviation 2019 Report para. 3.10), would the Applicant agree (and if not why not) that the fleet mix assessed is almost certain to understate noise exposure relative to what is now proposed?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"It is not clear what the impact of a commitment to a noise contour area cap would have on the 'forecasts' of usage if, for example ATR72s were replaced by B737 or other jet aircraft or if the GA movements included some element of business jet operations consistent with the proposal to develop an FBO (Fixed Base Operation)."

Written Question Ns.2.19

Flightpaths

The assessment appears to be based on assumptions about flight paths that rely on broader airspace changes to be delivered as part of the Future Airspace Strategy Implementation South (FASI S) Airspace change programme (Government/CAA Airspace Modernisation Strategy), which will require coordination with NATS and other airports. There can be no certainty that the proposed flightpaths which the noise assessment is based on will be deliverable.

Would the Applicant agree that a worst case assessment would need to be based on flightpaths as previously operated when the airport was open?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"The Applicant's response addresses why new flightpaths are needed to reflect latest R-NAV practices but does not answer the question as to whether the proposed noise minimised flight paths are likely to be acceptable or whether an R-NAV variant of the previous flight paths should have been adopted as a more realistic basis for assessment in the first instance."

Written Question Ns.2.21

Aircraft which would need to operate on a delayed basis during the night period.

The Applicant asserted at the Noise ISH on Friday 22 March 2019 that there would be a limited number of delayed passenger flights only but that these would be few in number as low fares airlines schedule their arrivals before 22.00. Stonehilll Park/York Aviation in their Note of Oral Evidence given by York Aviation for Stone Hill Park at the Noise Hearing 22nd March 2019 submitted at Deadline 5 state:

"This is incorrect including for the example airport cited by Mr Freudmann, Luton. At Luton, for Summer 2019, 15% of all passenger aircraft arrivals are scheduled to arrive between 23.00 and 06.00. For Ryanair, the carrier shown by RSP as operating to Manston, has 17% of its arrivals in the night period (Source: Official Airline Guide database). This means that, on the basis that each aircraft operates c.2.5 round trips a day, up to 40% of low cost airline aircraft are arriving back to the base in the night period. The pattern at other airports with low cost airline bases is similar. With the restrictions proposed on scheduling operations in the night period, it is now highly unlikely that a low cost airline would contemplate setting up a base at Manston as it would fundamentally restrict the ability to flex."

Would the Applicant agree that the reduction in passenger flights would have a material implication for the asserted revenues in the Business Model?

The Applicant's Response

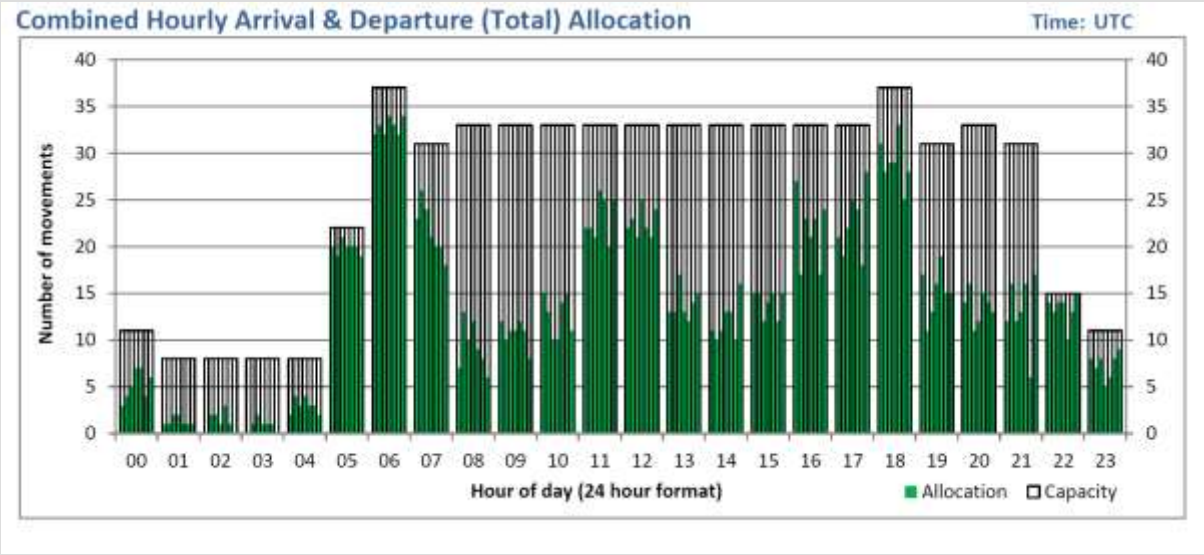
The Applicant does not accept York Aviation's extrapolations as to the operating schedule of low cost carriers (see response to ND.2.35). Analysis of arrival times at other UK airports indicates that York Aviation's figure of 40% of LCCs arriving in the night period is a significant overstatement. The Applicant notes that capacity at Luton airport is extremely constrained at all times and particularly either side of the night time period, forcing more flights into the night time period. No doubt for this reason it was selected as an example by York Aviation.

Nor does the Applicant accept that restrictions on night time flights will deter all low cost airlines from setting up a base at Manston. As explained in response to question ND.2.35, compared to other UK airports, Manston Airport's geographical location means that flight times are likely to be shorter and avoid congested London airspace. Flights to and from Manston Airport and Portugal, Spain, France, Italy, Switzerland, Greece, Turkey, Bulgaria, Croatia, Austria and parts of Germany save time on each sector length using Manston. This means that flight times are shorter and the same number of rotations can be completed in less time, reducing the need for late arriving flights. Shorter flight times and less time on approaches into airports within the congested London airspace mean less fuel burn (and less emissions) and reduce crew working time, potentially making airline operations from Manston more profitable.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"As noted in response to ND.2.35 above, the Applicant clearly does not understand the point being made: with 15% of arrivals at night this equates to 40% of based aircraft requiring a movement in the night period as part of their overall daily pattern of rotations as, by definition, the remainder of flight operations are outside of the night time period. Therefore, the effect of any restriction in operations after 23.00 (notwithstanding that Manston many avail of marginally shorter flight times on some sectors) reduces the likelihood of aircraft being based. As the majority of passengers forecast to use Manston are claimed to be on based aircraft, this is an important consideration. The reason that Luton was chosen as the example in York Aviation's Note of Oral Evidence given at the Noise Hearing submitted at Deadline 5 [REP5-032] is because that was Mr Freudmann's example given in oral evidence. The night movements arise by consequence of the rotation pattern of aircraft to maximise economic usage of the available flying hours not any slot restrictions in the period leading up to the night time. To the extent that there are operational constraints at Luton currently, the limiting factor is availability of stands for overnight aircraft parking rather than slots in the period leading up to 23.00 as can be seen in Luton's pre-season scheduling report for Summer 2018 (https://www.acl-uk.org/airport-info/), which shows up ample slots to be available."



Written Question OP.2.1

At the Need and Operations Hearing (21/03/19) it was confirmed to the ExA's understanding that the Aerodrome Certificate and the Airspace Change Process would both take around two years to complete after any Development Consent Order was made.

i. Is the ExA's understanding correct?

ii. Would the period for the Aerodrome Certificate commence from the DCO being made (if made) or from the acquisition of the airport land?

The Applicant's Response

i. Yes.

Aerodrome Certificate - as was agreed at the CAA interface meetings it is anticipated that it will take 6-12 months for the CAA to consider an Aerodrome Certificate application once made. However, before a submission can be made it was agreed that it will take at least 12-18 months to gather and collate the necessary evidence to support the application. The CAA is exploring how it may be engaged in this evidence gathering phase so as to ease its own burden in subsequently considering the application.

Airspace Change Process – the CAA indicate that an airspace change would normally take 108 weeks to complete. The Applicant will also need to engage with the Future Airspace Strategy airspace modernisation programme now to ensure that Manston's requirements are considered when developing a holistic airspace solution for the South East of England. This gives a fixed start-point for the airspace change project although its subsequent submission will be at a later date.

ii. Preparations for both the Aerodrome Certificate and Airspace Change Process will, by necessity, begin during consideration of the DCO, but formal submissions to the CAA for both projects will only be made after the acquisition of the airport land.

SHP Comments on the Applicant's Response

i. Aerodrome Certificate: the Applicant's previous submissions on this matter have lacked precision, and again it has provided no evidence to support the assertion that the *"CAA is exploring how it may be engaged in this evidence gathering phase so as to ease its own burden in subsequently considering the application."*

It would appear that the Applicant is attempting to create an impression that the CAA would fully engage in the "evidence gathering phase" well in advance of the acquisition of the land. The Applicant's requirement for an airport to be operational by Q1 2022 is wholly reliant on the CAA engaging with it up to 18 months in advance of the point at which the Applicant could acquire the land.

As this position contradicted the advice the CAA previously provided to SHP (see SHP's response to this question submitted at DL6 [REP6-053]), SHP further clarity from the CAA.

Written Question OP.2.2

Airspace Change Process
At the Need and Operations Hearing (21/03/19) Stone Hill Park raised the prospect of the Future Airspace Strategy Implementation South (FASI South) proposal for air traffic route structures in the southern part of the UK to change. Written evidence from Stone Hill Park [written summary of Stone Hill Park Ltd's oral submissions put at the need and operations Issue Specific Hearing held on 21 March 2019, submitted at DL5, reference not yet assigned] states that should all airports consult simultaneously in 2022 that this could be expected to be complete by 2024-2026, and that this represents a significant impediment that requires to be fully considered.

i. Comment on any effect FASI South may have on your proposed ACP.
ii. Would your application be delayed to 2022 as Stonehill Park suggest?

The Applicant's Response

i. FASI South will not be an impediment on the Manston Airport project. The London Terminal Manoeuvring Area (LTMA) was built piecemeal using legacy aircraft performance and conventional ground-based navigation constraints. It is reaching capacity, requiring modernisation via a clean-sheet redesign. In accordance with the UK Future Airspace Strategy (FAS), taking advantage of the potential benefits of Performance-Based Navigation (PBN), the use of Global Navigation Satellite Systems (GNSS), will enable significant improvements in both capacity and environmental impact. This change makes major changes to the LTMA airspace and the Air Traffic Services (ATS) route network. The proposed changes will interface with departures and arrivals serving major ('core') LTMA airports. Other airports ('non-core') will also be considered and accommodated. The changes to the LTMA will be coordinated with individual 'core' and 'non-core' airports' airspace changes and will complement them, improving the efficiency & capacity of the region.

The Future Airspace Strategy Implementation South (FASI South) Programme Board has recognised that there will be complex and inter-related airport airspace change consultations, particularly within the 'core' area (Heathrow, Gatwick, Stansted, Luton, London City, Southend, Biggin Hill and Farnborough) producing consultation and 'decision making' overload for stakeholders, sponsors ('applicants') and the CAA alike. Manston is on the periphery of this LTMA airspace ('non-core'), and the Applicant's airspace change proposal will run in advance of the majority of the airports in the LTMA. Importantly however, though not a 'core' airport, due to the 'clean sheet' approach described above, there is a need for the FASI South project to understand, and take into account, the requirements of all airports within the programme; this is the phase we are currently supporting. Thereafter, it is accepted that the airspace changes at some 'non-core' airports may run at a different pace to address a specific local, operational, safety or environmental need. FASI South is intended to take into account, but not constrain, the requirements of all 16 airports currently in the programme.

ii. No. The Manston Airspace Change process has begun, as it has for a number of the FASI South airports. The Heathrow Expansion ACP is running to the timetable identified by Stone Hill Park but most FASI South airports will run in advance of that programme and it is expected that the large majority will have the final applications (submission for final proposal) to the CAA before April 2022. There is also expected to be a phased implementation of changes to sections of London Airspace; as Manston is a 'non-core' airport, to the extreme east of this airspace, it is expected that implementation of Manston's 'changes', particularly the Aerodrome Traffic Zone (ATZ), can be made by end of March 2022. Hence, the application for the change in spring 2021 followed by the CAA decision procedure (minimum 5 months) and then an implementation phase of 3 months This will be well ahead of the 'core' area airports to obviate London Airspace programme overload (be that in terms of CAA regulatory scrutiny and approval or highly complex air traffic system adaptations).

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"We do not believe the response regarding FASI-S to be correct and that the risk of delay to opening remains."

Written Question OP.2.3

Scale and capacity

The Applicant's Written Summary of Case put Orally Need and Operation Hearing [submitted at DL5, reference not yet assigned] provides a justification for stand use and need for the proposal. This states that each based aircraft will have its own dedicated stand and assumes that nonbased aircraft will have an average ground time of 3 hours. There is then a calculation to allow for 'bunching'. York Aviation for Stone Hill Park [REP3-025] note that based on the aircraft mix not all projected aircraft require Code E stands, with 40% of movements projected to be by smaller Code 'C' aircraft. They state that it is normal practice to accommodate 2 Code C aircraft side by side in a Code E stand, and that as Code C aircraft are shorted that the length of a number of stands could be shortened, reducing the amount of apron/hardstanding needed. Based on this, and the forecasts within the ES and operations at East Midlands they consider that a maximum of 9 stands would be required, with potentially one stand added for resilience purposes, resulting in 10 stands being needed.

i. Why does each based aircraft require a dedicated stand?
ii. Provide further justification for the bunching calculation.
iii. Comment on the York Aviation calculations.

The Applicant's Response

i. It is likely that each based aircraft operator will wish exclusive use of a stand to allow specific ground handling equipment to be located there and access to the aircraft for maintenance purposes. As stated in the York report linked to REP3-025, based aircraft may wish to park for many hours thus prohibiting that stand for any other use. The comment about code 'C' aircraft being able to share a code 'E' stand is valid in principle but, in

practice, would be quite restrictive as there is nothing at all to ensure or even suggest that the code 'C' aircraft would operate in pairs and therefore a single code 'C' aircraft would effectively block a full code 'E' stand for any aircraft above code 'C'.

ii. The bunching calculations are a best estimate of what is conservatively considered most likely; one of the benefits of using Manston will be a high degree of reliability and access. It should be noted that East Midlands has 24 code E stands and handles about the same volume of freight (but over more movements) as Manston is forecast to handle by year 20. The operating day at Manston will be less than that at East Midlands meaning that the stand usage will be more concentrated.

iii. The York calculations make assumptions about shared stand usage which is not something envisaged by the Applicant to take place at Manston on a regular basis; furthermore, the York calculations are inconsistent with East Midlands having 24 code E stands.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In terms of the need for dedicated aircraft stands for based aircraft, the comment about a requirement for dedicated equipment on each stand is nonsense as this implies specialist equipment for each individual aircraft. Operators are highly unlikely to want to pay for dedicated stands or dedicated equipment as this would not be consistent with cost efficiency.

There is no evidence that the aircraft cannot be scheduled and stand allocation planned to allow MARS (multiple apron ramp system) use. Such multiple centerline operations take place at virtually all major airport with a mix of Code C and Code E operations so as to ensure that the efficient use of valuable apron space is maximised.

We do not believe the information provided by the Applicant regarding East Midlands Airport having 24 Code E stands to be correct. There are multiple centerlines for different aircraft use types in use at East Midlands and our information as to the stand availability is as set out in the table below. Not all of these stands could be used at the same time. Maximum Code E occupancy would be 8 Code E aircraft. There are more Code D centerlines available reflecting the nature of the fleet mainly operated at East Midlands today."

H	I	J	K	L	M	N	O
Apron	**Centrelines**	**Code B**	**Code C**	**Code D**	**Code E**	**Code F**	**Total CL's**
West (DHL)	Min CLs	0	6	6	5	2	**19**
	Max CLs	2	5	10	2	2	**21**
East	Min CLs	0	2	5	1	0	**8**
	Max CLs	0	12	1	0	0	**13**

Written Question OP.2.4

Scale and capacity

The Applicant's Written Summary of Case put Orally Need and Operation Hearing [submitted at DL5, reference not yet assigned]provides a justification for cargo terminal size for the proposal. This uses a ratio based on Prestwick initially, and then East Midlands latterly to derive the size required, resulting in around 65,000m2. York Aviation [REP3-025] for Stone Hill Park use an IATA ratio based on processing capability (automation levels) and consider that the proposed cargo terminals are substantially oversized by an order of 3 times at least. York Aviation also note that cargo handling facilities at East Midlands have recently been expanded and so are unlikely to be at capacity and also that the airport operates as a hub for domestic road freight.

i. Provide further justification for the proposed quantum of cargo terminals deemed to be required, with reference to the York Aviation calculations.

ii. How 'mechanised' would the terminals be, given the modern nature of the e-commerce integrators the proposal is seeking to attract?

iii. Is East Midlands a suitable comparator given levels of possible road based freight at that airport?

The Applicant's Response

i. York state that East Midlands Airport ("EMA") handled "over 375,000 tonnes" of air cargo in 2018 where as the CAA have it as 334,536 tonnes; using York's assertion that the cargo foot print at EMA is some 80,000 sq m this suggests a ratio of 4.2 tonnes per sq m. The Applicant's forecast for Manston in year 20 is 340,000 tonnes with 65,000 sq m of warehousing implying a ratio of 5.2 tonnes per sq m. (24% higher than EMA). Less than 50% of the forecast tonnage at Manston will be eCommerce related. By comparison, according to the Steer Report of October 2018 "Integrators accounted for over 90% of freight at East Midlands". In summary, the Applicant forecasts a denser warehousing ratio than at East Midlands in

addition to a freight mix that would demand more warehouse space per tonne than at EMA. It is hard therefore to conclude that the warehousing planned for Manston is 3 times higher than that required unless one concludes that the warehousing at EMA is either only around 33% used or that the trucked freight take up twice the space of the air freight, which they do not.

ii. eCommerce is in the very early stages of development so it is not straightforward to state how mechanised the facilities might be and it would really be a matter for the eCommerce operator and not the airport itself.

iii. The comparison with EMA is valid. Road based freight is unlikely to be accommodated in warehousing that is airside as it will be more expensive than warehousing beyond the airport site. Equally, the Applicant has assumed that road based freight is unlikely to be material at Manston and it has not been factored into the forecast.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In this response, the Applicant wrongly asserts that road based freight is not a major factor at EMA (see York Aviation Report February 2019, para 6.23) [REP3-025]. In the response, the Applicant still does not set out any robust basis justifying the scale of facilities proposed. If there is to be no road based freight at Manston then this validates the need for the cargo handling facilities to be much smaller than East Midlands. The response does not address the IATA benchmarks for the scale of development required for efficient automated cargo centres in future (see York Aviation Report February 2019, paras 6.21-6.22)."

Written Question OP.2.5

Scale and capacity
The Applicant's Written Summary of Case put Orally Need and Operation Hearing [submitted at DL5, reference not yet assigned] contains a note on airport 'associated uses' for the Northern Grass site.
It concludes that it is difficult to find a close equivalent for the Manston/Northern Grass relationship in the UK and that attention is being turned to airports elsewhere for antecedents for an airport such as is being proposed at Manston. If this is of interest to the ExA, it is stated, then this will be reported on in time for Deadline 6.
Provide such evidence by Deadline 6.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

We would respectfully refer the ExA to the previous commitment the Applicant made in paragraph 18 of Annex 4 of the Revised NSIP Justification [REP1-006] to provide this information at DL3 (i.e. 15 February 2019).

"18. Having indicated the kind of occupiers that are likely to be attracted to the Northern Grass and their role in supporting the airport's operation, the Applicant will seek to provide to the ExA further examples of this type of airport-related development from other UK airports and important cargo led airports in Europe and North America. This additional evidence will be submitted by Deadline 3."

It is literally incredible position to be in where an Applicant is still unable to explain and justify the most basic elements of its development proposals on the Northern Grass area (which extend to well over 1 million square feet). We have referred to above the Applicant's previous (unfulfilled) commitment but would also highlight that is now over a year since the Applicant submitted its first Application, 9 months since it submitted its second Application and nearly 4 months since the start of the examination.

This information should have been included within the Application documents, and to the extent the ExA had further questions, the Applicant should be capable of providing an answer in real time rather than require months to go searching for an answer.

We note below additional commentary from York Aviation (please see Appendix 1) that deals specifically with the answer given by the Applicant;

"As noted in relation to the Draft DCO, many of the listed Associated Uses for the Northern Grass are not related at all to the principal development as they are passenger not cargo related or related to the maintenance/recycling of aircraft. In any event, the response provides no justification for the proposed scale (floor area) of these uses and why they are needed, e.g. how is an Aviation Academy in any way associated development related to a cargo airport and surely this would be more likely to be located at a local college.

Even in relation to those uses which are freight related, the largest of these is a Logistics Centre for the new integrator. Such a Logistics Centre would need airside access, as is the case with the DHL facility and the new UPS facility at East Midlands and so would not be able to locate on the Northern Grass. Manston is simply in the wrong location for a Fulfillment or Distribution Centre, which would necessarily need to be located closer to major urban areas and not on the Northern Grass.

The Applicant again seeks to justify the overall floor space requirement by reference to other airports (Appendices to OP.2.5 Response). However, when properly understood the comparisons are not supportive of its case. In Appendix OP.2.5, RSP start by stating that they aim to illustrate the relationship between 'airport associated development' and the requirement for the Northern Grass through comparison to 4 cargo airport examples. They then explain the method used to measure the floor spaces at the 4 airports which they caveat as being desk based only and 'approximate'. Whilst we do not attempt to question the accuracy of any of the areas measured, we would certainly question the inclusion of most of the areas as in any way relevant to the principal cargo related development.

As stated, the proposal for the Northern Grass is for an area of 105,100m^2 of floor space for B1/B2/B8 uses. It, therefore, makes no sense at all that the exercise as detailed by RPS catalogues/includes areas for the passenger terminals, cargo sheds, maintenance and parking hangars, airside facilities buildings within airside locations with direct access to the runways, as well as a wide variety of office and industrial buildings occupied by businesses that clearly have nothing at all to do with aviation.

If you take East Midlands as an example, the total floor area stated by RPS is 194,615m^2. However, if you remove all the front line cargo sheds from the total (as they are airside facing and could not be provided in a landside area like the Northern Grass), the passenger terminal and the airside maintenance hangars and buildings, you remove approximately 72% from the total area. If you then remove all the passenger related hotels and businesses that have no aviation links such as Price Waterhouse Coopers, Medstrom Healthcare and Western Power Distribution then you come down to an area of around 25,750m2, which is only 13% of RSP's stated total. If you take out all of the 'unknown' business space then you are left with just under 15,500m2 which is only 8% of the total area quoted or just over 15% of the area proposed for the Northern Grass.

The same approach to including all areas has been taken in the other comparator examples where the passenger terminal, front line cargo shed and airside hangars etc have been included in the totals. None of these functions bear any relevance to the question of 'Associated Development' in the context of a landside business park for B1/B2/B8 uses directly related to the purpose of the principal development at Manston. To highlight the absurdity of the approach used by RPP, the Liege example includes an area of 4,360m^2 comprised of a poultry farm. Clearly, this is not remotely relevant to the comparison of areas devoted to equivalent uses to those that might be permitted on the Northern Grass.

At no point does this exercise seek to actually explain how any of these areas compare to their proposal for the Northern Grass. It is merely an exercise in documenting the various areas of all the buildings located within the general bounds of 4 cargo dominated airports."

Written Question OP.2.6

At the Need and Operations Hearing (21/03/19) it was confirmed by the applicant that they have programmed to start the construction of the Airport in 2021, with operations beginning from quarter 1 of 2022, and that circa £180million would be spend on construction in this calendar year. At the Noise hearing (22/03/19) it was confirmed that no construction works would take place at night.

i. Is the ExA's understanding of this programme correct?

ii. Comment on how the revised start date of operations affects the provided forecasts contained within the Azimuth Report [APP-085].

iii. Define the night time period for the proposed construction works restriction.

iv. Does the period of the night-time restriction include such operations as machinery start up and construction deliveries?

v. Provide a likely construction programme for 2021, bearing in mind the proposed lack of night works and allowing for operations in 2022.

The Applicant's Response

i. Yes, that understanding is correct.

ii. The original timetable envisaged operations beginning in Q4 2020. The current timetable envisages operations beginning in Q1 2022. In an infrastructure project of this scale, variations in the programme are inevitable. This slight delay does not affect the forecasts within the Azimuth Report. The prevailing climate pertaining to air freight has not materially altered in that the details of the UK's withdrawal from the EU (Brexit) have still not been finalised, the demand for ecommerce remains strong (with East Midlands Airport also preparing for increased volumes driven by the e-commerce boom (see https://www.aircargonews.net/cargo-airport/east-midlands-airport-expands-space-for-freighters/), the UK's airport capacity constraints persist, and the third runway at Heathrow has yet to commence construction.

iii. The night-time period for proposed construction works restriction will be from 11pm to 7am.

iv. No construction activities would be allowed during this period and as such the night time restriction will forbid machinery startup. Limited HGV movements have been included in the noise and air quality assessments and the Construction Traffic Management Plan (CTMP) during the night-time period in Phase 1 of the proposed development in order to allow for construction deliveries. However it is expected that these would be strictly controlled via the necessary Section 61 Agreement and the final CTMP that will be agreed following the DCO being made.

v. A construction programme is provided at Appendix OP.2.6. We estimate a design and construction period in phase 1 (i.e. to bring the airport into operation), of approximately 2 years in total giving an operational date of end Q1 2022.

SHP Comments on the Applicant's Response

i. For the reasons explained in paragraphs 9.1 – 9.5 of SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [REP5-029], the operational date of Q1 2022 is not credible. We also note that the Applicant continues to ignore / gloss over the numerous additional impediments, including the CAA Aerodrome Certification (see comments on OP.2.1), Airspace Change Process (OP.2.2) and HRDF Beacon (see comment below) that would push back the date by which an airport could be operational.

ii. The Applicant seeks to argue that any delay in the timetable will have no impact on the forecasts. As the forecasts are no more than a "guesstimate" of potential demand, and show exactly the same ATMS and freight tonnage forecasts as the version of the forecasts first published by the Applicant in 2017, it is not surprising that the Applicant cannot even start to consider how the forecasts would be affected.

v. SHP would respectfully refer the ExA to paragraphs 9.1 – 9.5 of SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [REP5-029] reference to be allocated], which clearly demonstrate the Applicant's revised forecast date for operations (Q1 2022) lacks any credibility.

Appendix NOPS.11.1 referred to in paragraph 9.5 provides a more realistic timetable that shows, on a best case basis an airport could not be open before late 2024. As explained in the Appendix, this programme ignores any potential delays caused by funding issues, additional groundworks and /or planning variations as a result of survey work, any construction issues or other impediments such as CAA Airspace Change or Certification processes and /or other material issues such as DIO HRDF Beacon relocation.

On the basis the Applicant continues to minimise and gloss over material issues in relation to the HRDF Beacon, we have provided a brief overview below. This demonstrates that the issue is both a material impediment to the implementation of the Applicant's scheme, and terminal to its aspiration of having an operational airport by Q1 2022.

- There are restrictions on development around the HRDF Beacon, which prevent any development within a 120 metre radius. Thereafter, a 1 in 25 slope is safeguarded.
- Therefore, the failure to relocate the HRDF Beacon would make the implementation of masterplan proposed by the Applicant impossible due to development being located within the safeguarded zone.
- For example, Works No. 1 (airside cargo facilities with a building height of up to 20m) could not be located within 620m of the HRDF beacon (i.e. 120m + (25 x 20m)). Based on the Applicant's Masterplan [APP-079], all the proposed Works No. 1 buildings appear to be located within a safeguarded area.
- At the CA Hearing held on 20 March 2019, Mr Boulton for the DIO was asked by Mr MacDonald of the ExA to confirm whether there would be a need for a period of overlap, where both the existing and new HRDF Beacons would be required. Mr Boulton confirmed that a period of 2 years has been mentioned in discussions with the Applicant to ensure that the operational capability of the new site is as good as the old site. This specific interaction is available to review at 1 hour 20 minutes and 40 seconds of recording 2 of the CA Hearing.
- As a consequence, construction of Works No. 1 (within the current safeguarding area) would not commence until 2 years AFTER the new HRDF Beacon is in place and operational.
- Assuming that there is a 12 month construction period for Works No. 1 (i.e. a start date of Q1 2021) and the DIO maintains its position on the required "overlap", the new HRDF Beacon would need to have been operational in Q1 2019. Otherwise, the Applicant's programme is not achievable even ignoring all the other issues with the Applicant's proposals.

- Placing the issue of an appropriate location to one side (and the acquisition of the relevant land interest), the relocation of the HRDF Beacon would also require a separate planning application. This would require public consultation (including in relation to any new safeguarding cones that are required). Even assuming all these issues could be addressed, it is not clear how a new Beacon could be operational before the latter part of 2020, resulting in an 18 month+ delay.
- We note that the ExA has asked a further question of the Applicant (CA.3.6) and await the Applicant's response.

Written Question OP.2.7

Public Safety Zones

At the need and operations Issue Specific Hearing (21 March 2019) it was confirmed that general aviation movements would be counted in the number of flights required before public safety zones are designated. An indicative drawing has been produced.

i. Bearing in mind this answer, at what year of operation would you expect PSZ's to be required at Manston?

ii. Has this been taken account of in the Environmental Statement?

iii. Has the PSZ drawing taken account of the forecasts, or is it mainly based on the PSZs at other airports?

The Applicant's Response

i. Guidance does not set an Air Transport Movement (ATM) limit above which a PSZ should be introduced, but generally if ATMs exceed 1,500 per month (18,000 per year) and are expected to exceed 2,500 per month (30,000 per year), then one is likely to need to be introduced. The Applicant's forecast is for 26,468 ATMs by year 20 and 5,840 general aviation movements (which are not technically ATMs but still affect the decision to create a PSZ), and the Noise Mitigation Plan contains a cap of 26,468 ATMs and 38,000 general aviation movements. It is therefore unlikely that a PSZ may need to be introduced before year 15; but possible by year 20.

ii. Although the PSZ does not form part of the DCO application and would need to be implemented by Thanet District Council following a recommendation from the DfT and in consultation with the CAA, an addendum to the ES has been produced that discusses the likely effects of such a declaration. This document has been included at Appendix OP.2.7.

iii. The PSZ drawing is based upon PSZ's at other airports and is not related to the forecasts for the development. It should be noted that the PSZ drawing at Appendix 8 of [**REP5-024**] are indicative. There are a range of factors which influence the size and shape of the PSZ, such as aircraft types operated, number of movements for each type and worldwide accident data. By the time Manston is predicted to have crossed the current threshold, regulations on PSZ could have changed, Manston operational data will be available and worldwide aviation safety will have changed (in all likelihood improved); all these factors could influence the size of any PSZ (if still required).

SHP Comments on the Applicant's Response

SHP consider the Applicant's answers to be a clear demonstration of its unreasonable behaviour, which is requiring SHP to incur wasted and unnecessary expense in being forced to providing evidence to the examination to counter the Applicant's assertions.

i. The Applicant's comment that *"[i]t is therefore unlikely that a PSZ may need to be introduced before year 15; but possible by year 20"* shows a lack of understanding of the requirements for PSZs.

SHP has provided detailed submissions on this matter including;

- SHP's comments on the Applicant's responses to Examining Authorities Written Questions OP.1.7 and OP.1.8 [REP4-067];
- SHP's Written Summary of oral submissions put at the Need and Operations Hearing [REP5-029];
- SHP's response to the ExA's second written questions [REP6-053].

In summary, these submissions explained that PSZs would be required to be put in place just after the third year of operations (i.e. Year 4 of the forecasts). This is shown in the table below, which is based on the Applicant's forecasts (including the 5,840 general aviation movement).

RSP Forecasts	Cargo ATMs	Passenger ATMS	Other ATMs	Total ATMs	ATMs / Month
Year 1	-	-		-	-
Year 2	5,252	-	5,840	11,092	924
Year 3	5,8104	4,932	5,840	16,576	1,381
Year 4	9,700	5,024	5,840	20,564	1,714
Year 5	9,936	5,064	5,840	20,840	1,737
Year 16	14,678	8,160	5,840	28,678	2,390
Year 17	15,265	8,428	5,840	29,533	2,461

It is clear that the Applicant is forecasting to exceed 1,500 movements per month (including general aviation movements by the middle of year 4 (the 3rd year of operations). It is also clear that the Applicant is forecasting that it will exceed 2,500 movements per month by year 18.

Therefore, based on paragraph 3 of the relevant Guidance which states that *"[T]he Public Safety Zones are based upon risk contours modelled looking fifteen years ahead, in order to allow a reasonable period of stability after their introduction" PSZs will need to be applied from year 4 of the Applicant's forecasts (or very soon thereafter).*

Whilst the Applicant accepts that *"if ATMs exceed 1,500 per month (18,000 per year) and are expected to exceed 2,500 per month (30,000 per year), then one is likely to need to be introduced",* the Applicant bizarrely then asserts that the PSZs

Year 18	15,875	8,707	5,840	30,422	2,535
Year 19	16,510	8,997	5,840	31,347	2,612
Year 20	17,171	9,289	5,840	32,300	2,692

will actually only need to be applied 15 years later. This is patently ridiculous given the clarity in the Guidance that PSZs are based on forward looking forecasts.

It is apparent that the Applicant has had not sought advice from the relevant bodies. Had it done so (as SHP did), then it would have known the correct interpretation of PSZs policy.

SHP has appended email correspondence from the Department of Transport confirming the policy position as Appendix OP.2.7(i), an extract of which is given below;

"You are correct to note that Public Safety Zones are based upon risk contours modelled looking fifteen years ahead and are generally re-modelled every seven years or so, and that PSZs will be redefined if a runway is extended or if a landing threshold is moved.

As a matter of policy, the Department for Transport applies Public Safety Zones at aerodromes that have more than 1,500 movements a month and which are likely in due course to exceed 2,500 movements. I am therefore happy to confirm that this is the criteria for assessing the requirement for PSZs for new and enlarged airports."

This is not a difficult or a grey area and it is incomprehensible that Applicant continues to misrepresent the position.

ii. SHP would note that the effects of PSZs were not considered or assessed at all in the Environmental Statement, despite representations from SHP at the consultation stage.

SHP would also note that the addendum to the ES submitted by the Applicant at DL6 is infected by the same basic misunderstanding that PSZs are based on forecasts 15 years ahead but that PSZs are not applied until the end of that 15 year forecast period. This is nonsensical.

The ES is indicative only and does not reflect the PSZ requirements that would be specific to Manston, given its proximity to population centres and the increased accident rates of cargo aircraft. The addendum to the ES does at least explain some of the significant implications that would result from the introduction of PSZs.

iii. As the Applicant has accepted the PSZ drawing submitted at DL5 showing a 1 in 10,000 risk contour is indicative only. As SHP noted in its answer to this question [REP6-053], the 1 in 100,000 PSZ contour would extend much further based on the comparison to the airports identified by the Applicant. Whilst detailed modelling would be required to assess the 100,000 PSZ risk contour, at a minimum it would be expected to extend at least 2.5km from the end of the runway and would therefore cover a large part of Ramsgate, with consequences for those living there.

Written Question SE.2.2

Employment – Comparators

Volume 4 of the Azimuth Report [APP-085] uses East Midlands Airport (EMA) as a comparator for direct job levels, with a 2% adjustment used from yr 11.

i. Do the figures used from EMA include jobs across that airport site, including those based at the Pegasus Business Park?
ii. If so, given evidence that much of the business park constitutes non-airport related development and employment, how useful are such employment figures for comparison purposes?
iii. Of the employment figures for EMA, what percentage are within the aviation industry?
iv. Provide justification for the 2% adjustment from year 11. Would the opposite not be true, given economies of scale once operations became established?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In relation to employment, the Applicant continues to rely on out of date general ratios for employment density and, in any event, these relate to averages over the whole of Europe, including the major hub airports with major airlines headquartered at them so driving up employment density. This is simply not a relevant basis for a dedicated cargo/low cost airport where employment densities would be significantly lower. The response does not address the ExA's points about the structure of employment at East Midlands Airport specifically.

In terms of the location of employees, it is not correct to say that employees at East Midlands Airport live locally to the Airport.

The East Midlands Airport Sustainable Development Plan states that 89% of employees live within the neighbouring 3 counties https://live-webadmin-media.s3.amazonaws.com/media/2931/ema-sdp-2015-economy-and-surface-access.pdf. This is quite a wide area covering Derbyshire, Leicestershire and Nottinghamshire, some 85% larger than the total area of Kent and 67 times the area of Thanet. Hence, on a comparative basis, it is reasonable to expect that the catchment area for employment at Manston would not be localised in the manner asserted by the Applicant.

We note that the Applicant has made some attempt to adopt our recommendations regarding the inclusion of a productivity factor (see York Aviation Report February 2019, paras. 3.53-3.54) [REP3-025]. However, this is meaningless if the initial employment density has been set too high. Our comments on the validity of the socio-economic assessment need to be seen in the round and not 'cherry picked' as the Applicant seeks to do."

Written Question SE.2.4

Employment – Comparators

Evidence submitted by Stone Hill Park [including REP4-067] states that Glasgow Prestwick would be a more appropriate comparator airport for direct jobs numbers, given the use, size and employment sectors of that airport.

i. Do you agree with this viewpoint? If not, justify given the usage and mix of freight and passenger traffic at East Midlands and Glasgow Prestwick.

ii. If so, how would this affect your predicted job numbers?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"*We note that the Applicant seeks to rebut our adoption of Prestwick as a relevant benchmark for employment at Manston. We still consider Prestwick to be the appropriate benchmark for employment density (jobs per workload unit) at 650. If they wish to use East Midlands as a benchmark, it is essential that the jobs related specifically to the relevant activity only (cargo handling, passenger processing and aircraft maintenance) are included, i.e. excluding non-airport related jobs that are located in the vicinity of the Airport, e.g. Pegasus Business Park. As made clear at paras 3.53-3.54 of York Aviation's February 2019 Report, the aviation related employment density at East Midlands is substantially lower than 887 jobs per workload unit. To the extent that operations at Manston are more highly automated than at East Midlands, as is claimed by the Applicant, the relevant employment density would be proportionately lower still."*

Written Question SE.2.6

Employment

Thanet DC [REP3-010] consider that there remains significant uncertainty about whether the socio-economic benefits from the proposal, in terms of job creation, attract significant weight in support of the proposal and consider that such benefits may have been potentially overstated in the ES. It notes that

the figures predicted for year 20 would represent 8.3% of all jobs in Thanet and consider that the magnitude of change for the number of jobs created needs to be reassessed against the total number of jobs in the District to reflect the actual impact on employment, with such an effect potentially not falling within the category of 'major beneficial - significance'

Provide any evidenced counter arguments to this viewpoint.

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"As noted above, the job numbers in Thanet have been substantially overstated due to inaccurate assessments of direct local employment as distinct from in-commuting and also through the application of national rather than local level indirect/induced multipliers (see York Aviation Report November 2017, para. 5.6) [REP3-025]."

Written Question SE.2.7

Employment – Detailed figures

Appendix SE1.5 of [REP3-187] gives detailed job figures for year 20 of operation. This includes 507 posts for employees for freight for the airport operator, with a further 1,250 employed in the cargo sheds (not by the airport operator), 600 jobs in the MRO facility, 50 staff in General Aviation and 40 in Fixed base operations and helipads, as well as 50 surface access staff. York Aviation on behalf of Stone Hill Park [REP4-065] note that 600 employees in MRO/aircraft dismantling appears excessive and cite the demise of the Monarch Engineering heavy maintenance operation which employed 250 staff at Luton and Birmingham

i. Provide an indication or further breakdown of where or what positions the 507 and 1,250 cargo/freight staff would do.
ii. Provide justification for the 600 MRO staff.
iii. What positions would you expect the 50 GA staff to fill?
iv. What roles would 50 surface access staff fill at the airport?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"It is unclear why there would be 4 shifts of handling staff when the Airport is shut at night and the normal pattern is 3 shifts even where an airport is a 24 hour operation.

There are no precedents stated for the assumed levels of employment in MRO activity. Based on information available elsewhere, the assumption of 600 staff employed in aircraft recycling is heroic. The ExA should ask for evidence as to the justification for this figure. By way of comparison, Monarch Engineering, prior to going into administration, employed 553 staff operating large hangars and substantial aircraft maintenance across 3 large airports. Air Salvage International at Cotswold Airport, which has facilities for between 20 and 50 aircraft to be dismantled at any one time employs only 40 staff - http://airsalvage.co.uk/asi-celebrates-its-20th-anniversary-milestone/.

We note that the figures for staff bussing appear to be based on a 3 not a 4 shift system which is inconsistent. In any event, why would 14 drivers per shift be required just for staff bussing. This begs the question as to whether the costs of these staff and the busses been factored into the operational costs within the business model."

Written Question SE.2.8

Catalytic jobs

The calculation of catalytic job figures use an ICAO formula, which appears to be a national figure, but is applied at a local level.

i. Do you consider that the nationally based multipliers used for induced and catalytic job totals are appropriate within the local context of Manston, and if so, why?
ii. If so, how would this affect your predicted job numbers?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"If national figures are used as the basis of the employment estimates, including indirect and induced employment, displacement effects from other airports need to be taken into account. It is vitally important for there to be clarity on the geographies used in the assessment to ensure that employment and economic effects are not overstated."

Written Question SE.2.9

Displacement

Your answer to SE1.6 [REP3-195] considered that, as the proposal will currently meet unmet demand rather than displacing existing business from other airports that no account of job transfers or losses from other areas has been incorporated into the assessment.

However, the Azimuth report [APP-085] states that consideration of costs of switching airlines/forwarders has been taken into account, which implies that some demand would have been displaced from elsewhere. Furthermore, the answer to SE1.1 states that significant effects on outbound tourism are not anticipated as existing connections, including Gatwick, Heathrow, and London City Airports, Ebbsfleet International for trains to the continent and cross channel ferry via Dover already exist. This also implies that outbound tourism business may be displaced from other existing areas, both within the South East, and within Kent itself.

Do you maintain the view that the proposal would solely meet unmet demand, and if so, do you have further justification for this viewpoint?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In this response, the Applicant tries to argue that there will be no displacement of activity as jobs lost will be backfilled by other jobs. What is the evidence for this? The ExA's question as to whether the development would solely be to handle unmet demand is simply not addressed. As the evidence makes clear, demand is being met currently but by other airports and by trucking. Hence, there is displacement of activity from somewhere and certainly displacement of growth at a national level. Clawback of trucked activity is shown in the Northpoint model to reach between 125,000 and 600,000 tonnes in year 20 so citing 1st year of operation figures for displacement from trucking is disingenuous. No explanation is given as to why this trucking would be intercepted and fly from Manston in any event."

Written Question SE.2.12

Tourism

Paragraph 13.8.77 of Chapter 13, Volume 2 of the ES [APP-034] states that Thanet has approximately 3.1 million visitors annually, of which 75% are day visitors, meaning the remaining 775,000 individuals are overnight stay visitors. The ES further notes that anticipated passenger numbers associated with the proposal are around 1.4million in Year 20 and considers that this additional flux of people, if assumed to all be overnight stays results in a net increase of 81.6% compared to current annual tourist visitors, with 25% of visitors as overnight stays providing a potential for net increase of approximately 45.4% (paragraph 13.8.78).

i. 1.4 million passengers per annum equates roughly to around 700,000 passengers each way (if assuming passengers will generally use the same airport for inbound and outbound flights). Do you consider passengers are likely to stay overnight in Thanet before and after their outbound and return flight?

ii. Would it be fair to assume that many outbound passengers would be resident within the local area and so would have no need to stay overnight?

iii. Do you consider therefore the figures within the ES are likely to be accurate?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"This response speculates that older visitors are more likely to stay overnight prior to flying from an airport. There is no actual evidence that this is so. The use of Dubai as a comparator for the tourism industry is self evidently absurd.

The ExA's questions about the catchment are for passengers and the likelihood of them staying overnight locally is simply not addressed. No evidence is provided as to the extent to which the listed hotels in the vicinity of Southend Airport are actually used by air passengers as distinct from more general visitors to the Southend area who chose to use new rather than older hotels."

Written Question SE.2.15

Tourism

What percentage of inbound passengers do you consider would be likely to constitute tourist, and which areas/cities would they come from?

The Applicant's Response

Please refer to the Applicant's answer as set out in REP6-012.

SHP Comments on the Applicant's Response

Comments extracted from York Aviation note (see Appendix 1):

"In this response, the Applicant first of all uses average data from all UK airports (including Heathrow) as a basis for its estimate of potential inbound tourist numbers that might use Manston and then concedes that data for smaller airports might be more relevant. It is somewhat misleading, therefore that is includes Gatwick, Stansted and Luton in its list of smaller airports, handling 45.9 mppa, 25.9 mppa and 16 mppa respectively in 2017."

APPENDICES

Appendix 1…….York Aviation's supplemental note on the Applicant's Answers to Second Written Questions
OP.2.7(i)……Correspondence with Department for Transport regarding Public Safety Zones

York Aviation

Manston Airport NSIP

Comments on Applicant's Deadline 6 Responses to Second Questions from the Examining Authority

Introduction

As with other submissions made by the Applicant, we note that the answers given are in places inconsistent and contradictory and this serves to undermine their credibility and to cast further doubt upon the overall robustness of the need case. Many of the responses simply repeat material already submitted and do not provide the further requested clarification nor, in some cases, respond to the question put.

We comment here on points of relevance to the need case and the forecasts of usage for the development that underpin the entire NSIP Justification, including the assessment of socio-economic impacts. We have referenced our answers to the ExA's question number but do not repeat in full the question and answer given. We cross refer as required to the York Aviation 2017 Report, the 2019 Update Report (appendix 4 of REP3-025), our previous comments on the Applicant's Deadline 3 Responses [REP4-065] and submissions made following the Compulsory Acquisition and Need and Operations Hearing as required where points have already been addressed in our evidence. Where we have nothing to add to our previous analysis, we do not comment on the specific question and answer.

Question	Commentary
Draft DCO	A definition of 'airport related' development is now provided. This does not appear to adhere to the principles set out in the Planning Act 2008 (Guidance on associated development applications for major projects). This guidance requires that associated development should be directly related to the principal development, supporting either its construction or operation and of a proportionate scale not merely to provide a cross subsidy to the cost and operation of the principal development. The definition provided by the Applicant includes uses related to passenger aircraft operations, business/general aviation and aircraft maintenance/recycling, none of which are directly related to the principal development, namely the alteration of an airport to increase by at least 10,000 a year the number of air transport movements of cargo aircraft for which the airport is capable of providing air cargo transport services. Hence, of those uses covered by the proposed 'airport related' definition, applicable to the Northern Grass, the following cannot be considered as directly related to the principal development, namely *"flight catering, car hire activities, maintenance and valeting operations, support functions for aircraft maintenance …… business aviation facilities"*. Furthermore, for *"airline training centres, airline*

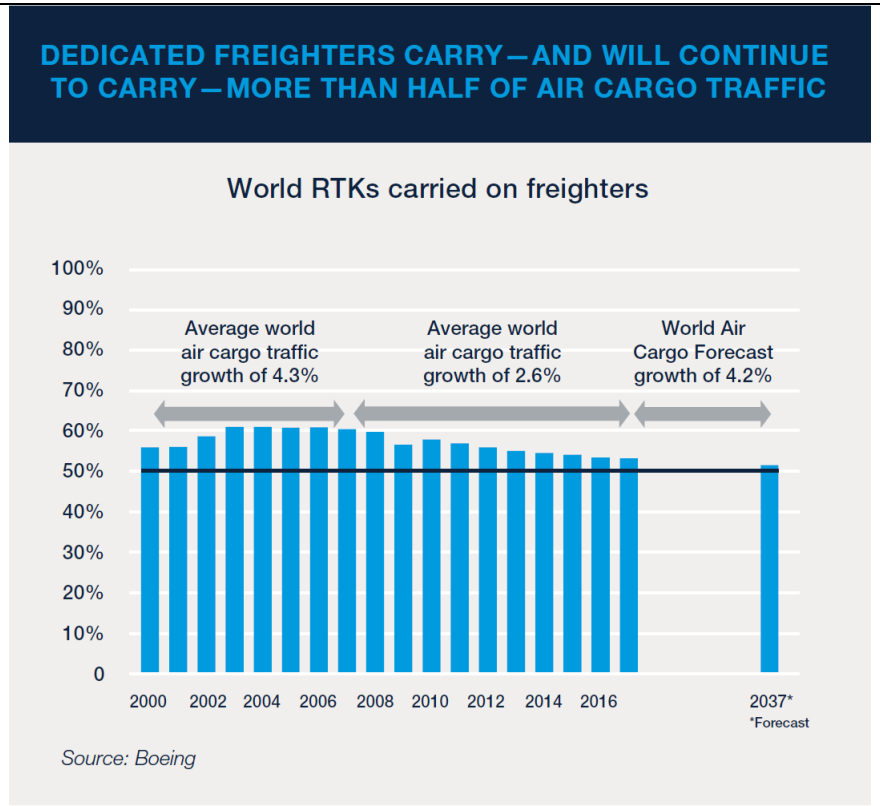
	computer centres, security facilities … and storage facilities for airlines" to meet the test they would need to be clearly demonstrably related to cargo airline activity. It is not appropriate, in the context of the associated development test to construe the definition of 'airport-related' more widely, as the Applicant seeks to do, to include all activities *"related to, or associated with, or supportive of operations at Manston Airport"* as it is not the entirety of the operation of Manston Airport that constitutes the principal development. Indeed, the development of the passenger terminal and the maintenance/recycling hangars are themselves designated as Associated Development in Schedule 1 to the Draft DCO (as indeed should the general aviation hangars/FBO at Work No. 2 and the apron associated with the maintenance recycling hangars at Works No. 10 and 11 as neither of these are part of the cargo operation forming the principal development). By definition, then, activities associated with passenger terminal operations and maintenance operations cannot be associated development and should be excluded from the airport related definition in this case. It would be normal practice for an airport related definition to also include some requirement for an operational linkage between the development proposed and the actual operation of the airport. The use of the term supportive or associated with could imply acceptance of any development providing, inter alia, financial cross subsidy to the operation of the principal development.
AQ.2.1	The aircraft types, PA28 and PA34, used in the noise and air quality assessment as representative general and business aviation aircraft types are not representative of the full range of aircraft that could be operated for business aviation purposes if an FBO is provided as claimed by the Applicant. It would be expected that at least some proportion of the 38,000 general aviation movements assessed for the EIA would be operated with small jet aircraft leading to higher emissions and higher noise. This is yet another example of where the environmental assessment has not considered a worst case.
CA.2.18	See answer above regarding the inadequacy of the proposed definition of 'airport related' in the context of the DCO principal development.
CA.2.19	The Applicant's response fails to address the extent to which the proposed development on the Northern Grass is likely and/or intended to provide a cross subsidy to the principal development. If there was a need for such uses to support the operation of Manston Airport, for which we can find no supporting evidenced based on airport operations elsewhere (see comments on the answer to OP.2.5), the suggestion that such facilities would need to be located elsewhere on an unplanned basis is simply not relevant. The Applicant has failed to substantiate the need for the proposed quantum of development on the Northern Grass. The answer given is nothing more than obfuscation.
DCO.2.10	As noted above, the Act requires associated development to be directly related to the principal development. It is not sufficient for such development to be merely *"associated"* with the principal development.
DCO.2.44	The Applicant here presents a different definition of associated development stating that support in this context means: *"to have its ordinary meaning of 'strengthen, maintain' (Collins), i.e. the facilities provided by those works would, together with the airside facilities, provide a more complete service for the airport's cargo customers.* *ii. By supporting works that are a nationally significant infrastructure project concerning aviation, this wording would ensure that they were for aviation purposes (although note that the word 'required' does not appear in the guidance). To make doubly sure, however, each work is additionally required to be 'aviation-related'."* As noted above, in relation to the Draft DCO, the exemplar uses given in the proposed definition of aviation related include uses totally unrelated to providing *"a more complete service for the airport's cargo customers".* Given the clear requirement for associated development

	to be directly related to the operation of the principal (in this case cargo) development, it is important that there is absolute clarity in the DCO as to the appropriate test and its applicability.
ND.2.1	The Applicant continues to claim that Vol II of the Azimuth Reports *"is an evidence based assessment of likely levels of cargo and passenger traffic at Manston"*. This is patently nonsense as was made clear at the Oral Hearing on Need and Operations, where Dr Dixon conceded that she had provided a general assessment of the scale of the market that Manston might attract rather than a specific forecast of what it would attract when considerations of cost and viability are properly taken into account. In this answer, the Applicant seeks to construe that commercial viability is considered independently of Azimuth forecast, which may be true in relation to the viability to the Applicant in its own business model (albeit this is not what is stated in the Application Documents – see York Aviation Report February 2019, para. 7.3). However, a forecast of the use of an airport cannot be made without giving consideration to the relative price to users. Usage is not independent of cost, as indeed Northpoint acknowledge in their report submitted at Deadline 4 at para. 67. Price is vital to understanding the extent to which any capacity provided might actually be used in practice. Given the Applicant's stated intention to be a 'price setter' and the high level of charge per movement or per tonne indicated in the 'business model' spreadsheet submitted, applying these to the likelihood of the capacity being taken up or, in other words, the forecasts being realised, is essential.
ND.2.2	We note that the ExA asked for evidence on *"interviews and conversations with other experts and industry figures"* carried out by the Applicant and their *"conclusions relating to the proposed scheme"*. It is extraordinary that there are only 3 examples cited in response, none of which are leading cargo industry experts. First of all, an invitation to attend the London Infrastructure Summit is nothing more than an invitation to send a delegate to a conference. There is no evidence that RSP has been invited to speak at the Summit, nor the extent to which the proposed development at Manston is supported by London First or other sponsors of the Summit. The second company/organisation cited, BAS international, are a broker leasing aircraft for business aviation use. They are not a player, major or otherwise, in the international airfreight sector. Any comments made by them will relate solely to slot constraints for business aviation activities at the main London airports and are not relevant to the position for freighters. The third company, Sound Moves, operate a niche business for moving music equipment and staging. At best, this would be a limited operation with a handful of flights a year. By way of example, they are stated as currently using Doncaster Sheffield Airport for their operations (Answer ND.2.5). Total cargo ATMs at Doncaster in 2018 were less than 150 according to CAA Airport Statistics, of which Sound Moves will not account for all of the movements. This would represent a very small niche operation. In total, this response provides no evidence of an ongoing dialogue with any of the users which it is claimed by the Applicant might use Manston for cargo operations. In order for the Applicant's forecasts to be realised, it would be necessary for an operator of dedicated cargo flights on a substantial scale to be attracted. There is absolutely no evidence that the Applicant is actually engaged in any sort of dialogue with such operators.
ND.2.3	This response by the Applicant ignores nature of fish and shellfish trade. Somewhat misleadingly, the Applicant cites figures for total export volumes related to seafood. This includes exports in refrigerated ships to countries such as Ireland, France and Spain which are 3 of the 4 top markets and, self evidently, most likely to be served by refrigerated ships or trucks. As is made clear in the Steer Report for Airlines UK (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, para. 20) [REP5-

	031], export of salmon products makes up a substantial portion of the trade and this is distributed globally using bellyhold capacity available from Heathrow, with the US being a large market related to its place in the top 4 export markets for fish from the UK. In any event, it is far from clear how 1 flight a week (for 26 weeks of the year) would meet the requirements of this trade and would offer any practical time advantage such as to justify the use of air freight rather than sea or truck. Other niche markets related to race horses, F1 and rock bands are cited as potential for Manston. However, it is far from clear how the suggestion of 2 based aircraft operating 4 flights a week would be viable for an airline. Furthermore, there is no evidence of this scale of demand for such niche markets. The comment made that Manston may only receive part loads on such aircraft strongly suggests, in any event, that any such operations would not be by aircraft based at Manston. Furthermore, as has previously been pointed out at the Hearings, other airports such as Stansted and Doncaster are better located in relation to much of the horse racing trade and East Midlands would be the best located airport for F1 operations which are to a large extent centred in the East Midlands Region in the vicinity of Silverstone. The claim that such services might use Manston relies, once again, on the unsubstantiated assertion that MAG will seek to displace such freighter activity from Stansted. Even if that was the case, which we do not believe, for such niche air cargo operations, it is hard to see how 1 or 2 flights a week by such activity would justify the investment of £186 million necessary to reopen Manston as a cargo airport in the first instance.
ND.2.4	The Applicant again provides secondary data about export and import markets. This response is not supported by any analysis of what commodities would use Manston or why. On what basis is it considered realistic that Manston would obtain a 6% share of import tonnage and 14% share of export tonnage to/from the UK's top 15 Non-EU trading partners. No explanation is provided as to what would drive a preference by exporters to use Manston. All the response does is to take the Azimuth forecast as a given and then describe the consequences. This provides no evidence as to the likelihood of it being achievable.
ND.2.5	This response simply repeats thesis of congestion at other airports, which we dispute (see York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 – ND.1.13, ND.1.15, ND.1.16, ND.1.18) and that Manston will be state of the art, meaning that it will attract operators away from these other airports (i.e. displacement of activity). This appears to ignore investment in new state of the art cargo handling facilities at East Midlands and Heathrow, in particular the developments underway at both locations by SEGRO. This response also contains the extraordinary claim that Manston would offer a *"value for money proposition"*, despite the fact that the business model shows the costs of using the facility to be between 3 and 6 times the charges levied at other airports (see York Aviation Report February 2019, para. 7.36). There is no evidence that other airports would not provide facilities for *"refrigerated storage and outsized freight"* if there was a business case for doing so. The response goes onto say that automation would have no effect on predicted job numbers. However, on the one hand the Applicant claims airports like East Midlands are not operating state of the art facilities employing the latest technology, on the other hand it persists in wrongly applying the overall employment density (jobs per workload unit including non-aviation jos) for East Midlands as the basis for its employment projections (see further comments on answers to SE.2.2 and SE.2.4 below). This is contradictory and inconsistent.

ND.2.6	The tonnage per movement set out in the Azimuth report is reflective of the erroneous fleet mix, including a substantial number of ATR72 turboprop aircraft necessarily carrying a limited load. The explanation provided by the Applicant in this response is simply illogical. If the intention is for the e-commerce integrator to be supplying product to fulfilment centres in the UK, why would outbound flights by larger aircraft carry 100% load and inbound flights 20%. Nor does it make sense for the small feeder flights to carry 100% inbound as this would imply that Manston would be functioning as a hub operation with product shipped in on small aircraft to be shipped out again on larger aircraft. This does not fit with the business model otherwise described by the Applicant or its attempt at a justification as to why such an e-commerce integrator would locate at Manston. The whole story of the role of e-commerce is illogical. To the extent that there is a market for this type of activity, it is to bring product to the UK for UK-wide distribution. Any hub would logically be located near the centre for production of the goods within the UK, to the extent to which there are UK goods for export, and be far more likely to be in the Midlands for the distribution of inbound goods and not at Manston.
ND.2.7	It is notable that the Applicant is unable to identify any research or data which disputes our analysis of the order of cost difference between dedicated freighter operations and bellyhold freight (York Aviation Report February 2019, para. 4.7) [REP3-025] but, nonetheless says it continues to dispute the estimated order of magnitude of the cost difference. It is simply not credible for the Applicant to say that the cost difference is not relevant to RSP's business model as there will be other reasons why dedicated freighter aircraft will be used. This may be true for niche specialist cargos but does not apply to the bulk of general cargo. It is this latter cargo which makes up most of the trucking operations, the interception of which Northpoint rely on to justify its version of the tonnage forecasts for Manston (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, paras. 37 and 38) [REP5-031]. All the evidence points to cost efficiency being a significant factor in the decision as to how cargo is moved, particularly for trucked freight upon which the Applicant continues to rely in this response. In the light of the business model information provided by the Applicant, it is not credible to claim that Manston would offer "a strong value for money proposition". To the extent that asserted time savings are a factor due to lack of congestion, the Applicant offers no quantification of the value of these time savings to cargo shippers, taking into account access times from the origin/destination of the goods, which could be offset against the higher charges it proposes to levy.
ND.2.8	Whilst faster growth of freight activity at East Midlands Airport may not be reflective of a stronger regional economic performance, it is reflective of the emergence of a 'golden triangle' for UK Logistics operations in the Midlands, which is able to serve large parts of the UK effectively. It is clear that East Midlands is geared up for major increase in freight tonnage, supported by extensive logistic infrastructure development in the East Midlands Gateway and with the express support of local planning policy. Trucking of freight to Liege and to East Midlands is reflective of the air freight industry structure, not the specific consequence of constraint in London, and reflects the efficiency of centrally located hub operations. The repeated assertion that East Midlands is facing capacity constraints is not borne out by the facts, including evidence that the Airport is constructing additional aircraft stands as demand grows, alongside facility developments by other parties such as UPS and Amazon (see York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 – ND.1.15 [REP4-065] and https://mediacentre.eastmidlandsairport.com/new-facilities-for-east-midlands-airport-passengers/).
ND.2.9	In this response, the Applicant seeks to dismiss the impact of the current downturn in global air freight tonnages. It is important to note that we did not factor the short term downturn into our assessment of whether there is a need for additional cargo handling capacity at Manston (see York Aviation Report, February 2019, Figure 4.7). Even without slowing the growth in the early years, there is no need for Manston.

ND.2.10	This response seeks to downplay the significance of the use of the wrong charts from the Oxford Economics/Ramboll work for Transport for London (TfL). It is clear that, when properly read, this work demonstrates that the growth in demand is for bellyhold capacity not pure freighters in the London area. This is a key point. When read as a whole, in the context of the Mayor's position in relation to the need for hub capacity to serve London (on which York Aviation were concurrently working alongside Oxford Economics and Ramboll), it is clear that this analysis reflects the shortage of hub capacity for passenger and bellyhold operations combined rather than any shortage of capacity for dedicated freighters.
ND.2.11	The final version of Azimuth Reports may not identify carriers specifically but the fleet mix in the ES, which was stated by Wood at the Hearings to be derived solely from the work of Azimuth, does and this level of detail has been used to inform the environmental assessment along with the specific markets proposed and sector lengths (relevant to air quality and climate change considerations). The Applicant cannot resile from this as its evidence. The response continues to claim that the forecasting methodology is robust, relying on Northpoint's attempt to corroborate the Azimuth results (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5 (paras. 28-38) [REP5-031]. The response fails to provide the additional evidence to justify the forecasts requested by the Ex A and self-confessedly has failed to take key factors into account (see comment on ND.2.1 above).
ND.2.12	The Applicant claims that two of the new integrators would make an early commitment to Manston but this is not supported by any evidence, nor are such integrators referred in response to question ND.2.2. In any event, East Midlands Airport is expanding facilities expressly for Amazon, which is developing a major fulfilment centre as part of the East Midlands Gateway. The answer does not provide any evidence that could be relied on. The assertion that East Midlands Airport has daytime slot constraints is without evidence and highly unlikely to be true.
ND.2.13	Despite the evidence provide by Altitude Aviation Advisory at Deadline 5 [REP5-029], the Applicant continues to assert that new e-commerce integrators would prefer to fly during the day on the basis that flights are not related to the achievement of delivery times but to restocking of fulfilment centres. However, in order to meet the delivery times required, goods need to be dispatched in the morning from these centres, requiring the restocking operation overnight. Overall, this response is muddled and inconsistent with other answers (ND.2.6, 2.14). If the requirement is for goods from overseas to be air freighted into stock fulfillment centres in the UK, this is inconsistent with the earlier answer that the widebodied aircraft would be carrying 100% outbound loads but only 20% inbound. This simply does not make sense. If the small feeders aircraft from Europe are bringing in imports to be distributed overseas by widebodied aircraft, how does that relate at all to stocking of fulfilment centres in the South East of England.
ND.2.14	In this response, it is claimed that the e-commerce integrator would be serving routes mainly to the US and Far East. It is totally unclear why an e-commerce integrator would be concentrating on exporting goods to the Far East and the USA as stated in the response to ND.2.6. Surely the key feature of Rockford and the role it plays in the US supply chain is its central location between E and W coasts of the USA. The UK equivalent would be East Midlands and, for Europe, this role is fulfilled by airports such as Liege and Leipzig.
ND.2.15	The response provided regarding the accuracy of Boeing and Airbus forecasts shows that Boeing was reasonably accurate in a 20 year projection of the total aircraft fleet but overstated demand for pure freighter aircraft by 25%. What the graphic provided shows is a reasonable degree of accuracy in forecasting total aircraft and revenue passenger miles but a significant overstatement of demand for pure freighters. The Applicant is wrong to state that Boeing does not project a decline in the share of freight carried in dedicated freighters globally. The Boeing 2018 Forecasts (https://www.boeing.com/resources/boeingdotcom/commercial/market/commercial-market-outlook/assets/downloads/2018-cmo-09-11.pdf) actually show a predicted reduction in the share of FTKs on freighters:



The reduction in the share of freighter aircraft movements will exceed that of RTKs due to increased tonnage per aircraft. If cargo growth undershoots 4.2% p.a. as seems likely given short term trends, the role of freighters is likely to be less (compare the previous period with 4.3% growth to the more recent period with 2.6% growth when the role of freighters declined).

The analysis of currently served routes from Heathrow only serves to emphasise the breadth of destinations available on a bellyhold basis from Heathrow. It is the Government's intention that a substantial proportion of the new capacity offered by R3 will be used to allow additional global points to be served. To the extent that there remain gaps in the network, it is difficult to see how the operation of dedicated freighter aircraft to fill these gaps would be viable as levels of demand are likely only to warrant infrequent services, which would result in freight being delayed compared to using well established bellyhold hub routings.

ND.2.16	This response does not address the question posed. Fruit and vegetables are relatively high weight/low value compared to say diamonds or specialist pharmaceuticals or electrical components, for example.
ND.2.17	In relation to the repeated references to York Aviation's work for TfL and the FTA, the reports when read in their entirety do not support the Applicant's view. Whilst TfL may well have stated that the reports were unambiguous and that they had relied on them, it is our understanding that they were not specifically asked in relation to the implications for Manston. The Applicant needs to provide evidence to support its claims. It is simply not reasonable to accept the Applicant's interpretation of these reports over those of the authors, particularly

	when evidence has been produced to demonstrate that the methodologies used within them, when applied to the current market position, simply demonstrate that there is no role or need for Manston (York Aviation February 2019 Report, paras 4.31 to 4.41). We do not resile from the point made in the report regarding the potential additional trucking cost to shippers but it does not follow that the solution was ever the need for a dedicated freighter airport, rather the need was and is for more hub airport capacity at London providing bellyhold freight capacity, which R3 at Heathrow will provide. The ANPS rightly recognises that the 3rd runway at Heathrow is the means of addressing this need.
ND.2.18	To assist the ExA, we have set out below the information on fuel prices relative to 2000. This is taken from Platts (https://www.spglobal.com/platts/en/oil/refined-products/jetfuel). The chart provided by the applicant deals only with fuel prices since 2012, the relativity to 2000 is shown below.

Jet Fuel Prices

New York (Platts)--09May19/0521 pm EDT/ 2121 GMT

$201.62 cts/gal

	SHARE IN WORLD INDEX	CTS/GAL	$/BBL	$/MT	INDEX VALUE 2000=100%
Platts Global Index	100%	201.62	84.68	667.73	231.48%
Platts Regional Indices					
Asia & Oceania	22%	194.91	81.86	646.72	233.90%
Europe & CIS	28%	200.10	84.04	662.25	226.43%
Middle East & Africa	7%	192.00	80.64	636.22	240.81%
North America	39%	207.47	87.14	688.39	231.65%
Latin & Central America	4%	209.42	87.96	677.27	243.65%

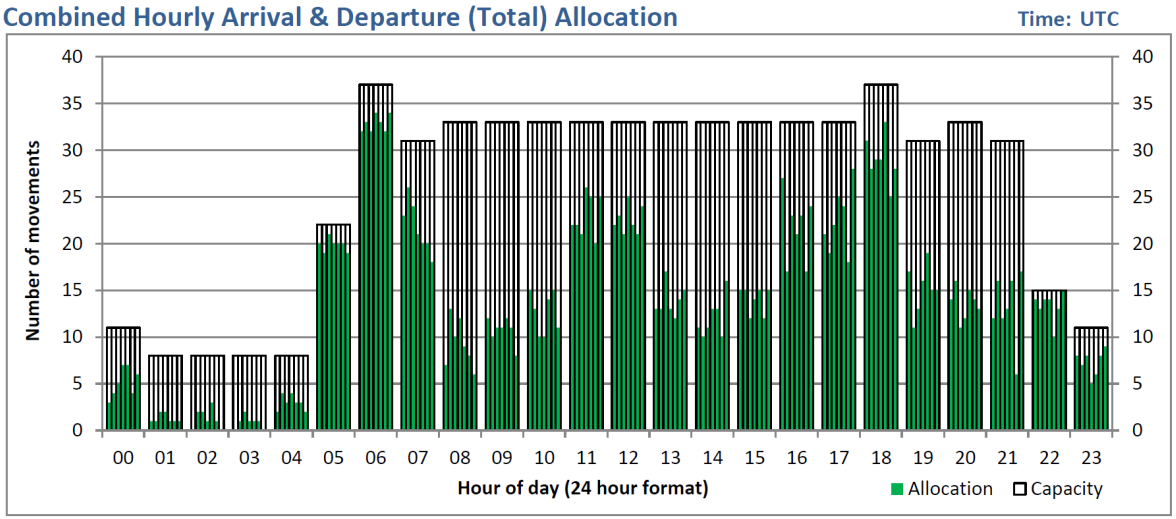
	This data (as referred to in the York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, para. 19) [REP5-031] confirms that fuel prices have risen by 131.5% since 2000. This increase brought about the change in the trend towards more trucking and less use of dedicated freighters. The more recent smaller magnitude falls have not been sufficient to reverse this trend. The hypothesis that air freight does not lend itself to trucking does not bear examination. As the Steer Report for Airlines UK makes clear (see York Aviation Report February 2019, paras. 4.13-4.15) [REP3-025], there is substantial trucking into Heathrow from Europe to avail of transatlantic bellyhold capacity so the flow is not just one way. The comments made in the response about rapid delivery with e-commerce appears, again, to contradict the claims above that e-commerce integrator freight will be less concerned with overnight speed of delivery and so be willing to operate in the hours when Manston is open.
ND.2.19	This response fails to address the possible economic effects of Brexit on GDP and demand. This is likely to far outweigh any temporary friction at the border, particularly given the emphasis on agreeing electronic solutions to border controls.
ND.2.20	This response simply repeats unsubstantiated assertions about capacity constraints at Stansted. We have already made the position clear at ND.1.13, ND.1.18, ND.1.31, ND.1.39 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4. [REP4-065]
ND.2.21	The adjusted limits at Stansted, consequent upon the recent planning consent still provide for 60% growth in cargo flights at Stansted (see ND.1.18 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4) [REP4-065]
ND.2.22	The contents of this response in relation to physical capacity at Stansted are again just speculation. The position in relation to available stand capacity for freighter aircraft at Stansted is set out at ND.1.8 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 [REP4-065]. The answer provided by the Applicant appears to ignore the existence of the apron to the east of the Cargo buildings which is available and used for freighters. From the Google Earth image previously submitted (Answer ND.1.8), it is clear that there is no airside road connection to these stands from the passenger terminal so they would be unsuitable for regular passenger use. We strongly believe that the current CAA data indicating that no freight is currently being carried on the Emirates services from Stansted since its inauguration on 2018 is incorrect (See Stonehill Park's Deadline 6 submission in relation to the Need and Operations Hearing, para. 4.43) [REP6-055].
ND.2.23	This answer provided by the Applicant fails to grasp the significant investment at East Midlands Airport in expanded modern freight facilities. New facilities will be just as state of the art as anything at Manston. This answer provided is nothing more than speculation.
ND.2.24	This response appears to be based on the concept that there is a unique market for dedicated freighter aircraft serving London and the South East in isolation from the rest of the country. There is no evidence that this is the case and goods flown from London often originate in the rest of the country but are consolidated in the vicinity of Heathrow as part of the process of seeking the most cost effective means of transport for goods, taking into account both time and cost. There is ample evidence that much of the air freight currently flown from London airports has origins or destinations in the rest of the country (see York Aviation Report February 2019, paras. 2.18, 4.25-4.27) [REP3-025]. Manston would inevitably be in competition with East Midlands to attract a share of this traffic and, given the overall location of demand across the UK, it would be reasonable to expect East Midlands to be the preferred alternative for any overspill from the London

	airports. The Applicant simply has not factored how the industry works in practice into its forecasts, including the role of East Midlands as a growing logistics hub.
ND.2.25	The Applicant is not strictly correct to argue that there would be no displacement of activity from East Midlands. In the counterfactual case of no development at Manston, East Midlands would be expected to accommodate a large part of the demand and is investing, with partners such as UPS, in facilities to enable it to do so, supported by local planning policy (see York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4, ND.1.15) [REP4-065]. If Manston were to enter the market and achieve any share of the projected market, this would be diverted from other UK airports and would need to be taken into account in any national level assessment. Nor is it correct to construe that the conventional integrators (DHL, UPS etc) constitute a distinct market from the 'new' e-commerce integrators (see York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, paras. 42-45) [REP5-031]. There is growing commentary in the media regarding the competitive inter-relationship between Amazon Air and the conventional integrators, which clearly see displacement of activity (e.g. https://dailymemphian.com/article/4718/Amazon-Prime-One-Day-Will-it-hurt-or-help-FedEx). It is clear that the markets are not distinct. In any event, Amazon is already present at East Midlands and if it was somehow attracted to Manston instead, this would be displacement. There is no evidence that East Midlands is turning general freighters away, the limited operation is more reflective of the limited market for such freighters, which could use East Midlands if any activity was, in future, displaced from Stansted. The critical factor here is proximity to the freight forwarding cluster at Heathrow, where loads are consolidated, not the general South of East of England market. In this context, Manston offers little to no reliable advantage. Hence, some element of any growth at Manston would effectively be displacement, so leading to reduced economic activity at other airports and reduced employment that would need to be taken into account at the national level of the employment forecasts as presented by Azimuth.
ND.2.26	The general description of road traffic issues in the vicinity of Bournemouth Airport could apply equally well to Manston.
ND.2.27	The dominance of long haul freight at the London airports is reflective of the global connectivity offered by Heathrow in bellyhold. The fact that most freight is shipped this way is reflective of bellyhold capacity available. Given the available bellyhold capacity at Heathrow and, increasingly, at other UK airports, there has been little need for dedicated long haul freighters. It is for this reason that the ANPS sees R3 at Heathrow as the primary means to ensure that the UK's air freight requirements are met for the longer term. Although the ExA's question asked about the *"window of opportunity"* for Manston, as raised in the Northpoint Report submitted at Deadline 4, the answer now seeks to construe Manston's role as entirely complementary to Heathrow. It would be helpful to the Examination if the Applicant could clarify what their position is. In practice, if there was realistically a complementary role for Manston, why would this not have manifested itself by growth at Manston prior to its closure in 2014, given long standing congestion and shortage of slots at Heathrow and in the light of the ambitious plans for air freight growth being advanced by its previous owners and operators (including Plane Station for which Tony Freudmann was a Director). It is more likely now that any potential complementary role would be materially lessened as a consequence of the additional capacity provided by R3.

ND.2.28	The response seems confused regarding permitted development rights, as the ExA has pointed out the latest issued questions of 10th May. Cargo aprons and supporting operational buildings could be built as permitted development under Class F of the General Permitted Development Order 2015, albeit they would be subject to environmental screening and, potentially, environmental assessment dependent on scale. The 15% restriction applies only to passenger terminal buildings. Again, the Applicant's answer depends on the unsubstantiated thesis that the other airports (East Midlands and Stansted) will seek to displace general freighter activity. There is no reason why the other airports could not use Permitted Development rights or otherwise apply for permission for such state of the art buildings as the Applicant proposes for Manston if there was, indeed, a business case for them. It is important to recognise that the risk of aircraft being subject to delay at an airport is not due to slot constraints at the airport in question as these slots relate to planned operations. Rather, the issue of *"cargo aircraft being delayed for some considerable time waiting for a slot"* is more often related to the need to obtain an ATFM (Air Traffic Flow Management) slot from Eurocontrol related more generally to congestion in the airspace over Europe as a whole. Manston will also be subject to such potential delays, which happen regardless of congestion or not at the departure airport. This answer further repeats the claim that automation will not affect 'existing' jobs but that is not the point. An automated airport will almost inevitably have a lower employment density than a current cargo airport (see further comments on answers to SE.2.2 and SE.2.4 below). This will impact on the employment forecasts going forward.
ND.2.29	This response misrepresents our position. Integrator bases, and their supporting infrastructure, rely on central locations able to serve large markets, i.e. Leipzig and Liege, and East Midlands in the UK on a smaller scale. Manston is simply in the wrong location to be favoured for this type of operation. The concentration of infrastructure around the main hubs relates to infrastructure supporting bellyhold operations which also, in the case of Frankfurt, supports some dedicated freighter activity to compensate for the lower volume of bellyhold capacity available there. As noted at ND.1.10 of York Aviation Comments on Applicant's Deadline 3 Responses to Questions from the Examining Authority submitted at Deadline 4 [REP4-065], the use of the DfT capacity chart from UK Aviation Forecasts 2017 is not relevant as it relates only to passenger terminal capacity and the circumstance of no third runway at Heathrow. We have not expressed concern about the competitive effect of Manston on the case for R3 but the exact converse.
ND.2.30	This response by the Applicant contains the unevidenced claim that Manston would offer *"lower shipping costs"*. This flies in the face of the Applicant's own business model showing materially higher charges and the evidence related to the relative cost of dedicated freighter operations compared to bellyhold, which stands unrebutted. This statement is not consistent with the 'price setter' claim made by the Applicant.
ND.2.31	This response contains a long treatise on the length of time taken to build new runways in the UK. However, the response does not address the ability of airports to add cargo handling capacity where and when needed. The second part of the answer deals only with the scope for adding hourly capacity on a runway that is already operating at its maximum. Utilisation of a runway can be increased by providing additional infrastructure, e.g. stands, terminals, to allow greater utilisation of existing

	available capacity and by increasing utilisation over a day. In many cases, the declared runway capacity at an airport may reflect the operation of other constraints, often stand/apron constraints, which mean that the full use of the runway cannot in practice be achieved without the provision of other infrastructure, some of which may be permitted development or otherwise considerably easier to obtain planning consent for.
ND.2.32	It is now asserted by the Applicant that the 770 B737 movements shown as operating Postal Services will not in fact be related to mail services, as shown in the ES, due to the night movement restrictions now proposed. This implies they would be for some other unstated purpose. Given the Azimuth 'forecast' relied on for the ES was produced bottom up, airline by airline/route by route, rather than developed from consideration of an overall share of the market, the need for these services does not exist independent of the airline/route expected to operate them. Hence, if these are not mail services, they have to be stripped out of the forecasts. Similarly, any other specific operations which could not operate at night due to the planned restrictions, such as integrator operations, would also have to be stripped out.
ND.2.33	This response seeks to rebut the point made by Stonehill Park regarding CAA data by reverting to using Boeing RPK forecasts and applying these to non-domestic freighter movements to argue that there is sufficient market for Manston. This is nonsense, as we made clear in the York Aviation November 2018 (para. 2.47) and February 2019 (para. 3.23) reports [REP3-025]. This is once again a misapplication of data and growth rates by the Applicant. It is unclear where the up to 1.5 million tonnes cited of excess cargo comes from but, to the extent that this derives from the Northpoint Report submitted at Deadline 4, we have explained how this is not a proper or realistic approach in the York Aviation Supplementary Note following Hearings on Compulsory Acquisition and Need submitted at Deadline 5, paras. 28-38 [REP5-065].
ND.2.34	The only advantages that the Applicant claims for Manston are its runway length, which is no longer than several other airports in the UK, its geographic location in the UK, which is more of a disadvantage then an advantage relative to the totality of the market, and the fact that it is currently unused. This latter point is not an advantage as it means that anyone wishing to use it will have to bear the full cost of bringing it into use. The response again claims, without evidence, that Azimuth's 'forecasts' take into account growth at other airports and that it can intercept demand otherwise being trucked between the UK and Europe. There is no evidence as to why this should be the case (see above in relation to the Northpoint Report). The response implies that shippers will be willing to pay anything to achieve speed of transit. This is simply not so and shippers will balance speed and cost, other than for very specialist consignments (e.g. organs for transplant) where speed is absolutely the critical factor. This latter part of the market is only a small part of the whole.
ND.2.35	The response cites projections for passenger operations produced by Aviasolutions, in its 2016 Report for Thanet District Council, as validating the Azimuth passenger 'forecasts'. Significantly, these projections did not take into account the potential for greater use of infrastructure at Gatwick and Luton airports, both of which are proposing to increase their capacity on their existing runway infrastructure. To the extent that the Aviasolutions projections for Manston were heavily dependent on 'spill' from other airports, these increases in capacity will remove the spill component to a large extent, leaving the projections dependent on the assumption of 800,000 passengers a year as attainable from a Ryanair base. Furthermore, when Aviasolutions put together its projection, the prospect of a restriction on night

	operations at Manston was not known so Aviasolution will not have factored in the deterrent effect that would have on any airline basing aircraft at the Airport. The remainder of the response simply restates the assertions regarding the potential passenger markets from the Azimuth Reports without providing further evidence or explanation. Claims that the Azimuth 'forecasts' take into account the elderly who would prefer to use small airports and the importance of pilgrims are simply distractions. The response does not provide any quantification of the size of these markets. In relation to Southend Airport, it has seen strong growth in recent years but examination of its latest published accounts for FY2017/8 (London Southend Airport Ltd – Companies House) shows that its operating losses worsened from £3.6 million to £6.5 million, which strongly indicates that it has been 'buying traffic'. On the basis of the aeronautical charges proposed by RSP for Manston in its business model, it would not be realistic to assume that similar growth could be seen at Manston without substantial erosion of the projected income. The list provided of Ryanair flights after 23.00 at regional airports may be correct but the important consideration is not what proportion of flights operate at night but the impact that a night constraint would have on the flexibility to maximise use of any based aircraft over a week. This is an important consideration for an airline considering where to base aircraft and needs to be taken into account (see para. 4 of York Aviation's Note of Oral Evidence given at the Noise Hearing submitted at Deadline 5) [REP5-065]. The Applicant should be asked explicitly if Ryanair is aware of the night flying policy and whether it is still committed to basing 3 aircraft in these circumstances and at the price that RSP expects to charge for using the Airport as shown in the business model. The fact that Ryanair has no based aircraft at Exeter simply highlights that flexibility to schedule some flights to operate after 23.00 is essential to attaining based operations.
Ns.2.3	This response fails to acknowledge the potential impact of small general aviation aircraft flying circuits associated with flying training on the persistent levels of noise over local populations.
Ns.2.18	It is not clear what the impact of a commitment to a noise contour area cap would have on the 'forecasts' of usage if, for example ATR72s were replaced by B737 or other jet aircraft or if the GA movements included some element of business jet operations consistent with the proposal to develop an FBO (Fixed Base Operation).
Ns.2.19	The Applicant's response addresses why new flightpaths are needed to reflect latest R-NAV practices but does not answer the question as to whether the proposed noise minimised flight paths are likely to be acceptable or whether an R-NAV variant of the previous flight paths should have been adopted as a more realistic basis for assessment in the first instance
Ns.2.21	As noted in response to ND.2.35 above, the Applicant clearly does not understand the point being made: with 15% of arrivals at night this equates to 40% of based aircraft requiring a movement in the night period as part of their overall daily pattern of rotations as, by definition, the remainder of flight operations are outside of the night time period. Therefore, the effect of any restriction in operations after 23.00 (notwithstanding that Manston many avail of marginally shorter flight times on some sectors) reduces the likelihood of aircraft being based. As the majority of passengers forecast to use Manston are claimed to be on based aircraft, this is an important consideration. The reason that Luton was chosen as the example in York Aviation's Note of Oral Evidence given at the Noise Hearing submitted at Deadline 5 [REP5-032] is because that was Mr Freudmann's example given in oral evidence. The night movements arise by consequence of the rotation pattern of aircraft to maximise economic usage of the available flying hours not any slot restrictions in the period leading up to the night time. To the extent that there are operational constraints at Luton currently, the limiting factor is availability of stands for overnight aircraft

	parking rather than slots in the period leading up to 23.00 as can be seen in Luton's pre-season scheduling report for Summer 2018 (https://www.acl-uk.org/airport-info/), which shows ample slots to be available. 
OP.2.2	We do not believe the response regarding FASI-S to be correct and that the risk of delay to opening remains.
OP.2.3	In terms of the need for dedicated aircraft stands for based aircraft, the comment about a requirement for dedicated equipment on each stand is nonsense as this implies specialist equipment for each individual aircraft. Operators are highly unlikely to want to pay for dedicated stands or dedicated equipment as this would not be consistent with cost efficiency. There is no evidence that the aircraft cannot be scheduled and stand allocation planned to allow MARS (multiple apron ramp system) use. Such multiple centerline operations take place at virtually all major airports with a mix of Code C and Code E operations so as to ensure that the efficient use of valuable apron space is maximised. We do not believe the information provided by the Applicant regarding East Midlands Airport having 24 Code E stands to be correct. There are multiple centerlines for different aircraft types in use at East Midlands and our information as to the stand availability is as set out in the table below. Not all of these stands could be used at the same time. Maximum Code E occupancy would be 8 Code E aircraft. There are more Code D centerlines available reflecting the nature of the fleet mainly operated at East Midlands today.

H	I	J	K	L	M	N	O
Apron	**Centrelines**	**Code B**	**Code C**	**Code D**	**Code E**	**Code F**	**Total CL's**
West (DHL)	Min CLs	0	6	6	5	2	**19**
	Max CLs	2	5	10	2	2	**21**
East	Min CLs	0	2	5	1	0	**8**
	Max CLs	0	12	1	0	0	**13**

OP.2.4	In this response, the Applicant wrongly asserts that road based freight is not a major factor at EMA (see York Aviation Report February 2019, para 6.23) [REP3-025]. In the response, the Applicant still does not set out any robust basis justifying the scale of facilities proposed. If there is to be no road based freight at Manston then this validates the need for the cargo handling facilities to be much smaller than East Midlands. The response does not address the IATA benchmarks for the scale of development required for efficient automated cargo centres in future (see York Aviation Report February 2019, paras 6.21-6.22).
OP.2.5	As noted in relation to the Draft DCO, many of the listed Associated Uses for the Northern Grass are not related at all to the principal development as they are passenger not cargo related or related to the maintenance/recycling of aircraft. In any event, the response provides no justification for the proposed scale (floor area) of these uses and why they are needed, e.g. how is an Aviation Academy in any way associated development related to a cargo airport and surely this would be more likely to be located at a local college. Even in relation to those uses which are freight related, the largest of these is a Logistics Centre for the new integrator. Such a Logistics Centre would need airside access, as is the case with the DHL facility and the new UPS facility at East Midlands and so would not be able to locate on the Northern Grass. Manston is simply in the wrong location for a Fulfillment or Distribution Centre, which would necessarily need to be located closer to major urban areas and not on the Northern Grass. The Applicant again seeks to justify the overall floor space requirement by reference to other airports (Appendices to OP.2.5 Response). However, when properly understood the comparisons are not supportive of its case. In Appendix OP.2.5, RSP start by stating that they aim to illustrate the relationship between 'airport associated development' and the requirement for the Northern Grass through comparison to 4 cargo airport examples. They then explain the method used to measure the floor spaces at the 4 airports, which they caveat as being desk based only and 'approximate'. Whilst we do not attempt to question the accuracy of any of the areas measured, we would certainly question the inclusion of most of the areas as in any way relevant to the principal cargo related development. As stated, the proposal for the Northern Grass is for an area of 105,100m^2 of floor space for B1/B2/B8 uses. It, therefore, makes no sense at all that the exercise as detailed by RPS catalogues/includes areas for the passenger terminals, cargo sheds, maintenance and parking

	hangars, airside facilities buildings within airside locations with direct access to the runways, as well as a wide variety of office and industrial buildings occupied by businesses that clearly have nothing at all to do with aviation. If you take East Midlands as an example, the total floor area stated by RPS is 194,615m^2. However, if you remove all the front line cargo sheds from the total (as they are airside facing and could not be provided in a landside area like the Northern Grass), the passenger terminal and the airside maintenance hangars and buildings, you remove approximately 72% from the total floor area. If you then remove all the passenger related hotels and businesses that have no aviation links, such as Price Waterhouse Coopers, Medstrom Healthcare and Western Power Distribution, then you come down to an area of around 25,750m^2 which is only 13% of RSP's stated total. If you take out all of the 'unknown' business space then you are left with just under 15,500m^2 which is only 8% of the total area quoted or just over 15% of the area proposed for the Northern Grass. The same approach to including all areas has been taken in the other comparator examples where the passenger terminal, front line cargo shed and airside hangars etc have been included in the totals. None of these functions bear any relevance to the question of 'Associated Development' in the context of a landside business park for B1/B2/B8 uses directly related to the purpose of the principal development at Manston. To highlight the absurdity of the approach used by RPS, the Liege example includes an area of 4,360m^2 comprised of a poultry farm. Clearly, this is not remotely relevant to the comparison of areas devoted to equivalent uses to those that might be permitted on the Northern Grass. At no point does this exercise seek to actually explain how any of these areas compare to their proposal for the Northern Grass. It is merely an exercise in documenting the various areas of all the buildings located within the general bounds of 4 cargo dominated airports.
SE.2.2	In relation to employment, the Applicant continues to rely on out of date general ratios for employment density and, in any event, these relate to averages over the whole of Europe, including the major hub airports with major airlines headquartered at them, so driving up employment density. This is simply not a relevant basis for a dedicated cargo/low cost airport where employment densities would be significantly lower. The response does not address the ExA's points about the structure of employment at East Midlands Airport specifically. In terms of the location of employees, it is not correct to say that employees at East Midlands Airport live locally to the Airport. The East Midlands Airport Sustainable Development Plan states that 89% of employees live within the neighbouring 3 counties https://live-webadmin-media.s3.amazonaws.com/media/2931/ema-sdp-2015-economy-and-surface-access.pdf. This is quite a wide area covering Derbyshire, Leicestershire and Nottinghamshire, some 85% larger than the total area of Kent and 67 times the area of Thanet. Hence, on a comparative basis, it is reasonable to expect that the catchment area for employment at Manston would not be localised in the manner asserted by the Applicant. We note that the Applicant has made some attempt to adopt our recommendations regarding the inclusion of a productivity factor (see York Aviation Report February 2019, paras. 3.53-3.54) [REP3-025]. However, this is meaningless if the initial employment density has been set too high. Our comments on the validity of the socio-economic assessment need to be seen in the round and not 'cherry picked' as the Applicant seeks to do.

SE.2.4	We note that the Applicant seeks to rebut our adoption of Prestwick as a relevant benchmark for employment at Manston. We still consider Prestwick to be the appropriate benchmark for employment density (jobs per workload unit) at 650. If they wish to use East Midlands as a benchmark, it is essential that the jobs related specifically to the relevant activity only (cargo handling, passenger processing and aircraft maintenance) are included, i.e. excluding non-airport related jobs that are located in the vicinity of the Airport, e.g. Pegasus Business Park. As made clear at paras 3.53-3.54 of York Aviation's February 2019 Report, the aviation related employment density at East Midlands is substantially lower than 887 jobs per workload unit and closer to the density seen at Prestwick. To the extent that operations at Manston are more highly automated than at East Midlands, as is claimed by the Applicant, the relevant employment density would be proportionately lower still.
SE.2.6	As noted above, the job numbers in Thanet have been substantially overstated due to inaccurate assessments of direct local employment as distinct from in-commuting and also through the application of national rather than local level indirect/induced multipliers (see York Aviation Report November 2017, para. 5.6) [REP3-025].
SE.2.7	It is unclear why there would be 4 shifts of handling staff when the Airport is shut at night and the normal pattern is 3 shifts even where an airport is a 24 hour operation. There are no precedents stated for the assumed levels of employment in MRO activity. Based on information available elsewhere, the assumption of 600 staff employed in aircraft recycling is heroic. The ExA should ask for evidence as to the justification for this figure. By way of comparison, Monarch Engineering, prior to going into administration, employed 553 staff operating large hangars and substantial aircraft maintenance across 3 large airports. Air Salvage International at Cotswold Airport, which has facilities for between 20 and 50 aircraft to be dismantled at any one time employs only 40 staff - http://airsalvage.co.uk/asi-celebrates-its-20th-anniversary-milestone/. We note that the figures for staff bussing appear to be based on a 3 not a 4 shift system which is inconsistent. In any event, why would 14 drivers per shift be required just for staff bussing. This begs the question as to whether the costs of these staff and the busses been factored into the operational costs within the business model.
SE.2.8	If national figures are used as the basis of the employment estimates, including indirect and induced employment, displacement effects from other airports need to be taken into account. It is vitally important for there to be clarity on the geographies used in the assessment to ensure that employment and economic effects are not overstated.
SE.2.9	In this response, the Applicant tries to argue that there will be no displacement of activity as jobs lost will be backfilled by other jobs. What is the evidence for this? The ExA's question as to whether the development would solely be handling unmet demand is simply not addressed. As the evidence makes clear, demand is being met currently but by other airports and by trucking. Hence, there is displacement of activity from somewhere and certainly displacement of growth at a national level. Clawback of trucked activity is shown in the Northpoint model to reach between 125,000 and 600,000 tonnes in year 20, so citing 1st year of operation figures for displacement from trucking is disingenuous. No explanation is given as to why this trucking would be intercepted and fly from Manston in any event.
SE.2.12	This response speculates that older visitors are more likely to stay overnight prior to flying from an airport. There is no actual evidence that this is so. The use of Dubai as a comparator for the tourism industry is self evidently absurd. The ExA's questions about the catchment are for passengers and the likelihood of them staying overnight locally is simply not addressed. No evidence is provided as to the extent to which the listed hotels in the vicinity of Southend Airport are actually used by air passengers as distinct from more general visitors to the Southend area who chose to use new rather than older hotels.

SE.2.15	In this response, the Applicant first of all uses average data from all UK airports (including Heathrow) as a basis for its estimate of potential inbound tourist numbers that might use Manston and then concedes that data for smaller airports might be more relevant. It is somewhat misleading, therefore that is includes Gatwick, Stansted and Luton in its list of smaller airports, handling 45.9 mppa, 25.9 mppa and 16 mppa respectively in 2017. More relevant comparators for Manston would be Cardiff, surveyed in 2015 when it was handling 1.1 mppa, and Doncaster Sheffield surveyed in 2014 when it was handling 0.7 mppa. Using detailed CAA survey data, the split of passengers by residence and purpose is shown in the table below.

	UK			**Foreign**			
	Business	Leisure	*(of which) VFR*	Business	Leisure	*(of which VFR)*	**Total**
Cardiff Airport (2015)	85,421	812,959	*156,153*	60,761	170,523	*84,370*	1,129,664
	7.6%	72%	*19%*	5.4%	15.1%	*49%*	100%
Doncaster Sheffield Airport (2014)	11,310	603,022	*180,458*	8,742	98,691	*93,903*	721,766
	1.6%	83.5%	*30%*	1.2%	13.7%	*95%*	100%

The proportion of foreign leisure passengers visiting friends and relatives (VFR) is important as such visitors do not typically stay in hotels and generate a substantially lower economic injection locally. The expected levels of true inbound tourism are likely to be substantially less than asserted by the Applicant.

lc/16.5.19

From: James Mills <James.Mill[redacted]
Sent: 01 October 2018 12:59
To: Jamie Macnamara
Subject: RE: Public Safety Zones

Dear Jamie,

Apologies for the delay in getting back to you,

You are correct to note that Public Safety Zones are based upon risk contours modelled looking fifteen years ahead and are generally re-modelled every seven years or so, and that PSZs will be redefined if a runway is extended or if a landing threshold is moved.
As a matter of policy, the Department for Transport applies Public Safety Zones at aerodromes that have more than 1,500 movements a month and which are likely in due course to exceed 2,500 movements. I am therefore happy to confirm that this is the criteria for assessing the requirement for PSZs for new and enlarged airports.

As noted in the DfT Circular 01/2010, the CAA has taken over responsibility for the implementation of new PSZs.

Kind Regards,
James

James Mills | Aviation Strategy & Consumers Division, Department for Transport
1/25 [redacted]

From: Jamie Macnamara [mailto:jamie@[redacted]
Sent: 01 October 2018 10:37
To: James Mills <James.Mills@[redacted]
Subject: RE: Public Safety Zones

Dear James,

Apologies for chasing again, but is there any update on when you will be able to revert on the query regarding criteria for Public Safety Zones?

Many thanks
Jamie

From: James Mills [mailto:James.Mills@[redacted]
Sent: 21 September 2018 10:58
To: Jamie Macnamara <jamie@[redacted]
Subject: RE: Public Safety Zones

Dear Jamie,

Apologies for the delay in getting back to you – I should be able to have a response for you by next week.

Many apologies,
James

James Mills | Aviation Strategy & Consumers Division, Department for Transport
1/25 | [redacted]

DEADLINE 7 SUBMISSION – ANNEX 2

STONE HILL PARK LTD'S COMMENTS ON THE APPLICANT'S REVISED DRAFT DCO AND THE EXA'S INITIAL DRAFT DCO

PINS APPLICATION REFERENCE: TR020002

1.1 SHP has reviewed both the Applicant's third revised dDCO [REP6-019] published on 9 May 2019 and the ExA's initial dDCO published on 10 May 2019;

1.2 SHP would note that has submitted extensive comments regarding required changes to the dDCO across the following submissions;

1.2.1 SHP's Written Summary of Oral Submission put at ISH1 [REP1-023]. In summary, this covers SHP's comments on the requirement for the dDCO to only include those works that can rightfully form part of the application, the NSIP development and associated development works to categorised appropriately, the inclusion of works that do not satisfy either criteria and the failure to explain and justify the works that comprise NSIP development and associated development. This document also made reference to the inappropriate nature of the provisions of Article 18;

1.2.2 SHP's Cover letter to its DL4 Submission [REP4-064]. In section 3, SHP set out its initial comments on the Applicant's First Revised dDCO, in particular, Articles 9 and 18 and Schedules 1 and 2;

1.2.3 Written Summary of SHP's Oral Submissions put at the Compulsory Acquisition Hearing Held on 20 March 2019 [REP5-031]. In section 6, SHP set out in detail the changes that would be required to the compulsory acquisition articles of the Revised Draft Development Consent Order [REP3-193];

1.2.4 SHP responses to the Examining Authority's Second Written Questions [REP6-053], specifically its responses on questions CA.2.30, DCO.2.25, DCO.2.33, and DCO.2.49.

1.3 Other than the Applicant's proposed change to the time limit from "5 years" to "one year", SHP's comments have not been reflected in either of the revised draft documents. SHP does note that the ExA has addressed further questions to the Applicant on certain matters.

1.4 SHP consider the evidence that has been added to throughout the examination only serves to provide further justification for the required changes proposed by SHP in its previous submissions.

SHP would also note that in Annex 1 of its Deadline 7 submission (SHP's comments on the Applicant's answers to second written questions), it has provided a number of comments that are directly relevant to the dDCO and further support the submissions made by SHP.

In particular, SHP would refer the ExA to comments on the following questions;

1.4.1 Ec.2.2: relevant to SHP's proposed amendments to Article 18;

1.4.2 CA.2.18: relevant to SHP's proposed amendments to Requirement 19 and Schedule 1;

1.4.3 CA.2.28: relevant to SHP's proposed amendments to Article 9;

1.4.4 CA.2.29: relevant to SHP's proposed amendments to Article 26;

1.4.5 CA.2.31: relevant to SHP's proposed amendments to Article 18;

1.4.6 DCO.2.10: relevant to SHP's proposed amendments to Schedule 1;

1.4.7 DCO.2.17: relevant to SHP's proposed amendments to Article 9;

1.4.8 DCO.2.25: relevant to SHP's proposed amendments to Article 18;

1.4.9 DCO.2.33: relevant to SHP's proposed amendments to Schedule 1;

1.4.10 DCO.2.34: relevant to SHP's proposed amendments to Requirement 19 and Schedule 1;

1.4.11 DCO.2.44: relevant to SHP's proposed amendments to Requirement 19 and Schedule 2;

1.4.12 DCO.2.46: additional requirement;

1.4.13 DCO.2.49: relevant to SHP's proposed amendments to Article 19;

1.4.14 F.2.1-F.2.26 inclusive: relevant to SHP's proposed amendments to Article 9.

DEADLINE 7A SUBMISSION

STONE HILL PARK LTD – RESPONSE TO EXA'S THIRD WRITTEN QUESTIONS

PINS APPLICATION REFERENCE: TR020002

Responses are provided to all written questions directed to Stone Hill Park Ltd ("SHP"). SHP has also commented on a limited number of the questions directed at the Applicant, and would anticipate that it will be required to provide further comments on the Applicant's responses (by Deadline 8).

Question	Question to:	Question / SHP Response
CA.3.6	The Applicant	**Crown Land: High Resolution Direction Finder** Given your response to question CA.2.4, that no alternative site for the High Resolution Direction Finder (HRDF) has been agreed with the Ministry of Defence (HRDF), show why the ExA's should not consider that this position should be classified as being a potential risk or impediments to implementation of the scheme that has not been properly managed.
		<u>SHP Response</u> In its DL7 submission (Comments on the Applicant's Response to ExA's Second Written Questions [REP7-reference to be allocated]), SHP explained in its comments on question OP.2.6 how the issue with the HRDF Beacon would be a material risk and impediment to the implementation of the Applicant's scheme. For ease, an overview of the position is provided below. • It is important to note that there is a safeguarding area around the beacon, which places restrictions on development. Firstly, no development is permitted within a 120 metre radius. Thereafter, a 1 in 25 slope is safeguarded (i.e. a 10m building would need to be located at least a further 250m from the HRDF Beacon i.e. 370m). • Whilst the Applicant appears to have remained silent on the issue, the failure to relocate the HRDF Beacon would be a material impediment to the implementation of the Applicant's proposed masterplan, due to a significant amount of development being located within the safeguarded zone.

Question	Question to:	Question / SHP Response
		• For example, Works No. 1 (airside cargo facilities with a building height of up to 20m) could not be located within 620m of the HRDF beacon (i.e. 120m + (25 x 20m)). However, based on the Applicant's Masterplan [APP-079], all the proposed Works No. 1 buildings appear to be located within the safeguarded area. • At the CA Hearing held on 20 March 2019, Mr Boulden (or the DIO) was asked by Mr MacDonald (ExA) to confirm whether there would be a need for a period of overlap, where both the existing and new HRDF Beacons would be required. Mr Boulden confirmed that a period of 2 years has been discussed with the Applicant to ensure that the operational capability of the new site is as good as the old site. This specific interaction is available to review from 1:20:40 of recording 2 of the CA Hearing. • As a consequence, this would imply that construction of Works No. 1 (within the current safeguarding area) could not commence until 2 years **after** the new HRDF Beacon is in place, is operational and it has been proven that there is no degradation in the level of technical performance. • Assuming a 12 month construction period for Works No. 1 (i.e. a start date of January 2021) and the DIO maintains its position on the required 2-year "overlap", the new HRDF Beacon would need to have been operational by December 2018. Otherwise, the Applicant's programme of completing development by January 2022 is not achievable even ignoring all the other issues, risks and impediments with the Applicant's proposals. • Placing the issue of an appropriate location to one side (and the acquisition of the relevant land interest), the relocation of the HRDF Beacon would also require a separate planning application. This would require public consultation (including in relation to any new safeguarding zones that are required). Even assuming all these issues could be addressed, it is not clear how a new HRDF Beacon could be operational before the latter part of 2020, resulting in at least a c.2 year delay. • This would also require the Applicant to fully fund the costs of the relocation well before any final decision was made on the DCO. **The implication is that the costs of such relocation must be addressed in the Funding Statement,** alongside a realistic amount for the costs of compulsory acquisition of land and noise mitigation.

Question	Question to:	Question / SHP Response
		• It is clear that the HRDF Beacon issue is one that should have been addressed prior to the Application being submitted. However, after failing to do so, the Applicant is now minimising and glossing over the fact that this issue is a material risk and impediment to the implementation of its scheme, and particularly within the timetable it has suggested.
CA.3.22	The Applicant All Parties to NOTE	**Associated Development** One of the arguments put forward by the Applicant in its response to CA.2.20 [REP6-index number to be allocated] is that: *"If the development does not take place on the Northern Grass then it is likely to arise further afield in a piecemeal and uncontrolled manner with a worse impact on the local area and less efficient interaction with the airport, and so it is in the public interest that as much of it as possible is sited on the Northern Grass."* Taking into account the existence of a system of development control and management embodied in planning legislation and regulation and of policy making embodied, inter alia, in Local Plans and the National Planning Policy Framework, justify the assertion that this development is likely to arise […] in a piecemeal and uncontrolled manner with a worse impact on the local area. All parties should note that the issue of associated development in the CA and Issue Specific Hearings to be held from 3 to 7 June 2019
		<u>SHP Response</u> SHP would note that the Applicant has consistently failed to provide the examination with the explanation and justification of the Works that form the NSIP development and the Works that comprise Associated Development, despite the request made by the ExA and the commitment given by the Applicant at the dDCO hearing held on 10 January 2019. SHP have set out the relevant issues that need to be addressed in its multiple submissions to the examination on this matter.

Question	Question to:	Question / SHP Response
		In addition to its failure to adhere to the request of the ExA made on 10 January 2019, the Applicant has not adequately responded to SHP's evidence, or indeed the ExA's questions, and its submissions have often been incomplete and contradictory. The upcoming hearings will be held 5 months into a 6 month examination phase and SHP would note that any attempt to introduce new evidence orally during these hearings would be unfair and would add to the serious concerns which already expressed about the legitimacy, legality and fairness of the Applicant's application and its examination.
CA.3.29	Stone Hill Park Limited	**Acquiring by voluntary agreement: Stone Hill Park Limited** Comment on the statement in the Applicant's response to CA.2.25 [REP6-index number to be allocated] that the Applicant is hopeful that these negotiations [between the Applicant and SHP] can be concluded satisfactorily shortly.
		<u>SHP Response</u> It is not possible to reconcile the inaction of the Applicant with the statement that it *"is hopeful that these negotiations can be concluded satisfactorily shortly".* For background on the engagement between the parties, SHP would refer the ExA to the evidence it has submitted to the examination to date, including the detailed responses to question CA.2.17 [REP6-053] and question CA.1.17 [REP3-303]. As noted in the response to CA.2.17, it remains SHP's strongly held view that the Applicant is not serious in its intentions and that its sporadic engagement with SHP is simply a tactic to allow it to maintain a pretence with the Examining Authority that it is making meaningful attempts to negotiate to acquire SHP's land. SHP further explained that the Applicant had continually failed to honour "commitments" made to SHP and pointed to the evidence showing engagement from the Applicant tended to be timed around an impending deadline for DCO submissions or an examination hearing. In essence, the Applicant's efforts appear focussed on creating the illusion that it was making efforts, instead of taking any actions that could evidence real efforts were being made.

Question	Question to:	Question / SHP Response
		When the ExA's third written questions were published on 10 May 2019, it was clear to SHP that the Applicant would make some form of contact before Deadline 7a, which it could use to put a "spin" on its response to the ExA's question CA.3.30. It was therefore of no surprise that on 17 May 2019, 7 days before the relevant Deadline, RSP directors left messages with SHP requesting a call. The ExA should be aware that this was the first contact since 12 April 2019, the details of which are explained further below. In response to the message requesting a call, SHP sent an email to the Applicant on Monday 20 May 2019, an extract of which is shown below; *"I am aware you and [redacted] have tried to contact [redacted] since Friday and have left a couple of messages. I am also aware we have had zero contact from you since 12th April and that RSP is required to provide evidence to the Examining Authority by the end of this week. As I have set out previously, the coincidence of communication between us relative to the DCO timetable is not lost on my shareholders. We are therefore not surprised to be contacted 7 days before RSP is required to provide evidence to the Examining Authority to substantiate the assertions made regarding negotiations with us.* *If the purpose of your contact is to now complete the offer you made to us under the structure agreed between us on 15th/16th January then please write to me outlining how this will be achieved and when.* *If however, as we suspect, the purpose is to continue spinning a false narrative to the Examining Authority about the status of discussions between us then, as outlined previously in my email to you of 12th April, we wish no further involvement and it will be for the Examiner to determine the outcome."* The tenor of SHP's email of 20 May 2019 is consistent with the email SHP sent to the Applicant on 12 April 2019, which, inter alia, expressed SHP's frustrations with the Applicant's lack of engagement and transparency, its view that the Applicant was not serious in its intentions and the failure of the Applicant to honour its previous commitments. SHP's email of 12 April precipitated the call with Mr Freudmann of the same date.

Question	Question to:	Question / SHP Response
		As noted in SHP's submission [REP6-053], Mr Freudmann committed to revert to SHP on 15 April. Consistent with past behaviour, neither Mr Freudmann nor anyone related to the Applicant did so. Indeed the next contact was the message of 17 May 2019 referred to above. Yet, the Applicant has asserted to the ExA that discussions *"continue to take place"*, despite there being no substantive discussions in recent months. The point that is being highlighted is that, over the last 2 years, the Applicant's actions have consistently failed to match their words (i.e. the Applicant's assertions to the Inspectorate / ExA). The Applicant appears completely untroubled by this, demonstrating the lack of respect the Applicant has shown to this process and those taking part in it. SHP expect the Applicant will respond to SHP's email of 20 May 2019, but has no confidence that the response will be anything other than an attempt to distract both the ExA and SHP from the Applicant's abject failure to comply with the DCLG Guidance related to procedures for the compulsory acquisition of land (2013). The Applicant's failures to comply with the DCLG Guidance have been set out extensively in SHP's previous submissions, and are not repeated here. However, we would refer the ExA to SHP's Written Summary of Oral Submissions put at the Compulsory Acquisition Hearing [REP5-031] and SHP's Written Summary of Oral Submissions put at the Need & Operations Hearing [REP5-029], which demonstrate the Applicant's failure to comply adequately, or at all, with paragraphs 8, 9, 12, 13, 17, 18, 19, 25 and 31 of the relevant DCLG Guidance.
DCO.3.1	All parties to NOTE	The ExA has published its draft DCO alongside these questions. All Interested Parties and Affected Persons are requested to provide comments on the ExA's draft DCO. The specific questions below address particular parts of that draft but should not be taken as precluding further examination of any part of the draft DCO in particular at the DCO ISH to be held on 7 June 2019 The questions below also seek clarification on matters related to the dDCO raised in the responses received at DL6.
		<u>SHP Response</u> SHP would respectfully note that it provided comments on the Applicant's third revised draft DCO and the ExA's draft DCO in its Deadline 7 submissions [REP7-reference to be allocated]. In its submission, SHP noted that;

Question	Question to:	Question / SHP Response
		• other than the Applicant's proposed change to the time limit from "5 years" to "one year", SHP's comments have not been reflected in either of the revised draft documents. • the evidence that has been added to throughout the examination only serves to provide further justification for the required changes proposed by SHP in its previous submissions, references to which are provided; • in Annex 1 of its Deadline 7 submission (SHP's comments on the Applicant's answers to second written questions), SHP has provided a number of comments that are directly relevant to the dDCO and further support the submissions made by SHP.
DCO.3.2	All parties to NOTE	All parties should note that the issue of associated development including, but not limited to, the definition of "airport-related" and of "Associated development" will be examined further in the CA and Issue Specific Hearings to be held from 3 to 7 June 2019.
		<u>SHP Response</u> SHP understands that this issue is of direct relevance to both the dDCO hearing and CA hearing, however SHP considers it to be of most relevance to the Applicant's CA case. As set out in its previous submissions, SHP has submitted the evidence before the examination regarding the applicability of the Applicant's claimed associated development has largely been provided by SHP. Therefore, in so far as it is possible, SHP would request that the issue of associated development is fully covered in the CA hearing on 4 June 2019.

DCO.3.3	All parties to NOTE	All parties should note that the issue of the proposed application of the 'Crichel Down Rules' in Article 19 and the reduction from five to one year in Article 21 will be examined further in the CA and/or the DCO Issue Specific Hearing to be held on 4 and 7 June 2019

		SHP Response SHP understands that this issue is of direct relevance to both the dDCO hearing and CA hearing, however SHP considers it to be of most relevance to the Applicant's CA case. Therefore, in so far as it is possible, SHP would request that the changes to Article 19 proposed by SHP are dealt with in the CA hearing on 4 June 2019.

DCO.3.5	All parties to NOTE	All parties should note that the issue of the Guarantees in respect of payment of compensation, etc (Article 9) will be examined further in the CA and/or the DCO Issue Specific Hearing to be held on 4 and 7 June 2019.
		SHP Response In so far as it is possible, SHP would request that the CA articles are examined in the CA hearing on 4 June 2019.

OP.3.3	Stone Hill Park Limited	Aerodrome Certificate The Applicant agrees that the aerodrome certificate could only be applied for once the land required was in their ownership but consider that once applied for it would take 6-12 months for the CAA to consider such an application. Comment on this viewpoint.
		SHP Response SHP consider the Applicant's assertion that it would take 6-12 months for the CAA to consider an application for a CAA Aerodrome Certificate to be reasonable. However, it is important to note that the application could not be in a form that would be ready to submit at the point any required land passed into the Applicant's

		ownership. A significant amount of work requires to be carried out to inform and support the preparation of the application, a large part of which could only be done after the Applicant had control of the land? In its answer to question OP.2.1 [REP6-012], the Applicant stated; *"before a submission can be made it was agreed that it will take at least 12-18 months to gather and collate the necessary evidence to support the application. The CAA is exploring how it may be engaged in this evidence gathering phase so as to ease its own burden in subsequently considering the application."* The question that must be addressed by the Applicant is, what elements of the "evidence gathering phase" could only be advanced after the Applicant had ownership of the land. It is clear from the Applicant's answer to OP.2.1 that it is attempting to imply that the CAA would fully engage in this *"evidence gathering phase"* well in advance of the Applicant having ownership of the land. As this position contradicted the advice the CAA previously provided to SHP (see SHP's response to this question submitted at DL6 [REP6-053]), SHP is seeking further clarity from the CAA. SHP would further note that any CAA Aerodrome Certificate application would require to be informed by ground surveys, which could not be undertaken prior to the Applicant owning the land (other than with the agreement of SHP). In summary, SHP does not disagree with the comment *"that once applied for it would take 6-12 months for the CAA to consider such an application"*, however the Applicant must properly consider and provide justification as to when a completed application would be capable of being submitted to the CAA.

OP.3.5	The Applicant	Programme Appendix OP.2.6 of the Applicant's answers to the ExA's Second Written Questions contains a construction programme assuming that access to site for surveys would commence 7 January 2020. This feeds into other activities, such as detailed design and airspace change and licence applications. i. Do you consider such a date and construction programme to be realistic?

		ii. Does the programme take into account timing to acquire ownership/access to the land required, including potential judicial reviews if necessary? iii. Does the ES still assess the correct construction period?
		<u>SHP Response</u> Although SHP would propose to comment more fully on the Applicant's answer to this question in due course, it has provided some initial comments below. i. The Applicant's construction programme is wholly unrealistic for the reasons set out in SHP's comments on the Applicant's Answers to Written Question OP.2.6 [REP7-reference to be allocated]. Firstly, SHP would encourage the ExA to ask who has prepared the programme. Is it a person or entity that has professional reputation to maintain or is it a "guesstimate" by the Applicant? a. As explained in paragraphs 9.1 – 9.5 of SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [REP5-029], including indicative timetable appended as Appendix NOPS.11.1, if a DCO was made it is unlikely that the Applicant could gain access to the site prior to mid-2021 until judicial review processes and associated appeals had fully run their course and the land could be acquired. This would knock the Applicant's programme forward by 18 months. b. The survey works could not commence ahead of mid-2021. As the design works will require to be informed by the outcome of surveys (including archaeological surveys), it is also not clear how the outline design stage could be finalised before the surveys have been completed. **c.** The Applicant has completely ignored various impediments, including for example the HRDF Beacon. As noted above in SHP's response to CA.3.6 above, it would appear that construction works on airside cargo facilities could not commence until the new HRDF Beacon had been operational for two years. **To fit in with the Applicant's programme, this would require the Beacon to have been operational in December 2018.** d. The Applicant's programme is not credible and completely glosses over the monumental undertaking delivering its scheme would involve. Is it credible to accept that an Applicant which has no airport development experience and has shown itself to be completely unable to complete basic requirements of the DCO process (e.g. answer the ExA's questions, undertake basic ecology

		surveys), could complete the phase 1 development in the timescales it has suggested? SHP would also note that the Applicant has provided no evidence to support its assertions. ii. It is clear that the programme does not take into account timing to acquire ownership/access to the land required, including potential judicial reviews if necessary. iii. It is clear that the ES has not assessed the correct construction period.

OP.3.10	The Applicant	Public Safety Zones (PSZs) Stone Hill Park [Answers to ExA's Second Written Questions, reference not yet assigned, and REP4-067] state that PSZs would be expected by year 4 of the forecasts, when 1,500 ATMs are expected per month and when 2,500 ATMs are expected within 15 years. Appendix OP.2.7 is an Environmental Statement addendum concerning PSZs and states that PSZs would be required 15 years after opening at the earliest. i. Respond to the view that PSZs would need to be produced by year 4 of operation. ii. If PSZs are calculated based on airport specific forecasts 15 years ahead, would detailed work on such areas be required in advance of 15 years after opening?
		<u>SHP Response</u> SHP would note to the ExA that following its review of the answer provided by the Applicant to question OP.2.7 [REP6-012], SHP considered it necessary to address the misleading response from the Applicant. In commenting on the Applicant's Answer to OP.2.7 in it DL7 submission [REP7-reference to be allocated], SHP included a table summarising the Applicant's ATMs forecast and email correspondence from the DfT. These further demonstrated that the need for PSZs would be triggered in year 4.

OP.3.11	The Applicant	Public Safety Zones (PSZs) Appendix OP.2.7 is an Environmental Statement addendum concerning PSZs and states that PSZs would be required 15 years after opening at the earliest. This document provides a worst case scenario 1 in 100,000 PSZ for Manston Airport which covers a significant area of Ramsgate to the east of the Airport. The addendum notes that the principal feature of the 1 in 100,000 individual risk contour is that there will be no increase in the number of people living, working or congregating in the area Provide any viewpoints on the implications of this document and its contents to planning policy in Thanet.
		<u>SHP Response</u> We look forward to reviewing the Applicant's answer to this question. However, it is worth making a couple of observations. As set out in SHP's comments on the Applicant's Answer to OP.2.7 (ii) and (iii) in it DL7 submission [REP7-reference to be allocated], the assertions in the ES addendum regarding the requirements for PSZs are incorrect, and the PSZ contours (which are indicative only) may understate the PSZ requirements given the issues that would be specific to a cargo airport at Manston.

2.2. SHP comments on the Applicant's Written Summary of Oral Submissions put at the Need and Operations hearing held on 21 March 2019 (with accompanying appendices).

2.3. SHP's submissions (including the responses to written questions) provide detailed evidence that further demonstrates the Applicant's approach to the examination to be completely unreasonable, for example the Applicant's refusal to honour commitments to provide information or meet deadlines set by the Examining Authority, the absence of evidence to support the Applicant's assertions and the manner in which information submitted by the Applicant has been contradictory, incomplete and, often, highly misleading.

2.4. As the Examining Authority does not instruct its own evidence, the unreasonable conduct of the Applicant has unfairly placed a massive burden on SHP (and other interested parties) to instruct and prepare evidence to counter the unfounded and misleading assertions of the Applicant.

2.5. Accordingly, SHP would advise the Examining Authority that it is in course of preparing an interim application for costs against the Applicant on the grounds of its unreasonable behaviour, which has caused SHP to incur unnecessary and wasted expense during the examination. In preparing its application for costs, SHP will adhere to the DCLG Guidance "Awards of costs: examinations of applications for development consent orders".

2.6. It is a fact there is little over two months left in the examination phase and the Examining Authority and affected parties do not have access to the most basic of information that should be before the examination. It is SHP's considered view that the Applicant continues to approach the examination with the false expectation that the burden of proof is entirely on others to prove the case against the Applicant's plans, rather than there being any onus on the Applicant to provide any substantive evidence that can be adequately and fairly tested.

2.7. SHP continues to place reliance on, and take comfort from, the Examining Authority's clear guidance that assertion which is not supported by evidence can carry no weight in the examination.

Yours sincerely,

For and on behalf of
Stone Hill Park Ltd

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

STONE HILL PARK LTD'S COMMENTS ON THE APPLICANT'S WRITTEN SUMMARY OF ORAL SUBMISSIONS PUT AT THE COMPULSORY ACQUISITION HEARING HELD ON 20 MARCH 2019.

1. **BACKGROUND**

1.1 The Compulsory Acquisition Hearing ("CA Hearing") was held at 10:00am on 20 March 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2 The Applicant's Written Summary of Oral Submissions ("Applicant's Written Summary") was published on 5 April 2019.

1.3 The purpose of this note is to highlight anomalies, discrepancies and a number of issues of serious concern relating the information submitted by the Applicant.

2. **AGENDA ITEM 5: FUNDING**

2.1 **Paragraph 3.1:** The Applicant's claims that *"the restructuring [is] taking longer than expected in part due to the ongoing discussions with Stone Hill Park (SHP) regarding the acquisition of the site,"* is baffling to say the least.

2.1.1 It is a fact that, on 3 December 2018, the Applicant signed Heads of Terms that included no conditionality, to acquire the land by 12 December 2018, which it failed to deliver on.

2.1.2 In the period since, it is SHP's firmly held view, supported by the evidence, that the Applicant's engagement and correspondence with SHP has been purely tactical, and aimed at allowing it to maintain a pretence to the Examining Authority that discussions are ongoing.

2.1.3 It is doubly frustrating to find that the so-called "discussions" are now also being used by the Applicant to justify its failures to provide the required information on funding. Further evidence on the Applicant's lack of serious or meaningful engagement is set out in SHP's response to the Examining Authority's written question CA.2.17 submitted as part of SHP's Deadline 6 submission.

2.1.4 For principals who have held themselves out over the last 5 years as being well funded, experienced investors, it is bemusing that they are still incapable of providing a satisfactory explanation of the funding position, despite previous commitments to do so.

2.2 **Paragraph 3.2:** The Applicant claims the intention is that RiverOak Manston Limited ("ROML") would be the Applicant's sole owner on completion of its restructure. A change such as this would only be window dressing and would in no way address any concerns over funding - unless all funding was provided by ROML and there was absolute transparency over the source(s) of that funding. If, as Mr Rothwell suggested at the CA Hearing, MIO Investments would still continue to fund all the costs, then the simple transfer of the ownership of the shares (that hold no economic value) held by MIO Investments to ROML does not change anything. Indeed, the economic value attaching to the funding would remain with MIO Investments.

2.3 **Paragraph 3.3:** The Applicant has stated, *"[T]he shareholders of MIO Investments are the project's investors. Although the investors wished to remain confidential, their loans to MIO Investments had been subject to due diligence and approval by HMRC under the Business Investment Relief scheme and declared in their tax returns."*

2.3.1 The information included in Appendix 4 has been reviewed by SHP's advisers and it is considered important to bring the following matters to the Examining Authority's attention, which raise a number of important concerns and questions;

2.3.2 Who are the Investors/Funders?

(a) The name of one of the parties to the Joint Venture Agreement ("JV Agreement") has been redacted.

(b) As noted on page 55 (of 56) of the JV Agreement dated 15 December 2016, the Deed was signed on behalf of the redacted investor by Anthony Freudmann who was *"acting as his attorney".*

(c) The identity of this individual is important to the examination, as based on the provisions of clause 6.10 of the JV Agreement (page 20 of 56), this individual is under an obligation to acquire 50% of all the loan notes held by the Capital Investor (i.e. MIO Investments).

(d) Mr Rothwell advised at the CA hearing that MIO Investments had funded £14.5m costs, therefore this anonymous individual would appear to be *"underwriting"* over £7million of the "costs" expended on the DCO.

(e) There is no basis on which the Applicant should be anything other than transparent about this individual, who (if his potential exposure is £7m+) is the principal "investor" in the proposed project, which purports to be a Nationally Significant Infrastructure Project.

2.3.3 HMRC Business Investment Relief Scheme.

(a) The evidence submitted by the Applicant does not support its assertions that the loans to MIO Investments by its shareholders *"had been subject to due diligence and approval by HMRC."*

(b) It is noted that the Examining Authority has identified some of these issues in its written questions F.2.15, F.2.16 and F.2.17. However, we would also bring to the Examining Authority's attention that the financial statements of the Applicant, RiverOak Strategic Partners Ltd ("RSP"), for the years ending 31 July 2017 and 31 July 2018, show nil investment in the form of new share capital or loans i.e. no loan or equity funding has been provided to RSP.

(c) The Applicant (RSP) is still reporting share capital of £1 and claiming to be a dormant company. Whilst we understand from Mr Rothwell's evidence that loans may have been made to the Applicant's subsidiary, RiverOak Operations Ltd, this is not consistent with the information contained in the HMRC letters in Appendix 5 or within the drafting of the JV Agreement in Appendix 4. Again, there appears to be multiple inconsistencies and contradictions in the evidence submitted by the Applicant.

2.3.4 Corporate Structure and Funding

(a) To experienced investors, the Applicant's structure would be considered to be unnecessarily complicated and opaque for what is merely a bidding vehicle. The use of multiple subsidiary companies, each with separate funding lines that do not pass through the parent company, facilitates ring fencing between assets and liabilities, the rationale for which is unclear.

(b) We would note that the JV Agreement dated 15 December 2016 inferred that completion loan note funding of £1.45 million was advanced by MIO Investments in December 2016 (see clause 3.3.3), of which £800,000 was paid to RiverOak Investment Corporation LLC ("ROIC"), ostensibly for its rights and interests in the project (see 3.3.4). It would appear that MIO Investments had also provided £350,000 of funding in August 2016 that was subsequently reclassified as Replacement Loan Notes.

(c) As set out in clause 6.1 of the JV Agreement, the proceeds of these loan notes were stated to be used to *"satisfy the liabilities for Phase 1 which are set out in the Budget"*. Phase 1 costs were defined as being those associated with applying for and obtaining the DCO (clause 2.1.1).

(d) Therefore, the documentation would suggest that the Applicant had only budgeted remaining costs of circa £1 million to obtain the DCO, being the £1.8 million of the loans provided by MIO Investments, less the £800,000 paid to ROIC. Yet, in paragraph 3.15 of its written summary of oral submissions, the Applicant claimed to have spent £14.5 million on the project.

(e) After allowing for the £800,000 paid to ROIC and the c.£2.6m costs of acquiring the Jentex site, it would appear that the

Applicant's c.£1 million forecast of the costs of the DCO process is currently out by around £10 million and rising.

(f) It is noted that the Examining Authority has sought proof of the claimed £14.5 million expenditure in written question F.2.21, however we remain concerned that the Applicant will not be forthcoming with a satisfactorily detailed response that will enable the Examining Authority to understand where these costs have been incurred.

(g) In Section (A) Background of the JV Agreement (on page 4 of 56), it stated that the single share in RiverOak Strategic Partners Ltd was held by ROML. The confirmation statement lodged at Companies House on 23 March 2017 (and publically available on the Companies House website) shows this to be inaccurate. The single share was actually held by Anthony Freudmann.

(h) As noted further in comments on paragraph 3.16 below, the varied JV Agreement (dated 29 March 2019) and the loan agreement submitted by the Applicant at Deadline 5 provide no credible evidence of funding that can be properly and fairly tested.

2.3.5 As the Applicant continues to make submissions that do not say what the Applicant claims it does, we would encourage the Examining Authority to call on any internal legal and commercial advice it has available to assist it with its review of the Applicant's submissions. It would also be informative if the Applicant was asked to provide copies of the information it provided to HMRC to allow an independent review of the position to be undertaken.

2.4 **Paragraph 3.6:** The Applicant stated that *"it was possible that a change in Thanet District Council's policy on use of the Order land would impact the valuation assessment within the property cost estimate. A note on this matter was asked to be provided at deadline 5 and can be found at Appendix 1."* Paragraph 1 of Appendix 1 states that *"[T]he Applicant's surveyor, Colin Smith of CBRE, confirmed that planning policy and the potential for permission are elements within the valuation assessment."*

2.4.1 However, a review of the recording from the CA Hearing (from minute 54 onwards) shows that Mr Smith acknowledged that the decision of Thanet DC not to have a policy allocation in the new local plan would affect the valuation of the site, that Mr Smith was unable to give an estimate of how this had impacted his advice and, when requested to do so by the Examining Authority, Mr Smith undertook to provide the information for Deadline 5.

2.4.2 The information contained in Appendix 1 does not do this. Instead we have a statement from the Applicant itself advising that it has allowed for the valuation impact of any change in local plan in its (£7million) estimate for land acquisition costs. Again, there is no analysis, evidence or justification provided by the Applicant to support its assertion.

2.5 **Paragraph 3.9:** The Applicant claimed that it *"had been engaging in continued negotiations with SHP regarding the acquisition of the site. It had made a without prejudice offer, subject to contract for a significant sum."*

2.5.1 Please note that that the discussions referred to SHP's response to written question CA.1.17 regarding the Applicant's £20m written offer **were not** on a *"without prejudice basis".* We provide a more comprehensive update on the position in our response to the Examining Authority's 2nd written question CA.2.17.

2.5.2 We challenge the Applicant to provide evidence of its *"without prejudice offer"* and would advise the Examining Authority that the Applicant has also been advised that is under no duty of confidentiality to SHP in respect of any offers it has made. SHP is highly concerned that the Applicant continues to make misleading statements to the Examining Authority as a means of maintaining the pretence that is making efforts to acquire the site by voluntary arrangement and avoiding having to answer the Examining Authority's questions.

2.6 **Paragraph 3.10:** The Applicant has stated that the Jentex site was not included in the CBRE costs assessment and Funding Statement. If the Applicant is taken at its word, this is an acceptance that its Funding Statement was materially inaccurate.

2.6.1 However, as noted in its paragraph 3.12, the Applicant continues to refuse to disclose information on how its costs estimate is comprised. In view of the material errors made by the Applicant in its Funding Statement (e.g. exclusion of the £2.5m cost of the Jentex site, underestimating Phase 1 construction costs by £86m), it is not possible to have any confidence in the assertions made by the Applicant, particularly in absence of any evidence that can be adequately and fairly tested.

2.7 **Paragraph 3.13**: The Applicant states in its written summary that it is unable to provide a precise estimate of construction costs until the detailed design stage. In its Appendix 3, the Applicant attempts to justify Mr Yerrall's inability to provide a potential range of deviation to its cost estimate when requested to do so by the Examining Authority. SHP believes that it was very clear to those in attendance at the hearing that the Examining Authority was seeking to understand by how much (e.g. in nominal or percentage terms) the "estimated" construction costs could change. SHP cannot speak to the motivations of the Applicant, however its failure to address the question and its subsequent explanation that it *"has performed its own search and asked its consultants and has been unable to find a commonly understood reference to what is meant by "A", "B" or "C""* is difficult to comprehend.

2.8 **Paragraph 3.14:** The Applicant claims that *"[T]he phase 1 construction estimate had risen within a similar overall total from £100m to £186m because of a greater proportion of the works such as ground levelling are considered to be needed for phase 1 before the airport could reopen."*

2.8.1 Again, the Applicant appears to be trying to explain away material errors and inconsistencies in its Application, without recognising that its answer raises material concerns elsewhere.

2.8.2 It is a fact that Chapter 3 of the Environmental Assessment stated that earth works were assessed as being part of Phase 1 works. The Applicant's claim that £86m of construction costs (including ground levelling) has been brought forward is not coherent. If it was, the materiality of the change would impact the effects of the phase 1 development, which would require to be assessed in the Environmental Statement. Again, in view of the lack of any detailed information or evidence provided by the Applicant, it is not possible to test the Applicant's assertions.

2.8.3 Bringing forward significant additional costs would also have a fundamental effect on viability. However, without a viability appraisal that can be tested, the examination simply cannot know what the effect might be.

2.9 **Paragraph 3.15:** the claim that the project's funders have £30m set aside to meet costs is unevidenced assertion by the Applicant. Furthermore, the Applicant's assertion to have spent £14.5m (or c.£12m net of the Jentex land acquisition cost) on the DCO requires to be fully substantiated.

2.10 **Paragraph 3.16:** the Applicant provided a redacted copy of the JV Agreement in Appendix 4 and claimed it demonstrated the obligation of the funders to meet land acquisition and noise mitigation costs. However, a review of the documentation clearly demonstrates that at the time of the hearing there was no funding commitment from any party to meet land acquisition, blight or noise mitigation costs. Funding was directly at the discretion of the providers of that funding.

2.10.1 It is important to note that the post CA Hearing variation of the JV agreement on 29 March 2019 did not change this position. Whilst the JV Agreement now includes a provision that MIO is to fund the costs associated with compulsory acquisition and noise mitigation, the Deed of Variation does not amend the key terms of the JV Agreement requiring the approval of the Capital Investor (i.e. MIO Investments) for any funding to be drawn down or expended.

2.10.2 We would refer the Examining Authority to paragraph 4 of the JV Agreement dated 15 December 2016. This provision sets out the matters requiring shareholders consent as further noted in Schedule 1. Matters 2, 5 and 15 of Schedule 1 demonstrate that MIO Investments approval (which is wholly discretionary) would be required before funds could be drawn or land acquired.

2.10.3 Therefore, despite the post CA hearing variations made to section 6 of the JV Agreement heralded by the Applicant, there is still no contractual requirement for MIO to provide any funding if does not wish to do so. **Therefore, in practical terms, the variations are meaningless.**

2.10.4 Furthermore, the letter from Helix Fiduciary and appendices included as Appendix 5, do not do what the Applicant claims – it does not set *"out the status of the investors and the availability of their funds."*

2.10.5 The PWC letter referred to by Helix does not identify the beneficial owners of the accounts, nor does it provide any comfort that the beneficial owners are the same individuals that have invested in the project, nor does it

provide any evidence that the funds are capable of being used by MIO Investments. The PWC letter simply confirms that certain levels of funds are held in a bank account that Helix operate on behalf of certain clients. Based on the wording of the PWC letter, these funds could be held on behalf of any of Helix's clients, and not necessarily those that are purported to have invested in the Applicant's project.

2.10.6 Helix have claimed that the desire not to identify the individuals is borne out of a wish to avoid criticism on social media. Helix claim that all are successful individuals who are entitled to anonymity, despite seeking to utilise an attractive tax efficient investment structure for a purported Nationally Significant Infrastructure Project that seeks powers of compulsory acquisition that would have the effect of depriving one private entity of its land holdings.

2.10.7 As the Examining Authority appropriately advised the Applicant at the CA Hearing, the lack of disclosure is the Applicant's problem. One of the key fundamental principles of the Planning Act 2008 is transparency and in absence of proper disclosure, SHP and other affected parties will not have had had the opportunity to adequately test the evidence and have a fair chance to put its case.

2.11 **Paragraph 3.17:** The Applicant states that it *"provides at Appendix 6 an explanation of how the £13.1m, representing £7.5m of costs of land compensation and £5.6m of noise mitigation, has been arrived at."* We would note to the Examining Authority, that Appendix 6 does not provide an explanation. It wrongly states the amount provided for land acquisition was £7.5m (it was £7m as the £7.5m is said to include £0.5m for blight), and makes no effort to explain how the £5.6m is comprised. Based on the paragraphs 3.19 and 3.20, it would appear that the Applicant may actually have reduced its estimate for the costs associated with noise mitigation.

2.12 **Paragraph 3.21:** The Applicant provides at Appendix 7 evidence that it claims shows its accountants Calder & Co have £500,000 that can be drawn down for blight claims. We would note that the statement in Appendix 7 states that a loan of £500,000 was made to RiverOak Manston on 18 March (although the amount was not showing in the ledger balance). We would note that RiverOak Manston Ltd is only a 10% shareholder in the Applicant, not the Applicant or a subsidiary of the Applicant, and therefore it is not clear that these funds would be available.

2.13 **Paragraph 3.22:** the proposal by the Applicable is wholly inadequate. We would refer the Examining Authority to section 7.2 of SHP's written summary of oral submissions put at the CA Hearing.

2.14 **Paragraph 3.23:** we would respectfully flag that the report from the Transport Select Committee predated the second CPO process undertaken by Thanet District Council. Accordingly, it is unclear how this report is of any relevance.

3. **AGENDA ITEMS 10 AND 11: ORAL REPRESENTATIONS/OBJECTIONS**

3.1 **Paragraph 8.2:** the Applicant states it *"does not accept the testimony of Altitude Aviation Advisory as to its business case"* yet provides nothing in terms of evidence or information to support its position.

3.1.1 Instead it refers to a more detailed business plan that is *"subject to commercial confidentiality"* and that *"it is not willing to reveal to potential customers or competitors the precise charges or revenues it anticipates because that would adversely affect its negotiations in future."* SHP notes that the Applicant has included as Appendix 6 to its Written Summary of Oral Submissions put at the Need and Operations Hearing, a *"note explaining its business model (Appendix F.1.5 to the Applicant's Appendices to Answers to FWQs REP3-187)"*. However, on any objective analysis, the information provided is nothing more than a high level narrative summary of the types of revenue an airport could attract and the nature of direct / indirect costs.

3.1.2 It provides absolutely nothing in the way of information or evidence that would allow the Examining Authority and affected parties to assess the merits of the Applicant's proposals. In absence of any of its own evidence that would allow its Application to be adequately and fairly tested, or even a reasoned rebuttal of the evidence provided by Altitude Aviation Advisory (who have experience of over 100 transactions involving over 200 airports), the only detailed evidence before the examination is that provided by SHP and its highly experienced advisory team.

3.1.3 It is highly revealing that the Applicant has made no attempt to rebut the evidence highlighting the multiple fundamental flaws in the Applicant's business case. It cannot be emphasised enough that the author of the forecasts that underpin the entire DCO application accepted that it has no relevant experience of air cargo forecasting, and did not consider costs or viability in preparing its forecasts.

3.2 **Paragraph 8.3:** It is perhaps interesting that the Applicant has resorted to arguing that it is not necessary to demonstrate the viability or deliverability of its project.

3.2.1 SHP's case in this respect is that there cannot be a compelling need in the public interest to acquire land for a project which is not viable or deliverable and that the burden of proof lies on the Applicant to demonstrate that viability and deliverability in order to attempt to make its "compelling case". These matters are set out in SHPs Written Representations of 15 February 2019 (in section 8).

3.2.2 SHP has identified the significance of the Guidance related to procedures for the compulsory acquisition of land, September 2013 which provides at paragraph 13:

"….the Secretary of State will need to be persuaded that there is compelling evidence that the public benefits that would be derived

from the compulsory acquisition ***will outweigh*** *the private loss…." (emphasis added).*

3.2.3 That requirement could only be satisfied if the Examining Authority and the Secretary of State conclude that the project will proceed so that its benefits will (with certainty) outweigh the loss to SHP and others.

3.2.4 The Applicant's Appendix 9 quotes selectively from the judgement in the Chesterfield Properties case1. In particular, the appendix fails to identify:

- that the proposals involved a town centre regeneration scheme that was described as Stockton's last, and perhaps only, chance to revive its flagging retail economy, regenerate a run-down area at the heart of the town centre and enhance its appearance and image. (Inspector's conclusions paragraph 501).

- that there was very substantial public sector support for the development which benefitted from a City Challenge contribution of £9 million which had been approved in principle by the Government Office and anticipated EU funding and direct local authority support;

- that the inquiry was advised that schemes of such a nature were, by definition (in order to qualify for grant), marginally viable; and

- that the Inspector had found that the scheme is viable (paragraph 105).

3.2.5 Neither does the appendix recognise that viability of proposed schemes is commonly material to the determination of compulsory acquisition cases. For example, proposals for town centre compulsory acquisition were dismissed in September 2010 in Stowmarket by the Secretary of State who agreed with his Inspector Mr. Prentis that the lack of viability and the lack of commitment to delivery of the scheme meant that there could not be a compelling case in the public interest (reference LDN 23/W35206/1). Similarly, an inquiry concerning the Croydon Gateway Scheme rejected proposals for compulsory acquisition (reference LDN23/L5240/6/1) in a case where the applicant had relied upon the Chesterfield Properties case (see the Inspector's report paragraph 11.1.11) but the Secretary of State nevertheless concluded that the CPO should not be confirmed for several reasons, including because there was no reasonable prospect of the scheme proceeding if the CPO were confirmed (paragraph 11.3.38).

3.2.6 Whilst each case may turn on its own individual merits, the requirements of the relevant Guidance for the purposes of the Planning Act 2008 are clear and the lack of evidence of viability, commitment, funding or deliverability are fundamental failings of the application.

[1] Chesterfield Properties plc –v- Secretary of State for environment; Secretary of State for Transport and Stockton-on-Tees Borough Council, 1997, EWHC, admin 709 (24 July, 1997).

4. **AGENDA ITEM 15: LAND REQUIRED**

4.1 **Paragraph 11.1:** It is interesting to note that the Applicant has now included a requirement that *"Works Nos. 15, 16 and 17 must only be developed and used to support the operation of Works Nos. 1 to 11 and 13."*

4.1.1 Notwithstanding the fact that much of the proposed development included in Work Nos. 1 to 11 and 13, does not satisfy the NSIP development criteria and most of the asserted associated development does not satisfy the guidance (please refer to SHP's extensive submissions on these matters), the Applicant's new requirement 19 in the dDCO would rule out the following types of activity the Applicant stated it was seeking to attract to the Northern Grass area in paragraph 14 of Annex 4 of its Updated NSIP Justification [REP1-005].

- passenger airline offices and crew facilities
- offices and flight planning facilities for flight schools;
- catering operation for passenger flights;
- covered secure and valet parking operations;
- rental car operators – overnight garage, cleaning and office facilities;
- garage and offices for airside public transport providers;
- airport taxi company garage, cleaning and office facilities;
- offices and warehousing for storage associated with MRO and aircraft recycling (including parting out) operations.

4.1.2 It is a common feature of this examination that the Applicant's attempts to address or resolve issues, only serve to create a new issue, or highlight material contradictions and inconsistencies elsewhere.

4.2 **Paragraph 11.2:** In response to the commitment it gave at the hearing, the Applicant claims it provided more information about the warehousing, northern grass, Fixed Base Operations (FBO) and Maintenance Repair and Overhaul (MRO) income set out in its business plan at Appendix 10. However, Appendix 10, which is headed *"Note substantiating net income figure"* only comprises a few paragraphs of generic assumptions explaining that tenants will occupy the properties on terms that are "comparable" with similar properties.

4.2.1 We note that the Applicant again failed to fulfil its commitment to explain and justify the unevidenced assertions it made about the scale of airport-related commercial development at East Midlands Airport.

4.2.2 Furthermore to the extent that it has provided further examples of the type of business park development it would expect on the Northern Grass (at Appendix 7 to the Oral Summary of the Need and Operations hearing), these relate principally to non-airport related uses on land adjacent to airports such as the Aerohub at Newquay and Aerospace park at Prestwick (see paragraphs 70 - 73 of York Aviation's supplementary note appended as Appendix NOPS.5.1 to SHP's Written Summary of Oral Submissions to the Need and Operations hearing) as well as introducing new examples of non-airport related business parks adjacent to airports such as the Meteor Business Park at Gloucestershire, which supports non-airport related

activities and provides a financial cross-subsidy to the operation of the airport.

4.2.3 The Applicant appears confused itself as to its intentions regarding the Northern Grass. On the one hand, it seeks to justify the area of land proposed by reference to non-airport related business parks adjacent to airports, whilst on the other appearing to accept that only associated development to the primary NSIP purpose can be allowed. The position is fundamentally contradictory.

4.2.4 Overall, the failure to address a specific request for information and evidence has also been a consistent theme throughout the examination. Whenever the Applicant is asked by the Examining Authority to provide evidence to support its unevidenced assertions, the Applicant either remains silent on the issue in its next submission, or answers a question that was not asked, rather than correct the factually inaccurate information it has previously submitted to the examination.

4.2.5 The Applicant's repeated failures to provide any detail or evidence to support its assertions is literally incredible. As the Examining Authority made clear in the preliminary hearing, assertion that is not supported by evidence can carry no weight in the examination. In absence of any evidence to support the Applicant's assertions, the application cannot be adequately and fairly tested and there can be no basis on which the Examining Authority could recommend grant of a DCO.

4.2.6 The Applicant continues to approach the examination with the expectation that the burden of proof is entirely on SHP (and other parties) to prove the case against its plans, rather than there being any onus on the Applicant to provide any substantive evidence that can be adequately and fairly tested.

4.3 **Paragraph 11.4:** The Applicant has set out its calculation of the number of stands required to accommodate the forecast ATMs together with the airside warehousing required at Appendix 11. However, this is based on an asserted number of 'based' aircraft each needing a dedicated stand available to it all day long and then adding the requirements for non-based aircraft over the rest of the day. First of all, there is simply no explanation provided for the claimed number of based aircraft as this is not set out in the Azimuth Reports. Secondly, once the overnight based aircraft have departed, the stands would be available for other aircraft during the day. Hence, there is double counting in the number of stands required.

4.3.1 As noted in evidence provided by SHP, the infrastructure is vastly overstated as the comments above would corroborate. SHP's case in relation to the necessary scale of facilities for the principal development is set out in its Written Representations, Appendix 4, Section 6 [REP3-025]. That analysis shows that the facilities proposed (and the consequent land take) are grossly over-scaled and that the same applies to the "associated development" proposed for the Northern Grass. We would also refer the Examining Authority to SHP's evidence set out in paragraphs 57-74 of Appendix CA.15.1 to its written summary of oral submissions, which, inter alia, also explains why the proposed scale of infrastructure provision is completely inconsistent with claimed cost efficiency of the development (as

required by the Airports NPS) nor likely to facilitate RSP being able to offer operators competitive terms as claimed by them, given the scale and cost of the infrastructure it proposes to provide and the consequent implications for the level of charges that it would have to levy to cover the costs of investment.

5. AGENDA ITEM 16: REASONABLE ALTERNATIVES

5.1 **Paragraph 12.2:** The Applicant makes a number of inaccurate claims and assertions regarding engagement with SHP. SHP has provided detailed notes and evidence to supports its statements and will provide a more detailed summary in its response to second written questions (CA.2.17).

5.1.1 Based on the evidence and patterns of behaviour, it is SHP's firm view that the Applicant's correspondence with SHP (which it only started marking without prejudice following SHP's refusal to extend the Confidentiality agreements) is tactical, and aimed at allowing it to maintain a pretence to the Examining Authority that discussions are ongoing. SHP is not aware of any correspondence marked "without prejudice" that contains an offer from the Applicant.

5.2 **Paragraph 12.3:** The Applicant has again completely ignored the correspondence from 9 April 2018, which followed the letter from the Applicant's legal adviser dated 21 March 2018. We would request that the Examining Authority consider the Applicant's failure to acknowledge or respond to SHP's letter of 9 April 2018. It is noted that the Applicant has accepted the error in summarising the offer as being for 25 years. However, the glib comment that the "*terms on which the lease was proposed were not commercially viable and were rejected on that basis"* on top of Mr Freudmann's explanation at the hearing that a 25-year lease was "absurd" demonstrates the lack of good faith which has characterised any "negotiations" and a contempt for the DCO process. The Applicant's position is not supported by the evidence and we would respectfully refer the Examining Authority to the entirety of the correspondence between 15 March 2018 and 9 April 2018 (included within the appendix to SHP's response to question CA.1.17).

5.3 **Paragraph 12.4:** The Applicant continues to mispresent the position with SHP's Hybrid Planning Application (TDC reference OL/TH/18/0660) and the intentions of SHP to develop the site. We would respectfully advise the Examining Authority that, at the local plan examination hearings, Thanet District Council confirmed that their position as taken forward in the Local Plan is one of 'complete neutrality' over the future of the airport site. QC for the Council also noted that *"if the DCO process fails it obviously opens up huge opportunities for us to plan housing growth in the long term".*

DEADLINE 6 SUBMISSION

STONE HILL PARK LTD – RESPONSE TO EXA'S SECOND WRITTEN QUESTIONS

PINS APPLICATION REFERENCE: TR020002

Responses are provided to all written questions directed to Stone Hill Park Ltd ("SHP").

Whilst SHP considers it will be most efficient for the Examining Authority if it defers its comments on questions directed to the Applicant until Deadline 7 (where it can also comment on the Applicant's responses), SHP considers it important to provide initial responses on a number of questions addressed to the Applicant at Deadline 6. SHP consider this necessary due to;

- the extremely limited time left in the examination phase;
- the Applicant's continued failure to furnish necessary information to the examination or do so in a timely manner; and
- the Applicant's tendency to provide responses that lack veracity and/or appear to mislead the examination.

Question	Question to:	Question	SHP answer / comments
G.2.1	The Applicant Thanet DC	Thanet Local Plan What is the latest position concerning the examination of the draft Thanet DC Local Plan to 2031?	The Thanet DC Local Plan is currently being examined with hearings held throughout April, and a further overspill day scheduled in May. In terms of timing, the Inspector estimated that the new Local Plan would not be expected to be adopted until early 2020. Thanet DC confirmed that the evidence base does not justify a policy safeguarding the site for aviation use. Their position as taken forward in the Local Plan is one of 'complete neutrality' over the future of the airport site to allow the DCO process to be concluded without prejudice. Thanet DC have confirmed that the proposed treatment of the site in the Local Plan (as an "omission" site or "white land") will not prejudice the future of the Manston airport site whatever that might be - any application would be determined based on the merits of the case put

Question	Question to:	Question	SHP answer / comments
			forward. QC for Thanet DC also noted that *"if the DCO process fails it obviously opens up huge opportunities for us to plan housing growth in the long term".* The Secretary of State has directed that a Review of the Local Plan must be undertaken within six months of adoption. The Local Plan Inspector confirmed that this must take the form of a full review. This will need to consider the implications of the determination of the DCO regardless of what that decision is. The Inspector advised Thanet DC that clear milestones should be set as to when the Local Plan review and subsequent update (incorporating the necessary changes following the review) is submitted by Thanet DC to the Planning Inspectorate. The Inspector has avoided discussions on the DCO examination process and had taken a firm line against any parties submitting additional representations past the deadline. For example, the Inspector did not feel it appropriate for any of the evidence submitted to the DCO examination to be accepted to the Local Plan process.
G.2.2	The Applicant Thanet DC Stone Hill Park Ltd	Stone Hill Park Planning Application Thanet DC's response to first written questions stated that the determination period for the application (OL/TH/18/0660) was extended to 31 March 2019, which has now passed. What is the latest position?	The determination period has been extended to 31 August 2019 to allow additional sensitivity testing in response to comments raised by Thanet DC and third parties. Clearly, the ongoing DCO process has been a complicating factor that has added further delay. At the local plan hearings Thanet DC confirmed that their position as taken forward in the Local Plan is one of 'complete neutrality' over the future of the airport site. QC for Thanet DC also noted that *"if the DCO process fails it obviously opens up huge opportunities for us to plan housing growth in the long term".*

Question	Question to:	Question	SHP answer / comments
Ec.2.2		Ecological Surveys What is the current status of the outstanding ecology surveys?	SHP considers it important that the Examining Authority is provided with a factual summary regarding of the current position as regards access to the site and lack of survey activity. SHP is concerned that the Applicant will provide a misleading and incomplete response that is not supported by the evidence. In its Cover Letter submitted at Deadline 1 [REP1-001], the Applicant enclosed (as Enclosure 1) a *"timeline for the provision of the outstanding ecological survey data required to confirm the worst case ecological impact assessment, in response to the request on page F1 of the Rule 6 letter issued by the ExA on 11 December 2018 ('Rule 6 letter')."* The Enclosure 1 set out a timeline for completion of the numerous outstanding surveys, and in section 2.2 Programme it stated *"[I]t is proposed that the survey information gathered, the assessment and any changes to the proposed mitigation are issued to the Examining Authority by May (Deadline 7), so that there is sufficient time for interested parties to comment upon it before the end of the examination."* As explained below, the Applicant will be unable to meet this commitment as a result of its own failures and inactions. We set out the factual summary of the position vis a vis survey activity on SHP land since Deadline 1 (18 January 2019); On 31.01.2019, the Applicant's consultants accessed the site to undertake Bat surveys. Based on SHP's site manager records, this is the **only** date that the Applicant or its consultants has been on site since 18 January 2019 (Deadline 1). Part of the reason for that is that the Applicant breached the conditions of the section 53 authorisation issued by the Secretary of State on 16 September 2018, such that its rights to access the land under the authorisation ceased.

Question	Question to:	Question	SHP answer / comments
			The breach of conditions related to the Applicant's failure to reimburse SHP for the additional third party security costs that SHP was required to incur to facilitate the Applicant's access to the site at the times it had requested. These Conditions of the section 53 authorisation were considered necessary by the Secretary of State to protect the legitimate interests of the landowner. This was the second time that the Applicant had lost access rights due to non-payment of costs. We attach as Appendix Ec.2.2(i) the correspondence between SHP, the Applicant, the Applicant's legal advisor and the Applicant's environmental consultants, Wood. In summary, the correspondence explains; • the basis on which the Applicant had materially breached the terms of the section 53 authorisation such that the rights of access under the authorisation immediately ceased; • the need for a new authorisation or voluntary agreement to be in place to facilitate the recommencing of survey activity (as the landowner would not be able to rely on any protections under the s53 authorisation as it was no longer in force); and • SHP's willingness to engage with the Applicant regarding voluntary access arrangements to allow surveys to recommence. In the 72 days that have passed since SHP's email to BDB dated 20 February 2019, neither the Applicant nor its advisers, has acknowledged or responded to our email correspondence. This lack of engagement would appear to demonstrate that the Applicant has no intention of undertaking the outstanding ecology surveys. It should be concerning to all parties expending significant time and resource on this DCO examination that the Applicant does not even feel the need to show that any effort is being made.

Question	Question to:	Question	SHP answer / comments
			In keeping with the Applicant's previous patterns of behaviour, we are concerned that the Applicant will seek to place blame for the lack of survey activity on SHP, and wrongly claim the Applicant has been refused access to the site. This would be highly misleading, but wholly consistent with previous conduct and behaviour of the Applicant. As the correspondence clearly demonstrates, the Applicant was not refused access and was simply advised that its rights under the section 53 authorisation have ceased and that a new authorisation or agreement is required. As SHP was not a party to the authorisation, even if it had so desired, it would be unable to waive material breaches of the conditions or vary the terms authorisation – only the Secretary of State would have that power. As SHP explained in section 3.4 of the covering letter to its Deadline 4 submission [REP4-064], the Applicant has continually shown in itself to be an unreliable counterparty. There have now been three separate section 53 authorisations or voluntary agreements (that provided for access to be taken over the land owned by SHP) and, in each case, the Applicant has been in material breach of the conditions of the relevant authorisation or agreement. These were conditions the Secretary of State stated were necessary to protect the legitimate interests of the landowners and the Applicant showed no concern for them. We appreciate the logistical challenge faced by the Examining Authority in reviewing all the information that has been submitted to the examination. However, we consider that it would be informative for the Examining Authority to review the contents of SHP's covering letter to the Planning Inspectorate dated 29 August 2018 which sets out SHP's explanation of why the Applicant had not previously been unreasonably refused access to the SHP land.

Question	Question to:	Question	SHP answer / comments
			This letter, attached as Appendix Ec.2.2(ii), provides detailed evidence showing the consistent pattern of unreasonable and aggressive conduct/behaviour by the Applicant, some of which was in contravention of clear advice from the Planning Inspectorate. We have not attached the extensive enclosures submitted with the letter, but would be more than happy to do so if this would be of assistance to the Examining Authority. Similarly, we stand ready to answer any questions that Examining Authority has regarding this issue.
CA.2.17	Stone Hill Park Ltd & others	Representations from Affected Persons Provide details of negotiations with the Applicant in respect of the request to compulsorily acquire land and/or the rights over land and comment on the likelihood of reaching an agreement on this in advance of the end of the Examination on or before 9 July 2019.	SHP has attached (as Appendix CA.2.17) a detailed response that provides; • clarity on the confidentiality obligations owed by the Applicant to SHP; • an update on the current status of discussions between the parties; • comments on the likelihood of reaching an agreement in advance of the end of the Examination; and • a summary of the nature of formal correspondence with the Applicant's advisers, CBRE and BDB Pitmans.
CA.2.23	The Applicant	**Acquiring by voluntary agreement** DCLG Guidance related to procedures for the compulsory acquisition of land (2013) advises at paragraph 25 that, as a general rule, authority to acquire land compulsorily should only be sought as part of an order granting development consent if attempts to acquire by agreement fail. The ExA has made a procedural decision in the Rule 6 letter to require the Applicant to provide an updated CA Status Report at Deadline 5, to accompany the responses to these questions. The ExA notes that the updated Status Report states that, out of some 163 Affected Persons, only	(i) We expect the Applicant will continue to misrepresent the position with regard to its discussions with SHP. We would confirm to the Examining Authority that the Applicant is not under any duty of confidentiality to SHP in respect of the discussions held between the parties. We previously provided detailed evidence on this point in our submissions made at Deadline 5 (Written Summary of oral submissions put at the CA Hearing). We have also made this clear in correspondence to the Applicant. The Applicant's overall approach to negotiating with affected Persons clearly demonstrates that they have

Question	Question to:	Question	SHP answer / comments
		those Persons related to the acquisition of the Jentex site are shown, unequivocally, to have reached agreement. Given this: i **Detail your approach to negotiation with Affected Persons including the timing and nature of negotiations held since your response to the ExA's first questions was submitted on 15 February; and** ii **set out your intended timescales for reaching agreements.**	fallen well short of what is required by the relevant guidance. Those seeking powers of Compulsory Acquisition should only do so as a last resort. At the Compulsory Acquisition Hearing, the Examining Authority advised the Applicant of the Guidance that states compulsory acquisition should only be sought if attempts to acquire by agreement fail, and queried whether sending first letters to landowners on 8 February 2018 was sufficient. We would request that the Examining Authority reviews paragraphs 10.11 – 10.13 of SHP's written summary of oral submissions put at the CA Hearing [reference to be allocated], when assessing the degree to which the Applicant complied with the relevant Guidance.
CA.2.25	The Applicant	**Acquiring by voluntary agreement** DCLG Guidance related to procedures for the compulsory acquisition of land (2013) advises at paragraph 25 that, as a general rule, authority to acquire land compulsorily should only be sought as part of an order granting development consent if attempts to acquire by agreement fail. The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices, submitted at Deadline 5 on 29 March 2019 [REP5–index number to be allocated], states at paragraph 12.3 that: "*SHP had suggested that the Applicant lease the site for a period. Mr Freudmann inaccurately summarised the offer as being for 25 years. In fact it was for 125 years*."	In keeping with the Applicant's comments in paragraph 12.3 of its written summary of oral submissions put at the CA hearing [reference to be allocated], we expect the Applicant to completely ignore or gloss over the correspondence from 9 April 2018, which followed the letter from the Applicant's legal adviser dated 21 March 2018. We would request that the Examining Authority fully take into account the Applicant's failure to respond to SHP's letter of 9 April 2018 (this letter was appended to SHP's response to first written questions – reference still to be allocated). We note that the Applicant has accepted the error in summarising the lease offer as being for 25 years, however Mr Freudmann's explanation at the hearing that a 25-year lease was "absurd" demonstrates the lack of good faith which has characterised any "negotiations" and a contempt for the DCO process.

Question	Question to:	Question	SHP answer / comments
		The length of the potential lease appeared from Mr Freudmann's comments to be a clear factor in RSP's decision on this offer. **If this is not the case, set out the reasons for RSP's decision on the suggestion by SHP that the Applicant lease the site.**	It is a fact that long leasehold structures are not uncommon at airports and it is established through the Applicant's own evidence that it gave no consideration to this option.
CA.2.30	Stone Hill Park	In the Written Summary of SHP's Oral Submissions put at the CAH held on 20 March 2019, submitted at Deadline 5 on 29 March [REP5-index number to be allocated] you state at paragraph 7.5, in respect of Article 25 (Application of Compulsory Purchase Act 1965): *"As a result of a reduction in time in which to exercise the compulsory acquisition powers from 5 years to 1 year in respect of SHP's land, consequential amendments are required to Article 25(1)(a)(ii) and Article 25(2)."* Suggest what changes may be necessary.	Please see revised wording below. The only required change is to replace "five" with "one" in article 25(1)(a)(ii). The amendments referred to in article 25(2) flow from the amendments to Article 21. *"25.—(1) Part 1 of the 1965 Act, as applied to this Order by section 125 (application of compulsory acquisition provisions) of the 2008 Act is modified as follows.* *(a) in section 4A(1) (extension of time limit during challenge)(a)—* *(i) for "section 23 of the Acquisition of Land Act 1981 (application to the High Court in respect of compulsory purchase order)" substitute "section 118 of the Planning Act 2008 (legal challenges relating to applications for orders granting development consent)"; and* *(ii) for "the three year period mentioned in section 4" substitute "the **ONE** year period mentioned in article 21 (time limit for exercise of authority to acquire land compulsorily) of the Manston Airport Development Consent Order 201[ ]".* *(2) In section 22(2) (expiry of time limit for exercise of compulsory purchase power not to affect acquisition of interests omitted from purchase), for "section 4 of this Act" substitute "article 21 (time limit for exercise of authority to acquire land compulsorily) of the Manston Airport Development Consent Order 201[ ]"."*

Question	Question to:	Question	SHP answer / comments
			SHP would note that the Applicant's QC confirmed at the Local Plan examination hearing held on 17 April 2019 that the Applicant intended to radically shorten the period for which it was seeking to exercise any powers of compulsory acquisition. Separately, Anthony Freudmann (director of the Applicant) confirmed to SHP that the Applicant would reduce the period to 6 months from 5 years. Once again, it appears that the Applicant is making it up as it goes along, but we await sight of the Applicant's proposals set out in its Deadline 6 submissions.
DCO.2.19	The Applicant	**Article 9 - Guarantees in respect of payment of compensation, etc.** The Revised 2.1 Draft Development Consent Order submitted at Deadline 5 on 29 March 2019 [REP5-index number to be allocated] includes the Secretary of State as the approving body in Art. 9 Guarantees in respect of payment of compensation, etc. The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated] states at paragraph 3.23 that: "*The report of the Transport Select Committee inquiry into small airports in 2015 is provided at Appendix 8, supporting the case that the Secretary of State would be the better body to approve the guarantee provided at Article 9. The project also affects a wider area than that of Thanet District Council, further suggesting a higher-level body would be more appropriate*." **i. Indicate on which parts of the 2015 report of the Transport Select Committee inquiry into small airports you rely on as your justification for**	i. We would respectfully flag to the Examining Authority that the report from the Transport Select Committee predated the second CPO process undertaken by Thanet District Council. Accordingly, it is unclear how this is of any relevance. This second process reached the same conclusions regarding the unsuitability of RiverOak as an indemnity partner.

Question	Question to:	Question	SHP answer / comments
		retaining the Secretary of State as the approving body in this Article. **ii. Show how these support your position.**	
DCO.2.25	The Applicant	**Article 18 - Authority to survey and investigate the land** The ExA is considering amending Article 18(7)(a) to read "*Operation Stack has been declared by Highways England and/or Kent Police*". **Comment.**	SHP is concerned that the Examining Authority has not made any reference to other required changes to Article 18 as explained in paragraphs 3.3.-3.7 of SHP's submission [REP4-064]. Further information and context is provided in our response to question Ec.2.2 above.
DCO.2.33	The Applicant	**Schedule 1: Authorised Development** **Justify the inclusion of Work No.12 — The construction of a new passenger terminal facility with a maximum building height of 15m under 'Associated Development' rather than under the s14 and 23 list of works.**	We would refer the Examining Authority to sections 5 and 6 of Appendix 1: Rebuttal of NSIP Justification appended to SHP's Written Representations [REP3-025]. For any development to qualify under section 23 of the Planning Act 2008, they must have the requisite effect referred to in section 23(5)(b) which is *"to increase by at least 10,000 per year the number of air transport movements of air cargo movements for which the airport is capable of providing air cargo services".* Any development that does not have this requisite effect is therefore **not** part of the principal development. Section 115(1) of the Planning Act 2008 is clear that there are only **two** categories of development for which development consent may be granted. These are (a) development for which development consent **is required**, or (b) associated development. As set out section 5 of Appendix 1: Rebuttal of NSIP Justification appended to SHP's Written Representations [REP3-025], even on the most favourable interpretation, Works 2, 10, 11 and 13 in no way satisfy the NSIP criteria. Quite simply these works would have no

Question	Question to:	Question	SHP answer / comments
			effect on the airport's ability to operate air cargo movements whatsoever. For the reasons set out in 5.3-5.6 of that Appendix 1, which is largely based on the Applicant's own evidence, Works 1 (the airside cargo facilities) would also not qualify as NSIP. The Applicant has still not provided the examination with the explanation and justification of the Works that form the NSIP development and the Works that comprise Association Development. This is despite the request made by the Examining Authority and the commitment given by the Applicant at the dDCO hearing held on 10 January 2019. The only conclusion that can be reached, is that the Applicant is unable to explain, justify and evidence their assertions. In view of the Applicant's continued failure to furnish the examination with this critical information and given the very limited time left in the examination, SHP wrote to the Planning Inspectorate expressing its deep concern that this omission was not flagged to the Applicant in the second round of written questions issued on 5 April. As set out in SHP's detailed submissions and above, there are many elements of development that the Applicant has listed as NSIP development that do not meet the required criteria under s23 of the Planning Act 2008. There are also many elements of the purported Associated Development that do not comply with the relevant guidance criteria. In order to assess whether development satisfies the criteria for associated development set out in the relevant guidance, **an assessment must first be made about development that comprises**

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			the principal (i.e. NSIP) development. This requires a clear explanation and justification of the NSIP development to be provided by the Applicant and for the evidence to be tested in the examination to ensure it satisfies the required tests under section 23. Under the guidance, associated development must be **proportionate to the nature and scale of NSIP development, the purpose of associated development should not be to cross-subsidise and associated development should be subordinate to principal development.** Without having clarity over the applicability of the claimed NSIP development, no assessment of these tests can be made. There are also further perquisites, which the Examining Authority placed on record in the hearings regarding **the need for detailed business plan and financial forecasts to be provided by the Applicant to allow an assessment of the cross-subsidy test**. As a minimum, this would require the Applicant to have submitted detailed granular evidence showing the capital costs and the ongoing revenues and costs attributable to the NSIP works and also each element of associated development works. Based on the wholly inadequate information before the examination, the Examining Authority cannot even start to make an assessment against the tests. It is clear from our review of historic and current DCO applications that the commercial nature, scope, scale, proportionality and dominant nature of the purported associated development in the Applicant's application is without precedent. This requires a detailed, robust assessment of the evidence, however the failure of the Applicant to provide information that is critical to the examination, is preventing the Examining Authority from being able to

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			adequately test the evidence and, for affected parties such as SHP, a fair chance to put their case. There can, of course, be no compelling case for the acquisition of land for an unspecified, unexplained and unquantified use for which there is no evidence of demand, let alone need. As we stand today, SHP's submissions provide the only detailed analysis on the applicability of the purported NSIP development and Associated Development that is before the examination. A summary of SHP's post application submissions on this point are summarised below; • 8 October 2018: Submission of Relevant Representations. Please refer to paragraphs 3.11, 5.5, 5.6, 5.8, 7.6 – 7.12 and 9.8 of SHP's Relevant Representations [RR-1601] • 19 January 2019: Deadline 1 Submission: Please refer to paragraphs 3.1 – 3.14 of the written summary of SHP's oral submissions at dDCO Hearing [REP1-023] which confirms the request that was made by the Examining Authority and the commitment provided by the Applicant. This can be checked via the recordings from the hearing. • 15 February 2019: Deadline 3 Submissions: Please refer to sections 5 and 6 of Appendix 1: Rebuttal of NSIP Justification, which forms part of SHP's written representations [REP3-025]. As set out in the analysis, Works 1, 2 10, 11 and 13 would not qualify as NSIP works as they do not have the effect required by section 23 of the Planning Act 2008. Further detailed analysis is also provided on the non-compliance with the associated development criteria. • 8 March 2019: Deadline 4 Submissions: Please refer to paragraphs 1.3, 3.8 and 3.9 of SHP's covering letter [REP4-064]

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			and SHP's comments on the Applicant's Response to Written Question DCO.1.1 [see page 10 and 11 of REP4-067]. • 29 March 2019: Deadline 5 Submissions: Please refer to paragraphs 2.9.3, 2.9.16 and 2.9.17 of SHP's Comments on the Applicant's Comments on the Written Representations [Rep5 - reference to be provided] and paragraphs 3.1.2 – 3.1.5 and 9.1 of SHP's written summary of oral submissions put at the Compulsory Acquisition hearing on 20 March 2019 [REP5 reference to be provided].

DCO.2.49	The Applicant
	All Parties
		Additional Articles or Requirements
		The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated] states at paragraph 10.1 that:
		"*The Applicant does not agree with SHP's proposals for inclusion in the dDCO, except that it would be prepared to adopt the equivalent to the Crichel Down rules in relation to SHP's interest*."
		Provide possible drafting for inclusion in the draft DCO embedding the principles inherent in the Crichel Down rules.
			Without prejudice to SHP's position as set out in previous submissions we note below the key principles that should be incorporated in the Crichel Downs drafting;
			
			• SHP to have first right of refusal on the disposal of any SHP land that has not been developed materially in accordance with the Applicant's proposals set out in Schedule 1 of the draft Development Consent Order.
			• A requirement for the Applicant to offer back the entire SHP land to SHP in the following circumstances;
			  ○ a CAA EASA Certificate has not been issued to the Applicant by 1st January 2024;
			  ○ the airport is not operational by 1st April 2024;
			  ○ where any of the land is subject of a planning application that includes residential development, or any other uses not set out in the draft DCO;
			• In each case, SHP will have the right to acquire the land at the cost paid by the Applicant, less the reasonable costs (including SDLT) incurred by SHP in acquiring the land. Where only part of the land is being acquired back by SHP, the cost is to be calculated on a pro rata per acre basis.

Question	Question to:	Question	SHP answer / comments
			The provisions have purposefully been kept simple, and developed so as to be consistent with the statements and commitments made by the Applicant in the examination. Firstly, the Applicant considered it absurd to suggest that the airport would not be developed and operational by Q1 2022. We therefore consider that the inclusion of the deadlines for the EASA Certificate and point at which the airport must be operational, provide a generous 2 year grace period. On the basis that the assessments contained in the Environmental Statement are all based on an airport being operational in Q4 2020 (39-42 months before the 1 April 2024 deadline), any delay beyond then would have a material impact on the validity of the environmental assessments in the application. Secondly, the Applicant has robustly set out its position that it has no interest in residential development or any non-airport related development. Accordingly, it should have no concern in agreeing to the related provisions. In its submissions to date, SHP has outlined the many impediments to the scheme that could delay an airport being operational to well after late 2024/2025 (please see realistic timetable/programme set out in Appendix NOPS.11 to SHP's written summary of oral submissions to the Need and Operations Hearing). Should the Applicant now turn around and claim the inclusion of the milestones are onerous or restrictive, it would be an acceptance on the Applicant's part that an airport could not be operational even two years after its latest estimate. If there was this acceptance, it would require a full reassessment of the environmental effects in its application. The Applicant cannot continue to have its cake and eat it.

Question	Question to:	Question	SHP answer / comments
F.2.3	The Applicant	The Applicant is reminded that Regulation 5(2)(h) requires that an application be accompanied by a statement to indicate how an order that contains the authorisation of compulsory acquisition is proposed to be funded. The Applicant is further reminded that DCLG Guidance related to procedures for the compulsory acquisition of land (2013) advises at para. 9 that the applicant should be able to demonstrate that there is a reasonable prospect of the requisite funds for acquisition becoming available. The Applicant is reminded that information in the public domain at http://rsp.co.uk/news/the-formation-and-funding-of-riveroak-strategic-partners/ states that: "*comprehensive details of our funding partners and investment arrangements will of course be provided to PINS as part of the DCO application, providing solid evidence of our ability to meet all of the financial obligations associated with the acquisition, reopening and operation of the airport*." The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that: "…the investors wished to remain confidential…"	SHP notes that Angus Walker of BDB wrote to the Planning Inspectorate on behalf of the Applicant on 5 April 2019. Mr Walker requested that the Examining Authority considers evidence that would not be shared with affected parties in line with commitments provided by the Planning Inspectorate and Examining Authority with regard to openness and transparency. The email from Mr Walker was published on 16 April 2019, following which SHP subsequently wrote to the Planning Inspectorate on 17 April 2019 explaining why there can be no justification for deviating from the Examining Authority's previous commitment to openness and transparency.

Question	Question to:	Question	SHP answer / comments
		i. Explain how this latter statement conforms to, and supports, a system of Examination which is designed to be open and transparent. **ii. Explain how this latter statement confirms to RSP's own commitment to provide comprehensive details of its funding partners.** **iii. Suggest ways in which the ExA may recommend to the Secretary of State on issues surrounding the availability of funding in the face of a desire for confidentiality relating to that issue.**	
F.2.13	The Applicant	The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that: *"The shareholders of MIO Investments are the project's investors"* Information in the public domain at http://rsp.co.uk/news/the-formation-and-funding-of-riveroak-strategic-partners/ states that: *"We have provided all required details of our company ownership structure to Companies House"* **i. Provide a copy of the documentation provided to Companies House.** **ii. Provide a link to the Companies House website showing where details of MIO Investments are to be found.**	Should the Applicant fail to provide information on MIO Investments Ltd (the 90% shareholder in the Applicant) and provider of all the funding, we are able to partly assist the Examination by attaching copies of Belize records (the limited extent they are available) as Appendix F.2.13. Unfortunately, as a Belize Company, subject to extremely limited regulation on transparency, it is not required to disclose details of its directors, shareholders or to submit financial statements. The documentation does show; ○ MIO Investments Ltd was set up by a fiduciary company (Morgan & Trust Corp Belize Ltd) in Belize on 30 June 2016. ○ The Company has an authorised share capital of USD $10,000 (see clause 6.2 of the Memorandum of Association).

Question	Question to:	Question	SHP answer / comments
F.2.15	The Applicant	The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.3 that: "*The shareholders of MIO Investments are the project's investors … their loans to MIO Investments had been subject to due diligence and approval by HMRC under the Business Investment Relief scheme and declared in their tax returns.*" You have provided redacted copies of three letters, each dated 1 December 2016, from Business Investment Relief, HMRC (reference numbers 0498, 0499 and 0500). Each of these letters refers to "*the proposed investment in RiverOak Strategic Partners Ltd*" not, as you state, to MIO Investments. The letters from HMRC state that: "*If any of the circumstances or the nature of the investment differ from those described by you, or other facts come to light which have an impact on whether the investment is a qualifying investment, HMRC will not be bound by this opinion.*" **Would the opinion of the HMRC remain valid if the nature of the loan has changed?**	We would also bring to the Examining Authority's attention that the financial statements of the Applicant for the years ending 31 July 2017 and 31 July 2018, show nil investment in the form of new share capital or loans. The Applicant is a dormant company with £1 of share capital. On the basis MIO Investments has not invested in or provided loans to the Applicant, it is not clear that "*the proposed investment in RiverOak Strategic Partners Ltd*" has been made in accordance with the information before HMRC.
F.2.18	The Applicant	The Applicant's Written Summary of Case put Orally - Compulsory Acquisition Hearing and associated appendices [REP5-number to be allocated] states at paragraph 3.1 that: *"the restructuring* [is] *taking longer than expected in part due to the ongoing discussions with Stone Hill Park (SHP) regarding the acquisition of the site."*	It is a fact that, on 3 December 2018, the Applicant signed Heads of Terms that included no conditionality, to acquire the land by 12 December 2018. In the period since, it is SHP's firmly held view, supported by the evidence, that the Applicant's engagement and correspondence with

Question	Question to:	Question	SHP answer / comments
		Explain how the ongoing discussions with Stone Hill Park regarding the acquisition of the site have delayed the restructuring.	SHP has been purely tactical, and aimed at allowing it to maintain a pretence to the Examining Authority that discussions are ongoing. It is doubly frustrating to find that the so-called "discussions" are now also being used by the Applicant to justify its failures to provide the required information on funding. Further evidence on the Applicant's lack of serious or meaningful engagement is set out in SHP's response to the Examining Authority's written question CA.2.17 submitted as part of SHP's Deadline 6 submission.
F.2.23	The Applicant	You have provided a redacted copy of the joint Venture Agreement at Appendix 4 to Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices [REP5-index number to be allocated]. This states that: "*The JVC is a private company limited by shares incorporated in England under the CA 2006 and has an issued share capital of one ordinary share of £1 which is held by ROML*." **Provide the Company Registration number for the JVC.**	We would bring to the Examining Authority's attention that the confirmation statement lodged at Companies House on 23 March 2017 shows this to be inaccurate. Unless the Companies House records are inaccurate, the single share of £1 was actually held by Anthony Freudmann rather than ROML.
ND2.5	The Applicant	**Forecasts** It is stated in the Applicant's Written Summary of Case put Orally – Need and Operation Hearing [Submitted at DL5, Ref not yet assigned] that Manston would offer "*unconstrained, state of the art freight, digitalised freight handling facilities - speciality handling (for race horses); refrigerated*	ii. Paragraph 5.2.3 of Volume II of the Azimuth Report [APP-] claims Manston would be well placed to dominate niche markets including the transport of "live animals such as breeding stock and racehorses", yet at the Need and Operations hearing, the author was unable to explain which airports handle these flights.

Question	Question to:	Question	SHP answer / comments
		storage facilities; flexible warehousing (eg to accommodate *outsized freight) and security clearance" and that this would be an offer will provide "something that has not been done in this country before*" **i. How would such an offer differ from those already available at existing UK airports?** **ii. Do other UK airports offer speciality handling for race horses?** **iii. Do other UK airports offer refrigerated storage facilities and accommodation for outsized freight?** **iv. "*State of the art freight, digitalised freight handling facilities*" implies a high level of automation and efficiency. Has the provision of such facilities been taken into account in the socio-economic forecasts?**	Therefore, in order to assist the examination, we note below a response we received from a leading global horse shipping company with a strong UK presence, when asked the following question; *"When flying horses in and out of the UK, which airports do you tend to use and what determines the choice – is it proximity to racecourses or stables?"* The response below is informative and demonstrates the importance of cost in determining choices of how freight gets from A to B (something Azimuth completely ignored in preparing its "forecasts"). It also highlights the important role played by trucking to Europe, even for shipments of horses; *"In the vast majority of cases the airport is determined by economical factors - using routes from airports that already have space on board to take our horses.* *This means in some cases we fly from other EU country airports. It really does depend on the route needed (ie. country to / from). In the case of flights that do not have an economical constraint (ie. you are happy to spend unlimited amount of cash) - then hypothetically any airport is possible to take off from, although, horses can only come into an airport where there is a vet present at the airport (official Border Inspection Post - if coming from outside the EU).*
ND.2.7		**Forecasts – Bellyhold and Pure Freight** It is stated in the Applicant's "Written Summary of Case put Orally – Need and Operation Hearing" [submitted at DL5, Ref not yet assigned] document that the applicant believes that the cost difference	ii. The Examining Authority has correctly asked the Applicant whether such research should have completed earlier to help inform the business case. We would also respectfully suggest that this type of research (to develop an understanding of the dynamics and characteristics of the air freight market), should have been undertaken

Question	Question to:	Question	SHP answer / comments
		between flying cargo on freighters as compared to bellyhold transit are not as substantial as stated by other parties. The ExA notes a commitment to undertake further research into this area. **i. When will the results of such research be available?** **ii. Should such research not have been completed earlier to help inform the business case?**	to inform the so-called "forecasts" prepared by Azimuth Associates. This requirement is even more critical, when the author of the report has accepted that she has no relevant experience. As highlighted in Appendix 2.1 to SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [Rep5- reference to be allocated], paragraph 4.1.9 of Volume II of the Azimuth Report [APP-044] states that one of the interviewees, when asked to rank issues that are important to its business, responded, "Cost is always the most important". Yet, we heard at the examination hearing that Dr Dixon's forecasts were prepared without consideration to the costs. Furthermore, Dr Dixon did not appear to understand the degree to which this admission further undermined the credibility of the Azimuth Report.
ND.2.12	The Applicant	**Forecasts - Integrator** At the Need and Operations Hearing (21/03/19) it was stated that the integrator indicated in the forecasts would be a new integrator, as opposed to attracting an existing integrator from an existing airport. Mention was made of Amazon Air and Alibaba. The ExA notes the evidence in this regard of York Aviation on behalf of Stone Hill Park Ltd, who state that Amazon has an embryonic operation in the UK with a leased Boeing 737 freighter operating to East Midlands Airport and is opening a 500,000 sq.ft. warehouse and sorting centre adjacent to this Airport, and that Alibaba has committed to establishing its main European hub at Liege Airport [Written Summary of Stone Hill Park Ltd's Oral Submissions put at the Need and Operations Issue	We would bring to the Examining Authority's attention the material error in the Applicant's forecasts (with regard to the purported E-Commerce integrator movements) that raises serious questions regarding the appropriateness of the effects assessed in the Environmental Statement. As explained in paragraphs 35 - 38 of appendix NOPS.5.2 (Altitude Aviation) of SHP's written summary of oral submissions to the Need and Operations Hearing, the "*integrator movements assumed in the Azimuth report are in no way compatible with an import-based e-commerce airline model.*" Despite the Applicant (via Chris Cain) explaining at considerable length in the hearing that the E-commerce integrator model requires freight to be imported into the UK to stock fulfilment centres to then supply consumers based in the South-East, Azimuth Report (and the further

Question	Question to:	Question	SHP answer / comments
		Specific Hearing Held on 21 March 2019, submitted at DL5 reference not yet assigned]. **i. Outline any discussions you have had with new integrators and quantify the likelihood of such operators coming to the Airport in the second year of operation, with reference to their expansion or growth in similar markets to the UK.** **ii. Would such integrators not be predisposed to a more centrally located airport where the whole of England could be reached more easily?**	explanation provided as Appendix 1 to the Applicant's written summary of oral submissions to the Need and Operations Hearing) confirms that the forecasts assume the opposite (i.e. tonnage on integrator flights was calculated as 100% outbound with a return calculation of 20%, more akin to a traditional integrator). This is wholly contradictory position and would suggest serious a material error in the split of import and exports assessed and general understanding. It is also incredible that, even in the course of preparing the Appendix 1, neither the Applicant nor Azimuth appears to understand the fundamental contradiction with the information being submitted to the examination.
ND.2.17	The Applicant	Your documents cite various evidence sourced from reports produced by York Aviation for Transport for London and the Freight Transport Association. At the Need and Operations Hearing (21/03/19) the author of these reports disagreed with your interpretation of such reports, considering that the evidence had been sourced out of context and did not take account of the conclusions of the reports. **i. What is your view on this?** **ii. Do you still maintain that the York Aviation reports support your proposal, contrary to the view of the authors of these reports?**	We would also respectfully refer the Examining Authority to paragraph 4.5 (and relevant sections of Appendix NOPS.5.1) of SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [Rep5- reference to be allocated].
ND.2.27	The Applicant	The Northpoint report [REP4-031] points to a 'window of opportunity' for freight at Manston prior to the Heathrow Northwest runway opening, where time exists for Manston to gain a foothold in the freight market and then expand thereafter. You also state that recent increases in Gatwick freight	ii. We would respectfully refer the Examining Authority to paragraphs 9.1 - 9.5 of SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [Rep5- reference to be allocated] and Appendix NOPS.11.1 to highlight the unrealistic nature of the Applicant's timetable for reopening the airport in time to benefit from the *"window of opportunity"*.

Question	Question to:	Question	SHP answer / comments
		volumes would likely return to Heathrow once the third runway opened, and in the Need and Operations Hearing (21/03/19) you stated that this was different to the proposal in this case due to the difference between bellyhold and pure freight. **i. Expand on this viewpoint, including on how you consider your scheme to be complementary to the preferred scheme outlined in the Airports NPS.** **ii. Why would the 'window of opportunity' be important if your role is complementary?**	
OP.2.1	The Applicant	At the Need and Operations Hearing (21/03/19) it was confirmed to the Examining Authority's understanding that the Aerodrome Certificate and the Airspace Change Process would both take around two years to complete after any Development Consent Order was made. **i. Is the ExA's understanding correct?** **ii. Would the period for the Aerodrome Certificate commence from the DCO being made (if made) or from the acquisition of the airport land?**	i. Aerodrome Certificate: We would refer the Examining Authority to the explanations provided in paragraphs 8.1 – 8.4 of SHP's written summary of oral submissions put at the Need and Operations hearing on 21 March 2019. We have also attached correspondence from the CAA dated 29 April 2019 (Appendix OP.2.1) that confirming CAA would adhere to established policy/practice as set out in SHP's submissions. Airspace Change Process: We would refer the Examining Authority to paragraphs 9.1 – 9.5 of SHP's written summary of oral submissions put at the Need and Operations Hearing. This provides a clear explanation as to why the process is likely to take considerably longer than two years to complete. As noted above, the CAA has confirmed (see Appendix OP.2.1) that the Certification process would not commence prior to the Applicant owning the relevant airport land. As explained in the Realistic Construction Timetable appended as Appendix NOPS.11.1 to SHP's Written Summary of Oral Submissions put at the Need and Operations Hearing, even if the DCO was made (notwithstanding the scale of evidence against it), the

Question	Question to:	Question	SHP answer / comments
			Applicant would be unlikely to be able to take ownership of the land until mid-2021 (after judicial reviews and related appeals processes had run their course). As the two year period could only commence from that date, and even ignoring the other impediments and hurdles set out in the Appendix NOPS.11.1, an airport could not therefore be operational before Q3 2023. This is 18 months after the revised date asserted by the Applicant and nearly 3 years after the date (Q4 2020) set out in paragraph 5.2.1 of Volume 1 of the Environmental Statement.
OP.2.5	The Applicant	**Scale and capacity** The Applicant's The Applicant's Written Summary of Case put Orally Need and Operation Hearing [submitted at DL5, reference not yet assigned] contains a note on airport 'associated uses' for the Northern Grass site. It concludes that it is difficult to find a close equivalent for the Manston/Northern Grass relationship in the UK and that attention is being turned to airports elsewhere for antecedents for an airport such as is being proposed at Manston. If this is of interest to the ExA, it is stated, then this will be reported on in time for Deadline 6. **Provide such evidence by Deadline 6.**	We would respectfully refer the Examining Authority to the previous commitment the Applicant made in paragraph 18 of Annex 4 of the Revised NSIP Justification [REP1-006] to provide this information at Deadline 3 (i.e. 15 February 2019). *"18. Having indicated the kind of occupiers that are likely to be attracted to the Northern Grass and their role in supporting the airport's operation, the Applicant will seek to provide to the Examining Authority further examples of this type of airport-related development from other UK airports and important cargo led airports in Europe and North America. This additional evidence will be submitted by Deadline 3."* It is literally incredible position to be in where an Applicant is still unable to explain and justify the most basic elements of its development proposals on the Northern Grass area (which extend to well over 1 million square feet). We have referred to above the Applicant's previous (unfulfilled) commitment but would also highlight that is now over a year since the Applicant submitted its first

Question	Question to:	Question	SHP answer / comments
			Application, 9 months since it submitted its second Application and nearly 4 months since the start of the examination. This information should have been included within the Application documents, and to the extent the Examining Authority had further questions, the Applicant should be capable of providing an answer in real time rather than require months to go searching for an answer. It is consistent with our view that the Applicant is making up as it goes along.
OP.2.6	The Applicant	At the Need and Operations Hearing (21/03/19) it was confirmed by the applicant that they have programmed to start the construction of the Airport in 2021, with operations beginning from quarter 1 of 2022, and that circa £180million would be spend on construction in this calendar year. At the Noise hearing (22/03/19) it was confirmed that no construction works would take place at night. **i. Is the ExA's understanding of this programme correct?** **ii. Comment on how the revised start date of operations affects the provided forecasts contained within the Azimuth Report [APP-085].** **iii. Define the night time period for the proposed construction works restriction.** **iv. Does the period of the night-time restriction include such operations as machinery start up and construction deliveries?** **v. Provide a likely construction programme for 2021, bearing in mind the proposed lack of night works and allowing for operations in 2022.**	With regard to question (v) we would respectfully refer the Examining Authority to paragraphs 9.1 – 9.5 of SHP's Written Summary of Oral Submissions put at the Need and Operation Hearing [Rep5- reference to be allocated], which clearly demonstrate the Applicant's revised forecast date for operations (Q1 2022) lacks any credibility. Appendix NOPS.11.1 referred to in paragraph 9.5 provides a more realistic timetable that shows, on a best case basis an airport could not be open before late 2024. As explained in the Appendix, this programme ignores any potential delays caused by funding issues, additional groundworks and /or planning variations as a result of survey work, any construction issues or other impediments such as CAA Airspace Change or Certification processes and /or other material issues such as DIO HRDF Beacon relocation). The indicative programme also takes no account of the fact that the Applicant has no experience of airport development.

Question	Question to:	Question	SHP answer / comments
OP.2.7	The Applicant	**Public Safety Zones** At the need and operations Issue Specific Hearing (21 March 2019) it was confirmed that general aviation movements would be counted in the number of flights required before public safety zones are designated. An indicative drawing has been produced. **i. Bearing in mind this answer, at what year of operation would you expect PSZ's to be required at Manston?** **ii. Has this been taken account of in the Environmental Statement?** **iii. Has the PSZ drawing taken account of the forecasts, or is it mainly based on the PSZs at other airports?**	*i.* From a review of the Applicant's written summary of its oral submissions to the Need and Operations hearing it is clear that the Applicant does not understand the requirements for PSZs. In paragraph 10.2 the Applicant states that *"it is therefore possible that PSZs may need to be introduced towards year 20."* We continue to be shocked by the ignorance the Applicant displays regarding the requirements relating to its own application and are frustrated that we are required to spend significant time and resources providing evidence to rebut false assertions made by the Applicant. In many ways we feel we know more about the Applicant's application than the Applicant. SHP's comments on the Applicant's responses to Examining Authorities Written Questions OP.1.7 and OP.1.8 [REP4-067], **explained that PSZs would be required to be put in place just after the third year of operations (i.e. Year 4 of the forecasts**). At this point, the Applicant is forecasting to exceed 1,500 movements per month (including general aviation movements), and would have a forward looking forecast showing that it would be exceeding 2,500 movements per month within 15 years of that point. This is consistent with paragraph 3 of the relevant Guidance which states that *"[T]he Public Safety Zones are based upon risk contours modelled looking fifteen years ahead, in order to allow a reasonable period of stability after their introduction."* Notwithstanding the clarity in the guidance and the information submitted by SHP at Deadlines 4 and 5, the Applicant continues to misrepresent the position on PSZs by

Question	Question to:	Question	SHP answer / comments
			incorrectly claiming that PSZs may only need to be introduced *towards year 20.* ii. SHP would note that the effects of PSZs have not been assessed at all in the Environmental Statement. iii. SHP would note that the PSZ drawing submitted by the Applicant at Deadline 5 only shows an indicative 1 in 10,000 risk contour. As the Applicant and its advisors should be aware, the 1 in 100,000 PSZ contour would extend much further based on the comparison to the airports identified by the Applicant. Whilst detailed modelling would be required to assess the 100,000 PSZ risk contour, at a minimum it would be expected to extend at least 2.5km from the end of the runway and would therefore cover a large part of Ramsgate. We would seriously question why the Applicant has failed to provide the Examining Authority with an indicative 1 in 100,000 risk contour given the significant impact it would place on occupiers within the relevant area.

APPENDICES

Ec.2.2 (i)……. Correspondence between SHP, the Applicant, the Applicant's advisers in relation to the s53 authorisation and access.

Ec.2.2 (ii)…….Letter from SHP to the Planning Inspectorate dated 29 August 2018

CA.2.17……SHP's response to written question CA.2.17

OP.2.1……Correspondence with the CAA regarding when EASA certification process can commence

F.2.13…….Copies of Belize records of M.I.O. Investments Limited

Appendix Ec.2.2 (i): Correspondence between SHP, the Applicant, the Applicant's advisers in relation to the s53 authorisation and access.

The enclosed correspondence covers the period 18 - 20 February 2019

CORRESPONDENCE WITH BDB

[redacted]

Subject: FW: s53 Authorisation re land access rights [BDB-BDB1.FID9947610]

From: Alan MacKinnon
Sent: 20 February 2019 09:17
To: 'WALKER Angus'
Subject: RE: s53 Authorisation re land access rights [BDB-BDB1.FID9947610]

Dear Mr Walker,

I have been asked to respond to your email of 19th February as follows.

It is clear that the authorisation has ceased for the reasons set out in my email to Tony Freudmann.

It is indisputable that the condition in paragraph 10 of Annex 3 was breached and that this breach was not rectified within 7 days as required by paragraph 5.

The obligation is firmly on the Applicant to ensure that it complies with the conditions.

There is no requirement under the Authorisation for Stone Hill Park Ltd to inform the Applicant of any breach. Notwithstanding this, you will note that we wrote to Mr Freudmann twice (on 22 January and 1st February) advising that RSP had not reimbursed Stone Hill Park Ltd, yet these emails were ignored.

As the Authorisation is granted by the Secretary of State for Housing, Communities and Local Government (rather than being an agreement to which Stone Hill Park Ltd is a party), it is only the Secretary of State that could vary the terms or conditions of the authorisation. In absence of any variation being made by the Secretary of State, the drafting of the authorisation is definitive and it is clear that the rights of entry have now ceased.

As set out in my email to Mr Freudmann, Stone Hill Park Ltd remains willing to discuss a voluntary licence arrangement.

Kind regards

Alan Mackinnon

From: WALKER Angu[redacted]
Sent: 19 February 20[redacted]
To: Alan MacKinnon
Cc: Tony Freudmann; HOBBS Jessica; Nick Hilton; HALLATT Alex; Jamie
Subject: RE: s53 Authorisation re land access rights [BDB-BDB1.FID9947610]

Dear Mr Mackinnon

I am responding to your email to Tony Freudmann of yesterday's date. I understand that the invoice dated 4 January has now been paid as has the subsequent invoice sent on 22 January meaning that everything is now paid.

In our view the authorisation has not ceased because you did not fully inform 'the Authorised Persons' of the breach until yesterday, in which event the breach was remedied within 24 hours, the 'Authorised Persons' being the Applicant *and* those authorised to carry out the surveys. The rectification did take place within seven days of the breach being properly notified. Even on your own analysis the breach is hardly 'incapable of rectification' 17 days later. Please could you ensure that future notifications of alleged breaches are sent to RSP and Wood (and we would be glad to be copied in as well).

[redacted]

could you ensure that future notifications of alleged breaches are sent to RSP and Wood (and we would be glad to be copied in as well).

The Applicant will therefore continue to access the site under the s53 authorisation with the next visit planned for Thursday. If you wish to raise this issue with the Planning Inspectorate, feel free to do so; we would also be grateful to be copied in to any such correspondence.

Regards

BDB PITMANS

Angus Walker Partner
T [redacted]
M
W www.bdbpitmans.com

For and on behalf of BDB Pitmans LLP
50 Broadway London SW1H 0BL

From: Tony Freudmann [redacted]
Date: 18 February 2019 at 12:41:27 GMT
To: Alan MacKinnon [redacted]
Subject: Re: s53 Authorisation re land access rights

Dear Alan

I apologise for the delay in settling these invoices. They have now been paid and should arrive in your account later this afternoon. The delay is the result of an oversight on our part which is not unconnected with the sheer volume of work that we have been managing in the build up to the January hearings and their aftermath.

As the the remainder of your letter I await advice from our lawyers. I will then write further and hope that the site inspections may be reinstated without delay.

Kind regards
Tony

On 18 Feb 2019, at 12:00, Alan MacKinnon [redacted] wrote:

Dear Tony,

AUTHORISATION UNDER SECTION 53 AND SECTION 54 OF THE PLANNING ACT 2008 ISSUED TO RSP ON 11 SEPTEMBER 2018 (THE "AUTHORISATION")

We refer to the above and would note that under the terms of the Authorisation (and as a result of RSP's failure to adhere to the conditions of the Authorisation), the right of entry onto the land has now ceased.

As you will be aware, the Authorisation was granted subject to *"compliance with the Conditions at Annex 3 (which are necessary to protect the Landowner's and Occupier's legitimate interests)."*

Under Condition 10, the Applicant is required to *"reimburse the Landowner within 21 days of demand for any reasonable additional security costs (including reasonable administrative costs) directly associated with allowing the Authorised*

Persons access to the Land, such amount to be calculated on the basis of additional sums (if any) incurred by the Landowner in respect of security arrangements for the Land, with a breakdown of time and amounts to be provided to the Applicant."

Under paragraph 5 of Annex 3, it states that *"[T]he Authorised Persons right of entry onto the Land pursuant to the authorisation shall immediately cease if the Authorised Persons are in breach of these conditions and that breach either:*

(a) is incapable of remedy; or

(b) has not been rectified within 7 days."

An invoice was issued to you on 4 January 2019 in respect of the additional security costs required to be reimbursed by RSP under the terms of Clause 10 of Annex 3. In line with Condition 10, RSP had 21 days (to 25 January 2019) to reimburse the costs to SHP, with Condition 5 providing RSP a further 7 days to rectify any breach of this requirement. We would note that you acknowledged receipt on 4 January 2019 and confirmed that payment would be made in the following days. However, payment was not made, and despite subsequent emails of 22 January 2019 and 1 February 2019 advising you that payment had not been received, no steps have been taken to rectify the situation. As a result, we are now 44 days on from the date of demand for reimbursement of security costs, well beyond the point when the breach is capable of being rectified under the terms of the Authorisation.

The Authorisation was issued on behalf of the Secretary of State and we would note that is not an agreement that SHP is party to. On the basis that the right to enter the land under the Authorisation has now ceased, it is not clear how SHP, as Landowner, could rely on any of the protections included within Annex 3 should RSP or any of its consultants access the land. Hence, under any scenario, a new agreement is required. In keeping with our constructive approach to date, SHP would be willing to provide access under an appropriate licence arrangement that incorporated necessary protections for SHP.

RSP's failure to comply with the terms of the Authorisation is highly frustrating, and only serves to demonstrate the strength and reasonableness of the representations made by SHP prior to grant of the Authorisation. We do not repeat the substance of our representations here, but would remind you that the breach of this Authorisation follows on from (i) the breach (by RSP) of the s53 Authorisation granted to RiverOak Investment Corporation LLC in December 2016, where SHP's land was accessed unlawfully and (ii) the multiple material failures to comply with the payment terms of the voluntary licence agreement entered into in August 2017.

We look forward to hearing from you. In the meantime, please advise your consultants of the contents of this email and arrange for payment of the outstanding invoices.

Kind regards

Alan Mackinnon

A: Stone Hill Park, Manston Road, Ramsgate, Kent, CT12 5BL
W: www.stonehillpark.co.uk<http://www.stonehillpark.co.uk/>

[redacted]

Subject: FW: s53 Authorisation re land access rights [BDB-BDB1.FID9947610]

CORRESPONDENCE WITH NICK HILTON (WOOD)

From: Jamie
Sent: 20 February 2019 10:32
To: nick.hilton[redacted]
Subject: FW: s53 Authorisation re land access rights [BDB-BDB1.FID9947610]

Dear Nick,

Thank you for your email of yesterday.

We received a response from BDB Pitmans who stated that is their view that the authorisation had not ceased. The email further stated that the *"Applicant will therefore continue to access the site under the s53 authorisation with the next visit planned for Thursday."* The email from BDB Pitmans together with the email response is attached below for your information.

As the rights to enter the land have ceased under the terms of the s53 Authorisation, there is no basis on which access to the site on Thursday is authorised. We understand that it would be Wood, rather than the Applicant itself, that would seek to take access and trust that you will be undertaking your own review of the terms and conditions of the s53 Authorisation.

We have advised RSP that Stone Hill Park Ltd is willing to discuss a voluntary arrangement that would allow lawful access to the land, and there is no reason why this could not be concluded swiftly to allow surveys to resume.

Best regards,

Jamie Macnamara
Stone Hill Park Ltd

Jamie

From: Hilton, Nick <nick.hilton[redacted]
Sent: 19 February 2019 12:01
To: Jamie
Subject: RE: S53 Authorisation in respect of rights to enter land at Manston Airport site

Dear Jamie

I have received your e-mail and BDB Pitmans will respond formally in due course.

Regards

Nick Hilton
Technical Director
Wood Environment & Infrastructure Solutions UK
Direct:[redacted]
Mobile
www.woodplc.com

From: Jamie <jamie[redacted]
Sent: 19 February 2019 10:06
To: Hilton, Nick <nick.hilton@[redacted]
Subject: RE: S53 Authorisation in respect of rights to enter land at Manston Airport site

Dear Nick,

I just wanted to check that you received the email I sent yesterday and had advised your colleagues accordingly.

Best regards
Jamie

From: Jamie
Sent: 18 February 2019 12:07
To: 'nick.hilton@woodplc.com' <nick.hilton[redacted]
Subject: S53 Authorisation in respect of rights to enter land at Manston Airport site

Dear Nick,

We have today written to RSP regarding the authorisation issued by the Secretary of State on 11 September 2018 under s53 of the Planning Act 2008 that provided authorised persons with the right to enter land at the site of the former Manston Airport for the purpose of undertaking surveys.

As a result of RSP's failure to comply with the Conditions (as set out in Annex 3 of the Authorisation), the right of entry onto the land under the Authorisation has ceased.

We trust that RSP will contact you separately regarding this, however we are writing to you in your capacity as the *"Authorised Person with management responsibility"* as set out in the Notice of Entry issued on 17 December 2018.

We would be grateful if you would acknowledge receipt of this email.

Best regards

Jamie Macnamara
Stone Hill Park Ltd

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Appendix Ec.2.2 (ii): Letter from SHP to the Planning Inspectorate dated 29 August 2018

Baldwins Wynyard Park House, Wynyard Avenue, Wynyard, TS22 5TB

BY EMAIL
Dr Richard Hunt
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

Date: 29 August 2018

Dear Dr Hunt,

Application by RiverOak Strategic Partners Limited ("RSP") for authorisation under section 53

We write with reference to both our email correspondence of 27 July 2018, which requested the opportunity to address the misleading and inaccurate comments made in section 3 of Bircham Dyson Bell's ("BDB") letter to the Inspectorate dated 31 May 2018 (the "31 May Letter") and the Inspectorate's letter of 15 August 2018 seeking further information in respect of a s.53 authorisation request made by RSP.

In Section 1 of this letter we comment on the claims made in section 3 of the 31 May Letter, which set out the reasons why RSP considers it has demonstrated reasonable efforts in seeking to agree access to the land owned by Stone Hill Park Limited ("SHP"). Section 2 sets out our response to the information requested in your letter of 15 August 2018.

With this letter we have enclosed all relevant voluntary access / s.53 correspondence between SHP and RSP (and their respective advisers). We have assumed that the Inspectorate will have copies of all relevant correspondence to which it is a party and have only included that limited correspondence with the Inspectorate that related to RSP's unlawful use of the s.53 authorisation granted to ROIC on 16 December 2016.

In summary, it is clear that our evidence demonstrates;

- RSP's s.53 authorisation request was made prematurely having not made reasonable efforts to obtain entry to the land on a voluntary basis prior to making its application, and in so doing, disregarded the clear guidance;
- in the period since making the application, RSP has made no reasonable attempt to engage with SHP regarding its valid concerns as evidenced by the lack of constructive and proactive engagement;
- the additional conditions requested by SHP are reasonable and proportionate and have the purpose of protecting SHP from financial loss caused directly by RSP's actions - SHP has, at no point, sought to commercially benefit from voluntary licence arrangements with RSP and has been forced to effectively subsidise RSP's project by being exposed to significant costs resulting from RSP's actions over the last 17 months;
- RSP disregarded clear advice from the Inspectorate and DCLG in pursuing its aggressive and unlawful attempts to coerce SHP through claiming purported rights to access the land under s.172 of the HPA2016. This was done in a manner that has been highly prejudicial to SHP and cannot simply be set aside and treated independently from negotiations over voluntary access;

- In correspondence by, and on behalf of RSP, it is clear that many assertions and claims have been made that are highly misleading and inaccurate as evidenced throughout our comments in Section 1. In contrast, we have taken significant care in our correspondence to be factual, explain the issues in sufficient detail and provide evidence and supporting documentation to support our statements.

1. **SHP Comments on Section 3 of 31 May Letter (Attempts to Demonstrate Reasonable Efforts)**

1.1 In this section we provide an extract of the relevant paragraph(s) from the 31 May Letter (extract shown in italics), followed by our comments.

1.2 *"3.1 RiverOak consider that Stone Hill Park Limited (SHPL) has acted unreasonably during attempts by RiverOak to voluntarily agree a licence which would allow RiverOak to access the land at Manston Airport for the purposes of surveying the land in connection with the proposed development consent order application. This is particularly so, in the context of the Planning Act 2008, where timescales are set and relatively short, with the examination of the entire application taking only six months.*

3.2 In the context of relatively short timescales under the Planning Act 2008, it is important to note that on behalf of RiverOak, BDB first sent an email to SHPL on 10 February 2016 requesting a meeting to discuss the potential entry onto the land. Whilst we do not wish to repeat the entire history of negotiations since that initial email and subsequent meeting, we do think it worth setting out some key dates:"

SHP comments on paragraphs 3.1 & 3.2: it is factually incorrect for both RiverOak Investment Corporation LLC ("ROIC") and RSP to be referred to as RiverOak, and for statements to be made that have the effect of misleading readers into believing they are the same entity. It has been admitted in correspondence that these are two wholly independent entities that have never been legally connected in any way – RSP was not a subsidiary, associate or other related entity. This issue has been raised on numerous occasions and there is no justification for the continued attempts to conflate these two entities.

The first correspondence in relation to access which inferred BDB was acting for RSP, was only sent in March 2017. All correspondence prior to that date was understood by SHP and its advisers to have been sent on behalf of ROIC, a completely unconnected legal entity. As will be demonstrated in this letter, the delays in RSP securing access rights are solely down to their actions and the perplexing lack of engagement that they have shown throughout.

1.3 *"3.2.1 July 2016: after protracted unsuccessful voluntary negotiations, RiverOak applies for its first s.53 application;*

3.2.2 December 2016: PINS grant the first s.53 application, based on clear evidence that SHPL has acted unreasonably (in particularly through SHPL's actions of putting forward a draft licence on unreasonable terms and then refusing to enter into it when RiverOak agrees to enter into it — see letter from BDB to PINS dated 7 October 2016);"

SHP Comments on paragraphs 3.2.1 & 3.2.2: as noted above, these matters related to ROIC, rather than RSP. It is also a matter of fact that SHP subsequently granted a licence to RSP in summer 2017, after negotiations between SHP and RSP over voluntary access only **first** commenced in April 2017.

1.4 *"3.2.3 February — March 2017: RiverOak and its consultants access the land under the s.53 authorisation issued by PINS — all authorisation conditions are complied with;*

3.2.4 April 2017: RiverOak applies for its second s.53 application, necessitated by the change of legal entity from RiverOak Investment Corporation (the beneficiary of the first s.53 authorisation) to RiverOak Strategic Partners;"

SHP Comments on paragraphs 3.2.3 & 3.2.4: SHP has serious concerns regarding the s.53 authorisation granted by the Secretary of State to ROIC on 16 December 2016 (the "2016 Authorisation") and its subsequent use. The following summary demonstrates that RSP could not provide any evidence that it, or its consultants, had been specifically and validly authorised to access the land pursuant to the 2016 Authorisation and that material information was withheld from the Secretary of State, the Inspectorate and SHP, and only subsequently disclosed following action taken by SHP in March 2017.

Firstly, it is important to note that the terms of the 2016 Authorisation allowed only ROIC, or persons authorised by ROIC, to access the land for the purpose of undertaking surveys. It also placed certain obligations on ROIC that cannot be ignored. However, ROIC and RSP failed to disclose that the Applicant, being ROIC, had transferred its interests in the promotion of the DCO to RSP the day prior to the 2016 Authorisation being granted to ROIC (i.e. on 15 December 2016). The Secretary of State was clearly unaware that ROIC had transferred its interest in the project when granting the authorisation, as evidenced by the statement of reasons issued alongside the 2016 Authorisation, which included, *"[E]ntry to the land is needed now to enable the Applicant to complete its environmental surveys".*

No explanation has yet been provided as to why this information was not disclosed to the Secretary of State and Inspectorate. If it had been, it would have necessitated RSP seeking a new s.53 authorisation in its own name in December 2016. Indeed, paragraph 3.2.4 of the 31 May Letter even states that the April 2017 application was *"necessitated by the change of legal entity from RiverOak Investment Corporation (the beneficiary of the first s.53 authorisation) to RiverOak Strategic Partners."* This is effectively an admission that RSP should not have taken access under the 2016 Authorisation.

Notwithstanding the fact ROIC was no longer involved in the project, it is recognised that the decision to grant the s.53 authorisation was made in good faith on the only information available to the Secretary of State at that point. It is also noted that the facts did not come to light until after expiry of the standard 6 week Judicial Review period.

We now examine the use of the 2016 Authorisation and initially focus on the Notice of Entry issued to SHP, and the failure to evidence that individuals had been specifically and validly authorised to undertake surveys. On 23 January 2017 (see enclosure 1), BDB wrote to SHP stating;

> *"[P]ursuant to the s.53 authorisation issued by the Secretary of State on 16 December 2016, please find attached a Notice of Entry together with appendices A and B advising of access on the following days:*
> - *Tuesday 7th February;*
> - *Wednesday 8th February;*
> - *Thursday 9th February;*
> - *Tuesday 14th February; and*
> - *Wednesday 15th February."*

The language used in the email gives the clear impression that the Notice of Entry had been issued on behalf of ROIC, as it was the sole beneficiary of the 2016 Authorisation. SHP understood that BDB were acting on instructions from ROIC, for whom they acted during the

initial s.53 authorisation process. As there was no information to suggest ROIC were no longer involved in the project, and in the knowledge that powers given to the beneficiary of a s.53 authorisation cannot be assigned or transferred (i.e. they were personal to ROIC), SHP had no reason to believe that the Notice of Entry had not been authorised correctly and that obligations placed on the beneficiary were not being satisfied when access to the land was taken in early February 2017. On 17 March 2017 (see enc. 2), BDB wrote to SHP attaching a second Notice of Entry using exactly the same wording as in the email of 23 January 2017, save for the access dates being changed to 3 April – 7 April 2017.

However, by this date new information had come to light during a change of use planning inquiry that raised serious concerns. On 14 March 2017, George Yerrall confirmed, under cross-examination, that ROIC had no legal connection with RSP and that RSP was now intending to promote a development consent order in respect of the site owned by SHP. This information on the change in identity of the Applicant was only then disclosed to the Inspectorate, as confirmed in a letter from the Inspectorate to our then legal advisor, Herbert Smith Freehills LLP ("HSF"), dated 27 March 2017 (see enc. 6).

On 22 March 2017, HSF wrote to ROIC (see enc. 3) to express serious concerns that the Secretary of State was misled in granting the s.53 authorisation to a company that no longer had any intention of making an application for a DCO and flag concerns regarding the lawfulness of the site access which took place allegedly pursuant to the s.53 authorisation during February 2017 and the further access that had been sought for April 2017. On the basis that the only persons authorised to access the site under the 2016 Authorisation were ROIC and persons specifically authorised by ROIC, ROIC were asked to provide written evidence that the individuals contained in the two Notice of Entry documents sent to SHP on 23 January 2017 and 17 March 2017 had, in fact, been authorised by ROIC. No evidence to demonstrate the lawfulness of access was provided by ROIC. A separate letter was also sent to the Inspectorate on 22 March 2017 (see enc. 4).

HSF then wrote to BDB on 24 March 2017 (see enc. 5) to express serious concerns that the Secretary of State was misled in granting the s.53 authorisation to a company that no longer had any intention of making an application for a development consent order. In the letter, a number of questions and information requests were asked of BDB, which (other than the subsequent confirmation that ROIC transferred its rights on 15 December 2016) were not addressed.

After receiving no response to HSF's letter of 24 March 2017, HSF wrote again to BDB on 29 March 2017 (see enc. 7) seeking, inter alia, evidence that the eleven individuals included in the Notice of Entry that advised access would be taken in w/c 3 April 2017 had been validly authorised by ROIC, and advising that if no evidence was provided, access would be refused.

On 30 March 2017, BDB responded (see enc. 8) to HSF's letters of 24 March 2017 and 29 March 2017. The letter confirmed that ROIC had transferred to RSP all of its rights, interest and assets connected with the promotion of the DCO on 15 December 2016, the day prior to the 2016 Authorisation being granted. It claimed that this included the authorisation to undertake surveys pursuant to the 2016 Authorisation and stated that RSP had sole responsibility for the Project and ROIC would take no further part. An email from ROIC dated 30 March 2017 (see enc. 9) was also referenced, which noted RSP had *"acquired all rights and interests including rights to access the airport land..".*

As all parties should have been aware, the beneficiary of a s.53 authorisation is unable to transfer / assigns its rights (or its liabilities) to another party. Only ROIC, or those parties specifically authorised by ROIC, could gain access under the 2016 Authorisation. It is noted

that despite numerous requests, RSP and ROIC failed to provide any evidence to demonstrate the individuals had been specifically and validly authorised to access the land. It is clear to us (and this seems to have been accepted in the comments in paragraph 3.2.4 of the 31 May Letter) that the Secretary of State and Inspectorate should have been advised of ROIC's withdrawal from the project in December 2016, and not over 12 weeks later. Similarly, SHP should certainly not have received two Notices that were stated to be pursuant to the 2016 Authorisation, when no evidence could subsequently be provided that individuals had been specifically and validly authorised by ROIC, the party that was the sole beneficiary of the 2016 Authorisation.

On 31 March 2017, HSF wrote to BDB (see enc. 10) and copied the letter to ROIC, confirming that access would be granted subject to evidence being provided that confirmed that those seeking access were properly authorised. Again no evidence was provided by any party. We can only speculate that ROIC did not wish to be exposed to any of the liabilities arising from authorising persons to access the land. This raises serious concerns regarding who would have been responsible for compensating SHP for any exposure related to the failure to comply with the conditions of the 2016 Authorisation. For example, paragraph 13(b) of Annex 3 states that the Applicant shall *"ensure that those who work on its behalf hold suitable and adequate insurance in respect of public and third party liability and provide proof of said insurance to the Landowner prior to carrying out the Survey(s)."*

On 31 March 2017, BDB responded to the letter of same date by email, suggesting SHP would be exposing itself to criminal sanctions by refusing access. The email (enc. 11) includes the following statement;

> *"I also remind you that if our clients' consultants are in fact duly authorised to enter the land, your clients will be committing a criminal offence if they prevent entry under s.53(5), and they may not wish to be exposed to such a risk based on slight differences of interpretation."*

On 2 April, 2017 HSF wrote to BDB (see enc. 12) to confirm that access would not be provided to the site until satisfactory evidence of authorisation by ROIC could be presented. It reminded that a s.53 authorisation is not capable of being "acquired" by private agreement and that the 2016 Authorisation had not even been granted to ROIC on the date the "transaction" between ROIC and RSP was entered into. No response was received and RSP subsequently made its first (not second, as incorrectly stated in BDB's letter) s.53 application on 4 April 2017.

The detailed evidence presented above shows the comment made in paragraph 3.2.3 to be wholly misleading.

1.5 *"3.2.5. April — August 2017: RiverOak continue to negotiate a voluntary licence with SHPL;"*

SHP Comments on paragraph 3.2.5: RSP only sought to initiate negotiations on voluntary access after submitting its first s.53 application, providing evidence that its application was made prematurely.

1.6 *"3.2.6. August 2017: voluntary licence agreed and completed, despite protracted negotiations;"*

SHP Comments on paragraph 3.2.6: The Inspectorate should be aware that negotiations were more protracted than necessary due to the lack of proactivity from RSP and the requirement to address material inaccuracies in the draft appendices that were sent to HSF. We are happy to provide supporting evidence regarding this, if requested. It is also noted that this was prejudicial to SHP, as the delay/additional work resulted in SHP being forced to incur

irrecoverable legal costs, without recourse as it was required to err on the side of caution under threat of a s.53 authorisation being granted.

1.7 *"3.2.7. August 2017 — December 2017: RiverOak access the land under the voluntary licence agreements — during which time all licence conditions are complied with;"*

SHP Comments on paragraph 3.2.7: It is matter of fact that RSP **did not** comply with the licence conditions as we explained in section 3 of our letter to the Inspectorate of 20 February 2018 (we would not propose to fully restate this evidence in this letter but provide some more detail in paragraphs 1.12 and 1.13). To claim otherwise is disingenuous. If the purpose of the wording in the 31 May Letter is to claim RSP was in compliance prior to the expiration of the licence on 16 December 2017 (on the basis the final 4 invoices relating to reimbursement of the third party security costs were payable after this date), that would be of even more concern. It would suggest RSP was less willing to reimburse costs when it no longer had access to the site and had withdrawn from negotiations with SHP on a new licence. This reinforces the requirement for SHP to be protected from financial risk relating to RSP's conduct.

1.8 *"3.2.8 October 2017: RiverOak contact SHPL to enquire about an extension to the licence and are told that SHPL has changed legal advisors from Herbert Smith Freehills to Pinsent Masons. In a response dated 17 October 2017 (see enclosed at Schedule 5), Pinsent Masons state: "our client is not prepared to grant the additional access" and "we are currently reviewing the terms of the existing access licence". No reason for this sudden change in position is given;"*

SHP Comments on paragraph 3.2.8: In October 2017 RSP only sought to extend the area of land covered by the licence and did not seek to extend the termination date beyond 16 December 2017. The request was refused, as, following the appointment of new legal advisors with significant DCO experience it was apparent that RSP had misunderstood the requirements of s.23 of the Planning Act 2008 ("PA2008)" and, based on the project it had consulted on not satisfying the s.23 criteria, there was no justification for why it genuinely required access to our land. It is noted that RSP were subsequently requested by the Inspectorate (in paragraph 4.2 its letter of 20 February 2018) to provide clarification regarding the reasons that it considered its project qualified as a NSIP under s.23 of the PA2008, and that the explanation provided was deemed unsatisfactory when included in its April DCO application.

1.9 *"3.2.9 October 2017— May 2018: unsuccessful negotiations between RiverOak and SHPL continue;"*

SHP Comments on paragraph 3.2.9: this paragraph mis-characterises the nature of the negotiations. The lack of engagement from RSP from the date (being 1 December 2017) it first asked for the 2017 licence to be extended beyond 16 December 2017 has resulted in the negotiations lasting significantly longer than required. We cannot understand why the engagement from RSP – the party seeking the commercial benefit of an agreement - has been so lacking.

To highlight the point, there have been three particularly long periods of hiatus with no engagement from RSP (despite numerous chasers from us) on voluntary licence arrangements following correspondence issued by SHP;

- the 81 day period from 14 December 2017 (see enc. 18) to 5 March 2018 (enc. 28), when RSP sought to restart negotiations on voluntary access;
- the 34 day period between our letter of 27 April 2018 (enc. 35) and the response of 31 May 2018 (enc. 39) and;

- the 66 day (and continuing) period from SHP's letter to BDB of 25 June 2018 to today's date.

Together, these three periods account for 181 of the 272 days in the period since negotiations commenced on extending the term of the voluntary licence. A review of the content and timing of all correspondence between SHP and RSP (and our respective advisers) clearly show this and also demonstrates the lack of RSP's willingness to engage on the valid concerns raised by SHP. The voluntary licence correspondence between the parties from 1 December 2017 to today's date is included in the enclosures.

1.10 *"3.2.10 January 2018: RiverOak applies for its third s.53 application."*

SHP Comments on paragraph 3.2.10: This is factually incorrect as RSP applied for its second, not third, s.53 application, during January 2018. As noted previously, ROIC is a completely separate and unconnected legal entity from RSP.

1.11 *"3.3 Since October 2017, RiverOak has repeatedly stated that it is willing to enter into a licence with SHPL on the similar terms as the previous licence which expired in December 2017 (even though this is not a licence whose terms are fully acceptable to RiverOak). SHPL, however, has refused these similar terms and instead repeatedly state that they are unwilling to enter into a voluntary licence unless additional conditions are included in the licence. It is not clear what has caused the change of approach from SHPL as, to all intents and purposes, the situation remains the similar and it is clear that access to the land would not cause SHPL any hardship:*

(a) the land to which RiverOak is seeking access is a disused airfield and is not used for any purpose; where any occupiers are present RiverOak are making or have made separate arrangements for access outside this s.53 application; and

(b) SHPL themselves do not use the land for any purpose.

SHP Comments on paragraph 3.3: SHP has explained at length the reasons why it has asked for the inclusion of the reasonable and proportionate additional conditions (as evidenced in the enclosures). The requirement for protection from a repeat of RSP's failure to meet its liabilities is a direct consequence of both RSP's failure to comply with the payment terms of the previous licence and our well founded concern over RSP's financial position. RSP's recent Companies House filings and the refusal to share any information on its financial position only serve to increase these concerns. The request for compensation in respect of costs SHP has been forced to incur by RSP's aggressive tactics of threatening access (and intimating criminal sanctions) via s172 of the HPA2016 (see enc. 21), is also a direct consequence of RSP's actions, which were in conflict with the clear DCLG and Inspectorate advice. For BDB's letter to claim that *"the situation remains similar"* despite the highly prejudicial effect RSP's actions have had on SHP demonstrates a real lack of awareness.

For clarity, up to the point RSP withdrew from negotiations over extending the licence in mid-December 2017, it had met its payment obligations under the 2017 Licence. At that point, the only additional condition SHP had sought was that RSP first provide an explanation of how its project satisfied the criteria under s.23 of the PA2008, and in doing so demonstrate why it genuinely required access to the land. As the enclosures 13 -19 demonstrate, RSP refused to provide this explanation until requested by the Inspectorate in correspondence dated 20 February 2018. It subsequently provided its "NSIP Justification" on 5 March 2018 (para 4 enc. 28), at which point it only then requested discussions on voluntary access arrangements resume.

It was only after RSP aborted negotiations in mid-December 2017 (which coincided with the expiry of their rights to access the land), that RSP materially breached its payment obligations

in a manner that was prejudicial to SHP. Subsequently (in February 2018), RSP disregarded clear advice from the Inspectorate and DCLG in pursuing its aggressive and unlawful attempts to coerce SHP through claiming purported rights to access the land under s172 of the Housing and Planning Act 2016 ("HPA2016"), resulting in SHP incurring significant legal costs.

The additional conditions requested by SHP are reasonable and proportionate and have the sole purpose of protecting SHP from financial loss caused directly by RSP's aggressive and inappropriate actions. SHP has, at no point, sought to commercially benefit from voluntary licence arrangements with RSP.

1.12 *"3.4 In their correspondence with PINS, SHPL continues to re-state that RiverOak breached the voluntary licence agreed in August 2017. RiverOak can confirm that the breach that SHPL is referring to relates to a late payment of security costs. Over the course of the licence duration, SHPL issued invoices for security costs to RiverOak for the total amount of £43,632.00. All of these were paid on time and without dispute, save for the final four invoices totalling £10,440.00 which, through an accounting error and change of invoice personnel at SHPL, were delayed. All outstanding payments were, however, paid by 1 February 2018."*

SHP Comments on paragraph 3.4: The enclosures attached to our letter to the Inspectorate of 20 February 2018 include the multiple pieces of correspondence sent to RSP and copied to BDB over the period in question. The claims regarding non-payment being due to *"an accounting error and change of invoice personnel"* at SHP are new excuses that are not supported by a review of the correspondence.

Firstly, there would have had to be multiple accounting errors at RSP's end to explain non-payment of the multiple invoices (each of which fell due for payment on different dates), which would seem highly unlikely. Secondly, it is a fact that multiple emails sent to both Tony Freudmann (RSP) and Monika Weglarz (BDB) from SHP officers were completely ignored, much in the same way that our correspondence from 25 June 2018 onwards has been ignored. It took our final email of 31 January 2018, which advised that a statutory demand was in course of being served on RSP under section 123(1)(a) of the Insolvency Act 1986, to elicit any form of response from them.

The resulting internal and third party costs incurred by SHP, including chasing payments that were overdue by up to 40 days, seeking advice on statutory demand process for recovery, preparing statutory demand papers, was significant. SHP was not compensated for these costs under the terms of the 2017 Licence. It was wholly unfair for SHP to be prejudiced in this manner, particularly in view of the fact the only party getting any benefit from the licence arrangement was RSP. It is for this reason that SHP has sought the inclusion of a small number of very reasonable and proportionate protective conditions to ensure that it does not suffer any further financial loss as a result of RSP's failure to comply with the licence arrangements. If, for any reason, RSP decided it no longer wished to promote a DCO, we would have no confidence that it could, or would, meet any outstanding liabilities.

1.13 *"3.5 By constantly re-stating that RiverOak has breached the licence without providing details, SHPL is being disingenuous and is mischaracterising a very minor breach. It is using this minor breach, which was rectified within a reasonable period of time and as soon as it became apparent, as a reason for demanding a number of conditions which RiverOak considers are unreasonable and disproportionate. These conditions include:"*

SHP Comments on paragraph 3.5: There are multiple issues with this paragraph. Firstly, SHP has been very clear, detailed and accurate in explaining the breaches in its correspondence as

evidenced in the enclosures to, and content of, our 20 February 2018 letter to the Inspectorate (also copied to BDB), and throughout our correspondence up to and including our letter to BDB of 25 June 2018 (see enc. 46).

Secondly, the claim that SHP *"is being disingenuous and is mischaracterising a very minor breach"* is false. There were four separate breaches, all of which would be classed as material (each breach could have led to the licence being terminated had it not already expired). Thirdly, the breaches were certainly not rectified in a reasonable period. For example, the invoice raised on 30/11/2017 was due for payment within 21 days but was not paid until 01/02/2018 despite an email chaser on 20/12/2017, followed by strongly worded emails on 12/01/2018 and 31/01/2018 (with the latter advising a statutory demand, in the form attached to the email, was in course of being served). It is a fact that this invoice was not settled until 42 days **after** expiry of the 21 day period permitted under the licence despite our correspondence to RSP. Therefore, there is no basis to claim that any of the breaches were rectified *"as soon as it became apparent"*, and indeed, the evidence suggests that they were ignored.

1.14 *"3.5(a) a restriction on the duration any one notice of entry can cover - this simply adds to the administrative burden and is being used by SHPL as a form of restricting access;"*

SHP Comments on paragraph 3.5(a): restricting the duration of any single notice was not unreasonable or disproportionate for the reasons set out in section 4.3 of our letter to the Inspectorate dated 20 February 2018. In no way would access to the land be restricted and, in any event, it has subsequently been agreed that a notice can cover a period of one month under the proposed licence arrangements (see enc. 42).

1.15 *"3.5(b) a requirement for those authorised persons accessing the site to provide confirmation of the authorised surveys they are undertaking on site – under the terms of the previous licence, this information would be provided in a notice of entry supplied two weeks prior to entry onto site. Requesting this be provided once more on the day of entry is, once again, an attempt to add to the administrative burden;"*

SHP Comments on paragraph 3.5(b): requesting that authorised persons that access the land provide notification of the surveys they are undertaking as part of the normal "check-in" process could not be considered burdensome. The condition was required to address the challenge of the previous licence where a single notice was issued to SHP covering 70+ individuals for the full 19 week duration of the licence, all of whom were authorised to undertake every survey in the licence schedule. The inclusion of the condition only sought to make the licence conditions consistent with the protections afforded under s.53(4)(a) of the PA2008, which requires any authorised person *"if so required, [to] produce evidence of the person's authority, and state the purpose of the person's entry, before so entering"*. Accordingly, it could not be considered unreasonable.

1.16 *"3.5(c) a condition preventing access being taken until a bond or escrow account or other form of security has been put in place to cover costs (at one point stating this to be £60,294.45 net of VAT) -these are clearly completely disproportionate and unreasonable given the lack of fruitful negotiations;"*

SHP Comments on paragraph 3.5(c): had RSP not attempted to take access under s172 of the HPA2016, against the guidance and advice of DCLG and the Inspectorate, and had it provided timely assurances as requested regarding warrant procedure, SHP would not have been forced to incur these significant costs (see enc. 22-27). These costs directly result from the actions of

RSP in seeking to unlawfully use the HPA2016, and in doing so, threaten criminal sanctions against SHP. As a first step, RSP should have made reasonable efforts to agree voluntary access. Despite advising RSP that we would consider other options (e.g. payment of compensation being a condition of entry), RSP has not engaged in any constructive dialogue regarding our concerns, simply re-stating that all our proposals on the material points are unreasonable and that it is only willing to enter into a licence on similar terms to the previous licence. We have sought clarification from RSP on its final position on the outstanding issues, including whether it would agree to compensate SHP, even in part for legal costs in relation to RSP's attempts to unlawfully use the HPA2016. It is highly frustrating that our letters of 25 June 2018 and 27 July 2018 (enc. 46 and 47) have been ignored.

1.17 *"3.5(d) a condition preventing access being taken until a bond or escrow account or other form of security has been put in place to fund any additional third party security costs incurred by SHP -as above, this is completely disproportionate and unreasonable;"*

SHP Comments on paragraph 3.5(d): RSP claims that it is completely disproportionate and unreasonable for SHP to be protected from non-payment risk, despite the financial loss and significant inconvenience it has suffered as a result of RSP's actions. Despite advising RSP that we were willing to consider any reasonable proposal that addresses our concerns, including RSP paying costs weekly in advance (see enc. 40), its final position appears to be that it will in no way compensate SHP for the significant work it would need to undertake to facilitate access for RSP on the basis they have requested.

Whilst it has been set out in previous correspondence with RSP, it is worth restating why we are highly concerned regarding the financial status of RSP and the willingness / ability of RSP to settle any outstanding creditor positions. In BDB's letter to us dated 21 June 2018, it was stated that "*If RiverOak do not pay then you can withhold access until payment is made under the terms of the licence, which is sufficient protection"* (see paragraph 2 of enc. 45).

As set out in our letter to BDB of 25 June 2018 (see enc. 46), SHP's ability to withhold access until payment is made offers no protection. Under the terms proposed by RSP (and the draft conditions), it would take c.4 weeks for security costs to be reimbursed to SHP after the services have been provided by the 3rd party security contractor - an invoice would first be sent to SHP (payable by SHP), following which SHP would then issue its own invoice (with supporting information) to RSP, with RSP having 14 days to settle the invoice and a further 7 day remedy period before there was a termination event under the licence. As SHP would be liable for settling all invoices raised by the security contractor, SHP would therefore be afforded no protection for at least 4 weeks of security costs already incurred. SHP would again be exposed to significant financial risk, which is not acceptable for the following reasons;

- RSP's track record of non-payment under the 2017 licence: please refer to our comments in paragraphs 1.12 and 1.13 above;
- RSP's financial position: the only available information on RSP is the filings made at Companies House on 11 April 2018, which show RSP filed dormant company accounts for the year ended 31 July 2017. The accounts declared that RSP was dormant, had shareholder funds totalling £1 and had made no accounting transactions in the period from incorporation to 31 July 2017. As you will appreciate, this provides zero comfort that RSP has the financial strength to meet any outstanding liabilities under a new licence agreement. The inadequate funding statement provided as part of RSP's DCO application, where RSP fail to disclose its anonymous investors despite previous assurances to do so, provides no comfort.
- Refusal to provide additional information: RSP has refused to provide any financial information or even show us the courtesy of confirming whether or not RSP is still a

dormant company. It has also refused to disclose any information on the identity of the anonymous investors. This is not a reasonable position to take for any party seeking to enter into an agreement where they have payment obligations, particularly given RSP's previous failure to adhere to its payment obligations.

- Previous invoices settled by Freudmann Tipple Ltd: it is also of concern that previous invoices were settled by an unconnected company owned by RSP Director, Tony Freudmann, who, based on Companies House filings, was a director of companies that were the subject of insolvency proceedings, where creditors were unable to recover significant sums owed to them.
- If, for any reason, RSP decided it no longer wished to promote a DCO, SHP could have no confidence that RSP would be willing, or able, to meet any outstanding liabilities under a new licence agreement.

In view of the above, it is entirely reasonable for SHP to seek the inclusion of a reasonable and proportionate protective condition to ensure that it does not suffer any further financial loss as a result of RSP's failure to comply with the licence arrangements. We have reiterated to RSP that we are willing to consider any proposal that adequately addresses our valid concerns, however RSP has refused to engage with us at all on these points as clearly demonstrated in the correspondence between the parties.

1.18 *"3.5(e) the request of an undertaking from BDB to cover the costs of all legal and professional fees incurred by SHPL in relation to RiverOak's attempts to access land pursuant to sections 172 and 174 of the Housing and Planning Act- RiverOak believes that its attempted use of the powers under the Housing and Planning Act were entirely reasonable and were taken only due to SHPL's unreasonable and protracted actions in relation to the purported negotiations for a voluntary licence. RiverOak also notes that SHPL proposes no cap to these costs, which is, again, entirely unreasonable given that this is a cost that should be borne by SHPL."*

SHP Comments on paragraph 3.5(e): It can be easily demonstrated that these actions were not taken *"due to SHPL's unreasonable and protracted actions in relation to the purported negotiations for a voluntary licence"*.

Firstly, it is a matter of fact that RSP stopped engaging with SHP on 14 December 2017 (enc. 18) and then launched its attempts to take access under HPA2016 on 13 February 2018, having made no attempt to engage with SHP in the interim period. Secondly, the stated reason RSP stopped engaging with SHP was RSP's refusal to provide any clarification regarding the reasons that it considered its project qualified as a NSIP under s.23 of the PA2008 (and in so doing provide justification as to why it genuinely required access to SHP land). In paragraph 4.2 of the Inspectorate's letter of 20 February 2018 to BDB (seeking further information in respect of RSP's s.53 authorisation request), this exact information was requested by the Inspectorate. This clearly demonstrates that SHP's actions in requesting this information was not unreasonable. Furthermore, the timeline on negotiations, with the long periods of non-engagement from RSP, shows that it was not our actions that were protracted.

Instead, the actions taken by RSP were a blatant attempt to coerce SHP into allowing access to the site without RSP having to make any reasonable efforts to agree access voluntarily. In its letter dated 13 February 2018 (enc. 21) purporting rights to access our site under the HPA2016, RSP used the threat of criminal sanctions and civil action against any persons who obstructed RSP or its contractors. It is always a very serious matter when parties make such threats, even when the foundation of the claims made are baseless and wrong. In order to protect itself and its employees/officers, SHP were required to seek legal advice from Pinsent Masons and Leading Counsel and these costs escalated significantly as a result of the failure

of RSP to provide the undertakings sought within the timescales requested. The claim regarding lack of a cap on the costs is strange, as these costs would only increase as a result of further direct and aggressive actions by RSP that would require SHP to seek further advice.

RSP seem to believe that its aggressive and unwarranted actions that caused these costs to be incurred can now simply be set aside and treated independently from negotiations over voluntary access and/or any decision by the Inspectorate over its s.53 authorisation request. On any objective basis, it is entirely reasonable for SHP to seek recovery of these costs as they directly related to RSP's attempts to commercially coerce SHP into allowing unrestrained access in a way that would be highly prejudicial to SHP and was against the repeated advice from the Inspectorate that the s.53 of PA2008 was the route to follow should it consider it had been unreasonably refused access.

1.19 *"3.6 In addition to SHPL's clear unreasonableness as demonstrated above, RiverOak asks the Inspectorate to also look at SHPL's unreasonableness in the light of their general behaviour and their obvious contempt for the proposed development. Examples of this include:"*

SHP Comments on paragraph 3.6: In this paragraph, the Inspectorate is asked by RSP to consider SHP's behaviour and the examples in no way support the assertions made. This contrasts with the specific, evidenced examples of RSP's unreasonable behaviour that SHP has provided to the Inspectorate. We address each of the examples presented by RSP below.

1.20 *"3.6(a) allowing another third party access to the land to carry out surveys. In Summer 2016, SHPL allowed Avia Solutions, an airport consultancy which had recently been appointed by Thanet District Council to report on the viability of the use of the land as an airport, onto the site to carry out their studies. Avia Solutions had been appointed on 25 July 2017 and access had been granted by 17 August 2017, less than four weeks later, which demonstrates that there could not have been any protracted negotiations, or in fact not really any negotiations."*

SHP Comments on paragraph 3.6(a): SHP is able to provide access to its land to whoever it chooses, however, we would note that granting access for a single day site visit to a subsidiary of a GE Capital, is very different to granting unrestricted access for a 5 month period on a 24 hour per day basis to a company such as RSP with anonymous investors and uncertain financial position, particularly where SHP is exposed to significant additional 3rd party costs and RSP's previous actions in relation to access have been highly prejudicial to SHP (resulting in SHP incurring significant costs that it has been forced to absorb).

1.21 *"3.6(b) SHPL has sent numerous letters to PINS urging PINS not to grant a s.53 authorisation to RiverOak accusing RiverOak of acting unreasonably. As demonstrated above, this is clearly not the case. RiverOak remains willing to enter into a voluntary licence on the similar terms as the previous licence. It is the additional conditions that SHPL is attempting to include in the licence that are clearly unreasonable, and show SHPL's actions to be the same."*

SHP Comments on paragraph 3.6(b): It is not in dispute that SHP has sent correspondence to the Inspectorate. The purpose of the correspondence is to provide the Inspectorate with a factual summary of the position, supported by comprehensive evidence, and demonstrate that RSP has not made reasonable efforts to agree a voluntary licence. In our correspondence we provided specific and evidenced examples of RSP's unreasonable behaviour and conduct to demonstrate that its aggressive actions are not isolated, but form a pattern of behaviour. We also highlight the many inaccuracies and misleading claims in RSP's correspondence. It is claimed by RSP that the additional conditions requested by SHP are unreasonable. As we have set out previously, these conditions are proportionate, reasonable with the sole purpose of

protecting SHP from further financial loss resulting from RSP's actions. It is astounding for RSP to claim that our decision to invest time in robustly defending ourselves to the Inspectorate, against the false and misleading claim that RSP has been unreasonably refused access to our land, is in itself, a demonstration of our unreasonable conduct.

1.22 *"3.6(c) SHPL refuses to provide any reasoning as to why these additional conditions are needed."*

SHP Comments on paragraph 3.6(c): This is misleading and inaccurate on any objective analysis. In our correspondence with both the Inspectorate and BDB, we have set out in detail the reasoning behind why additional protections are required, providing specific examples of the issues and concerns that we have, and suggesting proposals to address them. Notwithstanding this, in RSP's letter of 21 June 2018 (see paragraph 1 of enc. 45), it was apparent that RSP/BDB had not taken the time to understand the difference between internal and third party costs incurred by SHP (to facilitate access on the expansive basis requested by RSP). A detailed explanation was provided in our letter of 25 June 2018 (enc. 46) to which we have not yet received any acknowledgement or response. Whilst we do not think the Inspectorate would welcome us referencing every part of our correspondence where the reasoning for the conditions has clearly been explained, we would be willing to do so if requested. We would also note that our approach of providing detailed explanations of the rationale for the conditions and the status of negotiations over land access, contrasts with the approach taken in RSP's correspondence with both SHP and the Inspectorate to date.

1.23 *"3.6(d) For all intents and purposes, negotiations have now been ongoing for 28 months. If SHPL was willing to allow RiverOak access, it would be reasonable to expect that such access would have been properly and fully granted by now."*

SHP Comments on paragraph 3.6(d): The statements are misleading and incomplete. In terms of the factual position, it is worth noting;

- RSP first started negotiations regarding land access 16 months ago in April 2017 (and only after making its first s.53 application on 4 April 2017);
- RSP was granted a licence by SHP in August 2017 – it was then in material breach of the licence as a result of its failure to comply with the payment conditions;
- Negotiations over extending the termination date of the licence commenced on 1 December 2017 and RSP only has itself to blame for any delays, which are due to its lack of engagement and its aggressive actions in ignoring advice from the Inspectorate regarding use of HPA2016 in a manner that was prejudicial to SHP. Throughout the period, RSP's lack of constructive engagement has been perplexing, as evidenced by both its unwillingness to address SHP's valid concerns in any way and the long periods where RSP has refused to engage as summarised in paragraph 1.9 above.

1.24 *"3.7 It is exceedingly clear that SHPL simply does not wish RiverOak to succeed with their application for the proposed development and are therefore refusing access to their land in an effort to thwart progress by sustaining negotiations indefinitely and unreasonably. We enclose our latest response to SHPL at Schedule 5. Given the onerous pre-conditions set by SHPL to agreeing a new licence we do not expect these negotiations to be fruitful."*

SHP Comments on paragraph 3.7: It is not in question that SHP believe its plans to regenerate the site are in the best interests of the local community, whereas we consider RSP's aviation proposals lack any credibility. This is an assessment, supported by the highly regarded, experienced aviation industry experts that have reviewed the potential of Manston on behalf of TDC and SHP, namely, AviaSolutions, York Aviation and Altitude Aviation Advisory. We

recognise that the purpose of s.53 of PA2008 is to support those wishing to promote development consent orders and SHP is aware that if it did not act reasonably, then there would be grounds for the Secretary of State to grant a s.53 authorisation. Therefore, SHP has always acted reasonably and proactively and has not sought to sustain *"negotiations indefinitely and unreasonably"*, as can be demonstrated by the timing and nature of our correspondence as set out in the enclosures.

Whilst it is our strong view that the project RSP has consulted on does not meet the test under s.53(2)(a) of the PA2008, we understand that this test no longer applies as an application for an order granting development consent has now been accepted by the Commission. Whilst it is deeply frustrating to us, it is our understanding that there is no opportunity at this stage under the s.53 legislation to challenge the deeply flawed and inaccurate evidence provided to the Inspectorate in RSP's DCO application regarding current capability (2.3 NSIP Justification), which we assume has been accepted at face value. This will be a matter for the examination, however, taking just one example from the NSIP Justification paper, RSP's highly misleading claim that the fire station has no roof can easily be disproven by photographic evidence. Furthermore, the claim is even contradicted in other parts of RSP's DCO application (e.g. paragraph 6.7.2 of the Statement of Reasons notes the fire station building has a *"corrugated metal roof"*).

In all dealings with RSP on access matters, SHP has erred on the side of caution in ensuring its actions and requests are both reasonable and proportionate. This is in stark contrast to the approach taken by RSP. The requirement for any additional conditions all stem from the direct actions by RSP (in relation to access), which have forced SHP to expend significant resources unnecessarily and at significant cost. In view of RSP's behaviour, it is wholly unreasonable for RSP to expect SHP to accept this financial burden and ongoing financial risk where it is the only party that has any benefit from an agreement.

1.25 *"3.8 On the basis of the detailed information provided to the Inspectorate we ask that the s.53 application is granted."*

SHP Comments on paragraph 3.8: the fact that RSP asked the Inspectorate to grant the s.53 authorisation whilst negotiations were ongoing, is a further example of the lack of good faith on RSP's part and prematurity. In view of RSP's actions since the date of the letter, particularly in the last 9 weeks where it has refused to engage with us (or even show us the courtesy of acknowledging our correspondence), it is clear that RSP has had no interest in making reasonable efforts to agree voluntary access.

2. SHP response to information requested in the Inspectorate's Letter of 15 August 2018

2.1 Whilst we are confident that the evidence presented will clearly demonstrate that RSP's authorisation request should be declined, we have reviewed the Inspectorate's draft conditions and would comment as follows.

In respect of the draft authorisation attached to the letter of 15 August 2018 we would note that the following amendments are required to ensure the terms are consistent with the terms of the August 2017 Licence;

- Definition of "Authorisation Period": In view of the lack of engagement we are getting from RSP, we would request that we are provided the opportunity to review and comment on RSP's response to paragraph 3.1 of the Inspectorate's letter to BDB dated 15 August 2018. As the Inspectorate noted, to date RSP has only sought rights of entry for the period up to 15 September 2018.

- Authorised Surveys: can we be provided with a copy of the surveys sought to the extent these differ from that set out in the s.53 application documents previously circulated.
- Operation Stack: the definition refers to *"Licensor"* rather than *"Landowner".*
- The following new paragraph would need to be added at the start of General section (i.e. as new paragraph 3) to make consistent with 2017 Licence, *"This Authorisation is personal to the Applicant and is not transferrable or assignable and the rights granted may only be exercised by the Applicant and Authorised Persons, subject to the Conditions."*
- Paragraph 5: in view of the Applicant's previous misuse of the s.53 Authorisation granted to ROIC in 2016, the following would need to be added at the end of this clause to make it consistent with the previous licence terms *"and shall procure that no other Authorised Person shall enter the land otherwise in accordance with the terms of this Authorisation."*
- Paragraph 11: for the reasons set out in paragraphs 1.12, 1.13 and 1.17, appropriate conditions are required to provide SHP with comfort that it will not be exposed to the risk of non-payment or additional work in chasing outstanding payments and/or taking formal action in line with that it was forced to take in January 2018. The second part of the paragraph would also need to be amended to extend the payment obligations to cover reasonable administrative costs (in the opinion of the Landowner as these would be internal rather than 3rd party costs).
- Paragraph 12: in view of the Applicant's previous abuse of the s.53 Authorisation granted to ROIC, and to make consistent with the terms of the 2017 Licence, Paragraph 12 would need to amended to *"Before any person may enter the Land to carry out an Authorised Survey(s) the Applicant or the Applicant's Solicitor must give Notice to the Landowner, such Notice to include the following"* and new paragraphs 12.1 and 12.2 added as follows
  - *"evidence of the person's authority on behalf of the Applicant and the purpose for entry;"*
  - *"confirmation that the Applicant has authorised the persons listed;"*
- Paragraph 12(e): the conditions would need to be amended to state that each notice had a maximum duration of no more than one month.
- Paragraph 14: in view of the Applicant's previous abuse of the s.53 Authorisation granted to ROIC, the terms would need to be amended to include the following *"The Applicant shall, and shall procure that any Authorised person shall,".*
- Paragraph 14(i): please delete "existing".
- Paragraph 16(b)(i): reference is made to paragraph 13 rather than paragraph 14(g).
- Paragraph 17(b): "Peron" should be "Person".
- Paragraph 18: the current drafting is overly narrow as it only provides for access to be suspended in the event that *"the site is about to be used for lorry parking by Operations Stack and in the Landowner's reasonable opinion, Operation Stack would be obstructed by the carrying out of the Authorised surveys OR the carrying out of Authorised surveys concurrently with the lorry parking would give rise to health, safety or security risks."* It could therefore be argued by RSP that this only deals with the scenario where lorries are actually being parked on site, and could not restrict access where any works were being done on site to facilitate the parking services, even where such works were obstructed by the carrying out of Authorised surveys or gave rise to health, safety and security risks. Accordingly, in view of the lack of protections afforded to a Landowner by a s.53 Authorisation and RSP's history of unreasonable conduct (in particular the inappropriate threatening of criminal sanctions relating to access), this paragraph would need to be amended to;

  "The right to access the Land pursuant to this Authorisation shall be suspended temporarily (but with immediate effect) and the Authorised Persons shall remove all apparatus and equipment on the Land within 2 hours, in the event that the Landowner notifies the Applicant that the site is about to be used for any matters that relate to Operation Stack, and in the

Landowner's reasonable opinion, the carrying out of the Authorised surveys would cause an obstruction OR the carrying out of Authorised surveys would give rise to health, safety or security risks."

The other conditions that would need to be included in any authorisation (also referenced in Section 1 above) are a direct consequence of RSP's previous actions, and are reasonable, protective and proportionate with the purpose of ensuring;

- SHP is not materially prejudiced or exposed to the financial risk of a repeat of RSP's failure to comply with the payment terms of the previous licence. RSP's stated position is that it will not agree to any provision that protects SHP from the risk of non-payment by RSP. RSP will not agree to any form of bond, escrow or security arrangement, it will not agree to pay the weekly costs in advance, it will not agree to provide any information on the financial standing of RSP (or confirm whether RSP remains a dormant company), nor it will put forward any other proposal that could provide SHP with the comfort that it has sought to alleviate its concerns regarding RSP's funding and financial position. An appropriate condition (in line with the options listed above) would need to be included in Paragraph 11 of any s.53 authorisation to ensure SHP is not prejudiced by a repeat of RSP's past failures to comply with payment obligations;
- SHP is compensated appropriately for the significant work it would have to undertake in facilitating access arrangements including dealing with notices, arranging 3rd party security to facilitate access, invoicing, accounting and other administrative matters related to providing such access over the period in question. It would appear that RSP's final position is that it would not agree to compensate SHP **in any way** for any significant internal costs it has, and would continue to incur. However, it is further worth noting that, on 25 June 2018 (see enc. 46) we provided BDB and RSP with a detailed explanation of the difference between SHP's internal costs and the external third party costs and sought clarification of RSP's final position, however neither this letter or the chaser letter sent on 27 July 2018 have been acknowledged. Accordingly, RSP's position is not reasonable and any conditions attaching to a s.53 authorisation would need to provide SHP with a mechanism to be compensated for reasonable internal costs associated with facilitating access via an amended Paragraph 11 of the draft conditions. The Inspectorate will be aware from a review of the enclosures of the significant internal management time that SHP has expended over the last 8 months on negotiating licence arrangements, dealing with a premature s.53 authorisation request etc. for which we have not asked to be compensated for. This further demonstrates the degree to which we have limited our requests for costs to be recovered from RSP;
- SHP to be compensated in respect of costs it has been forced to incur by RSP's wilful and aggressive tactics of threatening access (and criminal sanctions) via s172 of the HPA2016, which were in conflict with the clear DCLG and Inspectorate advice. RSP's stated position is that it will not agree to compensate SHP for any of the 3rd party legal and professional fees it was forced to incur to protect itself and officers in relation to RSP's attempts to utilise purported rights under sections 172 and 174 of the HPA2016. As noted in paragraph 1.18, it would not be competent for RSP's actions (which were against clear guidance) to be set aside and treated independently from the negotiations over voluntary access. They are reflective of a pattern of behaviour and a new condition would need to be included in any s.53 authorisation to provide appropriate compensation to SHP for the costs incurred in defending itself against RSP's unwarranted actions in relation to access.

We note that, in its letter to BDB of 15 August 2018, the Inspectorate requested comments on the revised conditions attached as Annex A. In view of our concern that any comments (if incorporated in draft conditions) could have a prejudicial impact on SHP, we would respectfully request the

opportunity to review and comment on any further comments BDB or RSP make on the draft conditions.

2.2 The Operation Stack arrangements remain fully in place and SHP require to retain full operational capability and flexibility to restrict access to the site, as and when required (acting reasonably at all times), to satisfy the requirements of any agreement in place.

2.3 With regard to paragraph "3. Any further comments", in order to avoid repetition we would respectfully refer the Inspectorate to the detailed comments made in Section 1 above and our previous letter to the Inspectorate dated 20 February 2018.

In summary, it is clear that our evidence demonstrates;

- RSP disregarded clear guidance in making a premature s.53 authorisation request having not made reasonable efforts to obtain entry to the land on a voluntary basis prior to making its application;
- in the period since making the application, RSP has made no reasonable attempt to engage with SHP regarding its valid concerns;
- the additional conditions requested by SHP are reasonable and proportionate and have the purpose of protecting SHP from financial loss caused directly by RSP's actions. It is worth emphasising that SHP has, at no point, sought to commercially benefit from voluntary licence arrangements with RSP and has been forced to incur significant costs as a result of RSP's actions over the last 17 months – it is wholly unfair that SHP has been forced to effectively subsidise RSP's project in this way;
- RSP has disregarded clear advice from the Inspectorate and DCLG in pursuing its aggressive and unlawful attempts to coerce SHP through claiming purported rights to access the land under s.172 of the HPA2016;
- in correspondence with SHP and the Inspectorate, it is clear that many assertions and claims have been made that are highly misleading and inaccurate as evidenced in our comments in Section 1 above. In contrast, we have taken significant care in our correspondence to be factual, explain the issues in sufficient detail and provide evidence and supporting documentation to support our statements. In view of the differences in approach, we would request that the Inspectorate does not simply accept at face value comments made regarding "demonstrating reasonable efforts" in any response it receives from RSP (or BDB) to its letter of 15 August 2018.

3. **Conclusions**

3.1 In summary, based on RSP's continued refusal to engage with us, it appears that negotiations have reached a point where the parties will be unable to agree and that RSP's final position on the outstanding conditions is as set out in our letter to BDB of 25 June 2018.

3.2 As the totality of the correspondence demonstrates, SHP has remained willing to engage constructively on an extension to the existing licence arrangements on an entirely reasonable basis. This contrasts with the approach adopted by RSP – the party seeking all the benefits of a new licence agreement - which has neither been constructive nor proactive (i.e. RSP has been wholly unwilling to address any of our substantive and valid concerns, which all directly resulted from RSP's actions).

3.3 In view of the evidence presented above, we trust that should the Inspectorate be required to move to make a decision on the authorisation request, that it would decline the request and that the recent decision to accept RSP's DCO application for examination would have no bearing on the decision.

3.4 Notwithstanding this, it is also clear that any grant of a s.53 authorisation that did not fully take into account RSP's conduct / actions to date and afford SHP with necessary, reasonable and proportionate protections and compensation, would be in breach the Human Rights Act 1998, which expressly incorporates Article 1 of the first protocol of the European Convention for the Protection of Human

Rights and Fundamental Freedoms. This places certain obligations on the State not to, inter alia, interfere with the peaceful enjoyment of property or deprive a person of their possessions. Any interference by the State must be in pursuit of the public interest, be in accordance with law and proportionate.

We would be happy to assist the Planning Inspectorate by providing any additional information or clarification it requires.

Yours sincerely,

[redacted]

On behalf of

Stone Hill Park Limited

Appendix CA.2.17: SHP's response to written question CA.2.17

Examining Authority's Question: Provide details of negotiations with the Applicant in respect of the request to compulsorily acquire land and/or the rights over land and comment on the likelihood of reaching an agreement on this in advance of the end of the Examination on or before 9 July 2019.

Discussions Prior to 17 July 2018

SHP provided a detailed response, enclosing relevant correspondence, in its answer to written question CA.1.17 [Reference still to be allocated]. SHP would also refer the Examining Authority to paragraphs 10.7 – 10.13 of SHP's Written Summary of Oral Submissions put at the Compulsory Acquisition Hearing [Reference to be allocated], which further explains inter alia;

- the Applicant's failure to respond to SHP's letter of 9 April 2018;
- the Applicant's failure to consider alternatives before resorting to compulsory acquisition;
- the lack of good faith shown by the Applicant, characterised by its claim that a 25-year lease was "absurd", when the evidence clearly shows that the proposal set out in SHP's letter of 15 March 2018 was for a 125-year lease;
- the Applicant's failure to engage with landowners until 8 February 2018, demonstrating the lack of any meaningful effort to acquire by agreement – this failure becomes clearer when it is understood that the Applicant had initially intended to submit its application in December 2017.

Negotiations after 17 July 2018.

In its answer to written question CA.1.17 SHP provided an outline of discussions held with the Applicant from 17 July 2018 until early February 2019.

In summary, SHP's response;

- *provided evidence to demonstrate that the Applicant was using CBRE to engage with SHP as a box ticking / file building exercise rather than any meaningful attempt to engage constructively on acquiring the land by voluntary arrangement. The level of the offers to acquire fell so far below the value of the site and the compensation obligations associated with the DCO that they materially fail to constitute reasonable attempts to acquire by agreement;*
- *explained the nature and scope of discussions held between the Applicant's directors and SHP, that culminated in the Applicant signing Heads of Terms to acquire the site for a headline price of £20million, and agreeing to provide SHP with the benefit of a restriction preventing any future residential development on the site;*
- *explained that the discussions were not held on a "without prejudice" basis, and were therefore capable of being shared with the examination;*
- *outlined SHP's concerns that RiverOak (in its various guises and including the Applicant) had demonstrated itself to be an unreliable counterparty and that SHP had no confidence that the Applicant has the ability, willingness or sufficient funds to acquire the land; and*
- *explained that SHP had acquired the site as a failed commercial airport in 2014, has committed considerable resources into delivering a mixed use residential led regeneration. It further explained that Independent advice secured by TDC in 2016 agreed with SHP's view that airport*

uses were unviable leading Council planning officers to recommend allocation of the site for mixed use development, which would likely be more advanced now if RSP's proposals did not exist.

In contrast to the transparency provided by SHP, the Applicant elected not to share pertinent information with the examination and instead provided a highly selective and misleading response to the ExA's question CA.1.16 (i) at Deadline 3 [REP3-195].

In SHP's response to this written question CA.2.17, we provide further clarity on the confidentiality obligations owed by the Applicant to SHP, an update on the current status of discussions between the parties, comment on the likelihood of reaching an agreement in advance of the end of the Examination and summarise the nature of formal correspondence with the Applicant's advisers, CBRE and BDM Pitmans.

Confirmation on Status of Confidentiality Provisions

At the Compulsory Acquisition hearing held on 20 March 2019, the Applicant wrongly asserted to the Examining Authority that discussions between the Applicant and SHP were still covered by a confidentiality clause between the parties.

In doing so, the Applicant successfully neutered attempts by the Examining Authority to probe the Applicant's written offer of £20m for SHP's land and the contradictions that exists between the offer, the "CBRE advice" and the level of funding requirement set out in the Applicant's original Funding Statement. As a consequence, SHP was not afforded the opportunity to test the evidence or have a fair chance to put its case at the CA Hearing.

SHP provided evidence to the examination (in Appendix CA.5.1 to its Written Submissions put at the Compulsory Acquisition hearing), which demonstrated that the Examining Authority was misled by the Applicant as to the extent discussions/offers were subject to confidentiality provisions.

This evidence, which was informed by legal advice from SHP's legal advisers, is summarised below;

1. The note summarised the oral submissions provided at the Compulsory Acquisition hearing by the parties. The Applicant accepted that the confidentiality agreements between the parties had expired, but stated that *"the non-disclosure agreement covered a certain period and all that took place within that period… when it expired the things that took place that didn't fall under that umbrella were not covered but things that had taken place pursuant to that agreement were still covered by the confidentiality clause."*

2. It explained that SHP had long treated the approaches from the Applicant with scepticism and that SHP was concerned that the Applicant's primary objective was to influence the approach SHP took to objecting to the DCO examination through limiting the information that could be shared under the examination process.

3. It explained that SHP purposefully drafted the confidentiality agreements in a manner that ensured the confidentiality obligations in respect of the Applicant's offer would terminate, should the Applicant fail to execute the transaction within a specified timetable. This would ensure that SHP and the Applicant would be free to disclose the material factual information to the Examining Authority, as SHP did in its response to the Examining Authority's first Written Questions.

8. It provided evidence to show that the confidentiality provisions of the confidentiality agreements terminated on 16 January 2019. It confirmed that the first Confidentiality Agreement was dated 3 December 2018 (well after the offer of £20m had been made) and expired on 12 December 2018, which matched the "Completion Date" defined in the signed Heads of Terms signed by the Applicant on 3 December 2018. It then explained that as a result of the Applicant's failure to meet the target completion date, the Confidentiality agreement was extended three times, and ultimately to 16 January 2019.

9. The note explained that as a consequence of the apparent lack of serious engagement from the Applicant and the strengthening view on the part of SHP that the engagement from the Applicant had been an attempt to negate SHP's submissions to the examination, a decision was taken not to extend any confidentiality agreement beyond that date.

10. The note then explains (and provides evidence of) the repeated attempts by the Applicant to encourage SHP to extend the Confidentiality provisions, even resorting to the Applicant's legal advisor unilaterally emailing through revised Confidentiality Agreements executed on each of (i) 5 February 2019 (10 days before the parties were to submit responses to the Examining Authority's Written Questions) and (ii) 19 March 2019 - immediately prior to the CA Hearing.

The Applicant continues to seek to avoid transparency and proper scrutiny of its application. Following SHP's refusal to extend the Confidentiality agreements, the Applicant started to mark its correspondence "without prejudice", which restricts SHP's ability to share it with the examination.

SHP considers that the body of correspondence would demonstrate the lack of meaningful or proactive engagement by the Applicant and its failure to honour commitments. It would also allow SHP to fully evidence that SHP has not been receipt of any correspondence that shows the Applicant making a "without prejudice" offer to SHP, as the Applicant has asserted in paragraph 3.9 in its Written Summary of Oral Submissions to the CA Hearing. SHP believes it would be helpful to share this recent correspondence with the Examining Authority, but as noted above, is prevented from doing so by the Applicant's actions.

This contrasts with SHP's actions. In the interests of transparency, SHP has reiterated to the Applicant, that SHP has not restricted the Applicant's ability to disclose to the Examining Authority any information regarding the status of any discussions or any offers that may, or may not, have been made.

Update on Current Status of Discussions

RSP's offer to acquire our site for a total consideration of £20m was confirmed in writing by the Applicant's Director, Anthony Freudmann, on 16 October 2018. As set out above, Heads of Terms were subsequently signed on 3 December 2018 that set a target completion date as 12 December 2018.

The Applicant claimed that it had the funds necessary to complete an acquisition before the end of 2018. However, the Applicant's evidence presented to the recent compulsory acquisition hearing (and accompanying written submissions), show no committed funding was in place.

Following the Applicant's failure to deliver on the transaction it had signed up to, the Applicant then requested a change to the payment structure of the transaction, which it claimed would provide more certainty for the Applicant's purported "funders".

Despite SHP's continued scepticism regarding the underlying intent and motives of the Applicant, but recognising the obligations placed on SHP to act reasonably, SHP wrote to RSP in January confirming that it would be willing to consider an alternative structure, which importantly did not change the overall economics of the proposed transaction, but provided the Applicant with the greater certainty it had asked for. In making this proposal, SHP sought to both remove any further excuses for the Applicant's failure to deliver and flush out whether the Applicant was serious and actually had the requisite funding.

In the period since then, the evidence shows the Applicant has not made serious efforts to engage. Where the Applicant has engaged, it tends to have been timed around an impending deadline for DCO submissions or an examination hearing. The Applicant has continually failed to respond to communications or honour "commitments" made to SHP. SHP would like to provide a full detailed account, which would clearly evidence that the Applicant is not satisfying its obligations under the Compulsory Acquisition guidance, but is prevented from doing so by the Applicant's liberal use of "without prejudice" heading on any email correspondence.

SHP is able to advise that in the most recent communication, a telephone call on 12 April 2019 from Anthony Freudmann (a director of the Applicant), the Applicant made a commitment to contact SHP on 15 April 2019 with a revised offer.

On account of its previous dealings with the Applicant, SHP is not surprised that the Applicant failed to honour this commitment. Indeed, in the three weeks that have passed since that phone call on 12 April 2019 there has been no further correspondence from the Applicant.

Likelihood of Reaching Agreement

The behaviour of the Applicant only serves to reinforce SHP's strongly held view that the Applicant is not serious in its intentions and that its sporadic engagement with SHP is simply a tactic to allow it to maintain a pretence with the Examining Authority that it is making meaningful attempts to negotiate to acquire SHP's land.

SHP has reviewed paragraph 3.1 of the Applicant's Written Summary of Oral Submissions put at the Compulsory Acquisition hearing, where the Applicant is now trying to claim the so-called discussions with SHP as justification for its failures to provide the required information on funding by the Deadlines set by the Examining Authority. At every step, the Applicant seeks to avoid providing information or answering questions in a manner that would allow for an adequate and fair testing of its application.

The Applicant has demonstrated itself to be an unreliable counterparty and the evidence suggests it does not have the ability, willingness or sufficient funds to acquire the land and that this position is highly unlikely to change during the examination.

It has extinguished its excuses for failing to provide its homework on time and can no longer be afforded the benefit of the doubt.

Recent Correspondence from the Applicant's Advisers

SHP has long suspected that the correspondence from the Applicant's advisers CRBRE and BDB Pitmans has been purely for "box ticking" or "file building" purposes as summarised below.

- Correspondence with CBRE: Following the Compulsory Acquisition hearing, Colin Smith of CBRE, responded to an email from SHP's advisor, Avison Young. This email, and Avison Young's response are attached for completeness, however SHP would note the following;
  - It is clear that CBRE have not been informed of facts that its client should have made it aware of. This includes, the Applicant's £20m offer to SHP, the timing of the offers made by RiverOak Investment Corporation LLC in May 2014, which preceded SHP's acquisition of the site in September 2014 at the "asking price" of £7 million.
  - CBRE correspondence continues to be infected by factual errors, and on the basis that CBRE's correspondence also the set out an offer of £2.5m for SHP's land around the very same time the Applicant had agreed to pay a total consideration of up to £20m, SHP does not consider there to be any merit in corresponding directly with CBRE any further.
  - SHP is of the strong view that the Applicant is seeking to create an alternative narrative to the factual position that can be evidenced, the factual position being that following the Applicant making a formal offer to acquire SHP's land for a total consideration of £20m (for which it signed Heads of Terms), the Applicant has failed to deliver on its commitment or seek to make meaningful efforts to progress any alternative structure.

- Correspondence with BDB Pitmans: SHP received a letter from BDB Pitmans dated 1 March 2019. In summary, the letter explained that the Applicant is seeking to continue discussions to acquire land by voluntary agreement and directed SHP to contact George Yerrall, a director of the Applicant.

  In view of the direct communications that had taken place between SHP and other directors of the Applicant (which the Applicant has tried to keep from the examination), the sole purpose of the letter appeared to be to create a documentation trail that would give any third party reviewing the letter a misleading impression of engagement between the parties.

  Following receipt of the letter, SHP's legal adviser raised a direct query with BDB Pitmans to ask for an explanation as to why the letter had been sent to SHP. An extract of BDB Pitmans' reply is provided below (with a copy of both this email and the 1 March 2019 letter appended to this note);

  > *"This is a letter we have sent to all landowners that are subject to compulsory acquisition powers from the Manston DCO application as we are under a duty to offer to negotiate.* ***To treat SHP any differently might look odd.****" [emphasis added]*

  The reply from Mr Walker was highly revealing as it appears to acknowledge that the sole purpose of the letter is to create documentation that purports to show (we assume to the Examining Authority) that the Applicant is making attempts to negotiate. The fact that the letter made no sense to SHP did not seem to form any part of the Applicant's considerations.

  The Applicant appears to have focussed its time on creating the illusion that it is making efforts, instead of taking any action to evidence real efforts were being made.

Unfortunately, this has been a consistent feature of the Applicant's approach to the examination. When faced with any hurdle, the Applicant appears to seek to do as little as it can get away with, it glosses over issues and provides misleading and incomplete answers, and it continually fails to honour commitments and deadlines to provide information to the examination that would facilitate the proper testing and scrutiny of its application.

Sub-Appendices

1. Letter from BDB Pitmans to SHP dated 1 March 2019;
2. Email from Angus Walker (BDB Pitmans) to SHP's property legal advisers, Cripps, dated x March 2019;
3. Email from CBRE to Avison Young dated 29 March 2019; and
4. Email from Avison Young to CBRE dated 2 May 2019

BDB PITMANS

Stone Hill Park Limited
Baldwins Wynyard Park House
Wynyard Avenue
Wynyard
Billingham
TS22 5TB

Your Ref

Our Ref
EPP/JYD/166055.0007

Date
1 March 2019

By First Class Post

Dear Sirs

Manston Airport Development Consent Order: application by RiverOak Strategic Partners Limited ("RiverOak")

We refer to our previous correspondence dated 9 February 2018 and 23 March 2018 in relation to our client RiverOak's application for a development consent order ("**DCO**") under the Planning Act 2008 for the reopening of Manston Airport ("**the Order**").

RiverOak's application is continuing to progress through examination by the Planning Inspectorate and you may have received statutory notices regarding this process. The application documents can be viewed on the Planning Inspectorate's website at the following link:- https://infrastructure.planninginspectorate.gov.uk/projects/south-east/manston-airport/

The application documents include a Book of Reference which identifies the plots of land in which it is understood that you have an interest. The application documents include Land Plans which identify each land plot by number.

RiverOak and Stone Hill Park Limited are in discussions to enter into a Statement of Common Ground ("**SoCG**") which sets out the matters agreed between the parties. The SoCG does not deal with the interaction of land interests. RiverOak is therefore seeking to continue discussions with you in order to acquire your land and/or land rights required for the project by voluntary agreement, prior to the grant of the DCO.

Accordingly, to pursue further discussions, or if you have any queries, we would ask that you contact Mr Yerrall, who is one of RiverOak's Directors, at george.yerrall@rsp.co.uk.

BDB PITMANS

Yours faithfully

[redacted]

BDB Pitmans LLP

Sub-Appendix 2

From: WALKER Angus [mailto:[redacted]]
Sent: 05 March 2019 16:41
To: Clare Hyland <[redacted]; Kate Hughes <[redacted]>
Cc: JAMES Ellen <[redacted]>; YOUNG Robert <[redacted]>
Subject: RE: Manston NDA [CHH-MAIN.FID3598947] [BDB-BDB1.FID10406835]

Hi Clare

Ellen has asked me to reply. This is a letter we have sent to all landowners that are subject to compulsory acquisition powers from the Manston DCO application as we are under a duty to offer to negotiate. To treat SHP any differently might look odd.

Regards

BDB PITMANS

Angus Walker **Partner**
T +44 (0)20 7783 3441
[redacted]
W www.bdbpitmans.com

For and on behalf of BDB Pitmans LLP
50 Broadway London SW1H 0BL

Sub-Appendix 3

From: Smith, Colin @ London HH [redacted]
Sent: 29 March 2019 15:22
To: Walton, Michael (Avison Young - UK) <redacted>
Cc: WALKER Angus <redacted>; Tony Freudmann <redacted>k>; Sayer, John @ London HH <redacted>; WALKER Angus <redacted>
Subject: RE: Stone Hill Park Limited

Dear Michael

I refer to your email sent on 18th March at 13.54 which I note this is 'open' (as opposed to 'without prejudice') as is this response

For ease of reference my comments are embedded, in red text, in your email reproduced below.

Thank you for your email. In the interest of being helpful I am instructed to highlight the following, some of which your client may not have made you aware of;

- Stone Hill Park Ltd acquired the land for £7m in September 2014 on an arm's length basis on account of the new parties involved and equity invested on transfer. This is shown on the Land Registry transfer documents and was reflected in the level of SDLT paid. I am advised that the funding for this transaction was provided by the vendor who has throughout retained effective control over the property. It is not an arm's length OMV comparable, if this is incorrect please provide a full explanation.
- The sale to Stone Hill Park followed attempts by the related predecessor to your client, RiverOak Investment Corporation LLC ("RIC"), to acquire the land from Kent Facilities Ltd earlier in 2014.
- As George Yerrall confirmed in his evidence to the Transport Committee, RIC had made an offer of £7m; "The highest offer was £7 million. We were rejected at £4 million. We were rejected at £5 million. We ultimately offered £7 million, which we were told was the asking price." (http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/transport-committee/smaller-airports/oral/17966.html)

- The subsequent sale to Stone Hill Park Ltd reflected the £7m figure your client's related predecessor was prepared to pay. I am advised that the sale to SHP was in Autumn 2014 and the TSC Hearing was in February 2015.
- Your client made an offer of £20 million (subject to a residential restriction) to acquire the site immediately prior to your letter of 10 October 2018. Can you please confirm whether you were aware of this at the time you sent your letter which claimed SHP's land was valued at only c£2m?

Yes, as you will of course understand and appreciate attempts to acquire by negotiation are a requirement placed on any entity seeking to secure compulsory purchase powers and such requirement endures throughout the process. (The 'Christos' Case refers)
I am advised that the £20m sum to which you refer is inaccurate and importantly the negotiations reflected which party was to receive the payments from DfT in respect of the Operation Stack/Brock rights. As I have explained the statutory hope value compensation assessment I have made, on which you have yet to engage, reflects the significant doubt and uncertainty regarding planning, need for third party land and rights, environmental and ecological constraints and viability. At present I see the rule 2 valuation as hope value assessed on a 'bottom up' (enhancement of EUV)

rather than a 'top down' (residual appraisal with a discount) basis of approach. (The 'Clearing' case refers)

I repeat my previously offered proposal that the matter is resolved on the basis of LT Contract possibly subject to a minimum, not less than, payment in accordance with the HCLG 2018 Guidance*.

My client has also asked that I highlight the irony in it being asked to provide details of its funding arrangements at the same as your client refuses to answer the most basic questions regarding its own funding posed by the Examining Authority.

*
https://www.gov.uk/government/publications/compulsory-purchase-process-and-the-crichel-down-rules-guidance

Colin

Colin Smith | Senior Director
CBRE - Planning & Compulsory Purchase
Henrietta House | Henrietta Place | London | W1G 0NB
DDI 020 7182 2192 | F 020 7182 2021 | M[redacted]
colin.smith@cbre.com | http://www.cbre.com

Sub-Appendix 4

From: Walton, Michael (Avison Young - UK) [mailto:Michael.Walton@avisonyoung.com]
Sent: 02 May 2019 11:13
To: Smith, Colin @ London HH <colin.smith@cbre.com>
Subject: RE: Stone Hill Park Limited

Colin

Thank you for your email of 29 March 2019. I am instructed to respond on the following basis:

- Your statements regarding the sources of funding of the SHP acquisition of the land at Manston and control of the entity are simply incorrect. This was an arm's length sale at a value which was equivalent to the "asking price" a fact that was subsequently acknowledged by George Yerrall in his evidence to the TSC.

- It is a matter of record that SHP acquired the site in September 2014 and the TSC Hearing was held in February 2015. However, what George Yerrall was reporting on at the TSC hearing were the offers that Riveroak Investment Corp LLC made during May 2014 - that is the date of the "asking price" to which he refers. It is not clear what point you are making here.

- You make reference to being advised by your client regarding the nature of the £20m offer it made. We suggest that you request your client to provide you with a copy of the Heads of Terms signed on 3 December 2018 and associated documents that will enable you to fully understand the terms of the transaction it signed up to, and the detail of the restriction over residential development my client would retain.

- On account of your client having engaged directly with my client (and you seemingly being unaware of such contact and the levels of the offers), my client sees limited value in engaging in parallel negotiations with CBRE that bear no resemblance to the terms that your client signed up to. However my client remains concerned that the nature of engagement from your client over recent months strongly suggests your client is not serious in its intentions and that the sporadic engagement with my client is simply a tactic designed to allow your client to maintain a pretence with the Examining Authority that it has made meaningful attempts to negotiate to acquire the land.

- My client is fully aware of the MHCLG guidance on compulsory purchase and also the guidance specific to the 2008 Planning Act. At the recent Compulsory Acquisition and Need hearings RSP acknowledged that there was no extant contractual funding arrangements in place to meet the needs of the DCO. Furthermore in oral evidence, Dr Dixon conceded that the Azimuth Report that she prepared was not really a forecast of what would happen but an assessment of the 'potential' need for a dedicated freight airport in the South East of England. She confirmed that she had taken no account of the viability of operating the services for the airlines or the viability of the operation of the Airport (despite the Azimuth Report being referenced
as setting out the viability of and the Business Plan for the development in the ES, Planning Statement and Statement of Reasons – (see para 2.5 of York Aviation 2019 Report). Overall my client considers that your client has failed to meet even the basic requirements of

demonstrating a compelling case in the public interest, having failed to adhere to either the spirit or letter of the 2018 MHCLG guidance and 2013 Planning Act 2008 guidance.

Michael

Michael Walton
Director
michael.walton@avisonyoung.com

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London EC2V 7NQ
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M[redacted]

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BELIZE

The International Business Companies Act
Chapter 270 of the Laws of Belize, Revised Edition 2000 Section 16(2)

Notice of Amendment of Memorandum and Articles of Association

To: The Registrar of Companies

IBC No. 162,208

M.I.O. Investments Limited
("the Company")

We, Morgan & Morgan Trust Corporation Belize Limited of Withfield Tower, Third Floor, 4792 Coney Drive, P.O. Box 1777, Belize City, Belize, registered agent of the Company, do hereby certify that the document annexed hereto is a true copy of the Certified Extract of the Written Resolution of the Board of Directors of the Company amending the Memorandum and Articles of Association.

Dated this 20th day of June, 2017

[redacted]

Fo[redacted]
Morgan & Morgan Trust Corporation Belize Limited

[redacted]

CERTIFIED TO BE A TRUE COPY
OF THE ORIGINAL
THIS 31st DAY OF July, 2017

[redacted]

SANTIAGO GONZALEZ, DEPUTY REGISTRAR
OF INTERNATIONAL BUSINESS COMPANIES
REGISTRY

INTERNATIONAL BUSINESS COMPANIES REGISTRY OF BELIZE
SUB UMBRA FLOREO

The International Business Companies Act
Chapter 270 of the Laws of Belize, Revised Edition 2000

M.I.O. Investments Limited

("the Company")

An International Business Company (IBC) incorporated in Belize.

Certified Extract of the Minutes of the Meeting of the Directors of the Company.

We, Morgan & Morgan Trust Corporation Belize Limited of Withfield Tower, Third Floor, 4792 Coney Drive, P.O. Box 1777, Belize City, Belize, being the registered agent of the Company, DO HEREBY CERTIFY THAT the following is a true extract of the Minutes of the Meeting of the Directors of the Company, adopted on the 6th day of June, 2017.

RESOLVE THAT Clauses 2 and 3 of the Memorandum of Association be deleted in its entirety and the following substitutes in lieu thereof:

2. REGISTERED OFFICE

The Registered Office of the Company will be at Withfield Tower, Third Floor, 4792 Coney Drive, P.O. Box 1777, Belize City, Belize, or such other place within Belize as the Company may from time to time by a resolution of directors determine.

3. REGISTERED AGENT

The Registered Agent of the Company will be MORGAN & MORGAN TRUST CORPORATION BELIZE LIMITED of Withfield Tower, Third Floor, 4792 Coney Drive, P.O. Box 1777, Belize City, Belize, or such other qualified person in Belize as the Company may from time to time by a resolution of directors determine.

Dated this 20th day of June, 2017

[redacted]

For and on behalf of
Morgan & Mo[redacted]t Corporation Belize Limited

I. B. C. NO.

BELIZE

THE INTERNATIONAL BUSINESS COMPANIES ACT
Chapter 270 of the Laws of Belize, Revised Edition 2000

MEMORANDUM
AND ARTICLES OF ASSOCIATION
OF

M.I.O. Investments Limited

INCORPORATED THE 30TH JUNE, 2016

REGISTERED OFFICE AND REGISTERED AGENT
A.J.K. CORPORATE SERVICES (BELIZE) LIMITED
Blake Building, Suite 306
Corner of Eyre & Hutson Street, P.O. Box 2670
Belize City, Belize

B E L I Z E
THE INTERNATIONAL BUSINESS COMPANIES ACT
Chapter 270 of the Laws of Belize, Revised Edition 2000

MEMORANDUM OF ASSOCIATION

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1. NAME

The name of the Company is **M.I.O. Investments Limited.**

2. REGISTERED OFFICE

The Registered Office of the Company will be at Blake Building, Suite 306, Corner of Eyre & Hutson Street, P.O. Box 2670, Belize City, Belize, or such other place within Belize as the Company may from time to time by a resolution of directors determine.

3. REGISTERED AGENT

The Registered Agent of the Company will be A.J.K. CORPORATE SERVICES (BELIZE) LIMITED of Blake Building, Suite 306, Corner of Eyre & Hutson Street, P.O. Box 2670, Belize City, Belize, or such other qualified person in Belize as the Company may from time to time by a resolution of directors determine.

4. GENERAL OBJECTS AND POWERS

The objects of the Company is to engage in any act or activity that is not prohibited under any Law being in force in Belize including, but not limited to, the following :

4.1 The purchase, sale, transfer, disposal, dealing, finance, barter, ownership, administration, giving or taking in loan, commission, mortgage, security, lease, use, usufruct, or receivership of any kind of property, whether real or personal, stocks or rights, and make and accept all kinds of deals, contracts, operations, businesses and transactions of lawful commerce .

4.2 For such purposes the Company shall have, in addition to the powers conferred by the Law, the following:

(1) to sue and to be sued in lawsuit;
(2) to adopt and use a corporate seal and alter it at pleasure;
(3) to acquire, construct, purchase, hold, use and convey real and personal property of every kind, and make and accept pledge, mortgage, leases, liens and encumbrances of every kind;
(4) to appoint officers and agents;
(5) to enter into contracts of all kinds;
(6) to issue By-laws not inconsistent with the laws in force, for the management, regulation and government of its business and properties, for the transfer of shares, the calling and holding of meetings of shareholders and directors, and for any lawful purpose;
(7) to carry on its business and exercise its powers in foreign countries;
(8) to agree on its dissolution in accordance with the law, either by its own will or for any other cause;
(9) to open and manage bank accounts in Belize or abroad;
(10) to borrow money and contract debts in connection with its business or for any lawful purpose;
(11) to issue bonds, notes, bills of exchange, and other obligations (which may or may not be convertible into stock of the Company) payable at a specific time or times or payable upon the happening of a specific event, whether secured by mortgage, pledge or otherwise, or unsecured, for money borrowed or in payment for property purchased or acquired or for any other lawful purpose;

(12) to guarantee, acquire, purchase, hold, sell, assign, transfer, mortgage, pledge or otherwise dispose of or deal in shares of the capital stock or bonds, or other obligations issued by other companies or any municipality, province, state or government;

(13) to do whatever may be necessary for the accomplishment of the purposes enumerated in the Memorandum of Association or any amendment thereof of necessary or incidental to the protection and benefit of the Company and, in general, to carry on any lawful business whether or not such business is similar in nature to the purpose set forth in this Memorandum of Association or in any amendment thereof;

(14) to settle the Company assets or property of the Company and to settle the Company's assets or property or any part thereof in trust .

5. EXCLUSIONS

5.1 The Company is not authorised and may not :

(1) carry on business with persons resident in Belize;

(2) own an interest in real property situated in Belize, other than a lease referred to in paragraph (5) of sub clause 5.2;

(3) carry on banking business unless it is licensed under an enactment authorising it to carry on such business;

(4) carry on business as an insurer or reinsurance company, insurance agent or insurance broker, unless it is licensed under an enactment authorizing it to carry on that business;

(5) carry on the business of providing the registered office or the registered agent for companies incorporated in Belize.

5.2 In compliance with paragraph (1) of sub clause 5.1, the Company shall not be treated as carrying on business with persons resident in Belize if :

(1) it makes or maintains deposits with a person carrying on business within Belize;

(2) it makes or maintains professional contact with solicitors, barristers, accountants, book-keepers trust companies, administration companies, investment advisers or other similar persons carrying on business within Belize;

(3) it prepares or maintains books and records within Belize;

(4) it celebrates within Belize meetings of its directors or members;

(5) it maintains a lease of property for use as an office from which to communicate with members of where books and records of the Company are prepared or maintained;

(6) it maintains shares, debt obligations or other securities in a company incorporated under the International Business Companies Act; or,

(7) shares, debt obligations or other securities in the Company are owned by any other company incorporated under the International Business Companies Act .

6. SHARE CAPITAL

6.1 Shares in the Company shall be issued in the currency of the United States of America .

6.2 The authorised capital of the Company is **Ten Thousand US Dollar (USD $10,000.00)** divided into **10,000 shares of One US Dollar (USD 1.00)** par value each.

6.3 The shares shall be divided into such number of classes and series as the directors shall by resolution from time to time determine and until so divided shall comprise one class and series .

6.4 The designations, powers, preferences, rights, qualifications, limitations and restrictions of each class and series of shares that the Company is authorised to issue shall be fixed by resolution of directors, but the directors shall not allocate different rights as to voting, dividends, redemption or distributions on liquidation unless the Memorandum of Association shall have been amended to create separate classes of shares and all the aforesaid rights as to voting, dividends, redemption and distributions shall be identical in each separate class.

6.5 If at any time the authorised capital is divided into different classes or series of shares, the rights attached to any class or series (unless otherwise provided by the terms of issue of the shares of that class or series) may, whether or not the Company is being wound up, be varied with the consent in writing of the holders of not less than three-fourths of the issued shares of that class or series and of the holders of not less than three-fourths of the issued shares of any other class or series of shares which may be affected by such variation.

6.6 The rights conferred upon the holders of the shares of any class issued with preferred or other rights shall not, unless otherwise expressly provided by the terms of issue of the shares of that class, be deemed to be varied by the creation or issue of further shares ranking pari passu therewith .

6.7 The Company may issue all or part of its authorised shares either as registered shares or as shares to bearer. Shares issued as registered shares may be exchanged for shares issued to bearer. Shares issued to bearer may be exchanged for registered shares .

6.8 Where shares are issued to bearer, the bearer, identified for this purpose by the number of the share certificate, shall be requested to provide the Company with the name and address of an agent for service of any notice, information or written statement required to be given to members, and service upon such agent shall constitute service upon the bearer of such shares until such time as a new name and address for service is provided to the Company. In the absence of such name and address being provided it shall be sufficient for the purposes of service for the Company to publish the notice, information or written statement in one or more newspapers published or circulated in Belize and in such other place, if any, as the Company shall from time to time by a resolution of directors or a resolution of members determine. The directors of the Company must give sufficient notice of meetings to members holding shares issued to bearer to allow a reasonable opportunity for them to secure or exercise the right or privilege, other than the right or privilege to vote, that is the subject of the notice. What amounts to sufficient notice is a matter of fact to be determined after having regard to all the circumstances.

6.9 Registered shares in the Company may be transferred subject to the prior or subsequent approval of the Company as evidenced by a resolution of directors or by a resolution of members .

7. AMENDMENTS

The Company may amend this Memorandum of Association by a resolution of its members or directors .

We, A.J.K. CORPORATE SERVICES (BELIZE) LIMITED of, Blake Building, Suite 306, Corner of Eyre & Hutson Street, P.O. Box 2670, Belize City, Belize, for the purpose of incorporating an International Business Company under the laws of Belize hereby subscribe our name to this Memorandum of Association on this **30th June, 2016** in the presence of the undersigned witness .

WITNESS: [redacted]

Shirleen White
Belize City, Belize

SUBSCRIBER: [redacted]

Alva Belisle on behalf of
A.J.K. CORPORATE SERVICES (BELIZE) LIMITED,
Blake Building, Suite 306, Corner of Eyre & Hutson Street,
P.O. Box 2670, Belize City, Belize

BELIZE
THE INTERNATIONAL BUSINESS COMPANIES ACT
Chapter 270 of the Laws of Belize, Revised Edition 2000

ARTICLES OF ASSOCIATION

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1. INTERPRETATION

In these Articles, if not inconsistent with the subject of context, the following words and expressions shall bear the meanings set below them .

Capital: The sum of the aggregate par value of all outstanding shares with par value of the Company and shares with par value held by the Company as treasury shares plus :

(1) the aggregate of the amounts designated as capital of all outstanding shares without par value of the Company and shares without par value held by the Company as treasury shares; and,

(2) the amounts as are from time to time transferred from surplus to capital by a resolution of directors.

Member: A person who holds shares in the Company.

Person: An individual, a corporation, a trust, the estate of a deceased individual, a partnership or an unincorporated association of persons.

Resolution oF Directors: A resolution approved at a duly constituted meeting of directors of the Company or of a committee of directors of the Company by the affirmative vote of a simple majority of the directors present who voted and did not abstain where the meeting was called on proper notice, or, if on short notice, if those directors not present have waived notice; or a resolution consented to in writing by all directors or by all members of the committee, as the case may be .

Resolution of Members:

(1) A resolution approved at a duly constituted meeting of the members of the Company by the affirmative vote of: (i) a simple majority of the votes of the shares which were present at the meeting and were voted and not abstained, or (ii) such larger majority as specified in these Articles, or (iii) a simple majority of the votes of each class or series of shares which were

present at the meeting and entitled to vote thereon as a class or series and were voted and not abstained and of a simple majority of the votes of the remaining shares entitled to vote thereon which were present at the meeting and were voted and not abstained; or,

(2) a resolution consented to in writing by, (i) an absolute majority of the votes of shares entitled to vote thereon or, (ii) an absolute majority of the votes of each class or series of shares entitled to vote thereon as a class or series and of an absolute majority of the votes of the remaining shares entitled to vote thereon.

Securities: Shares and debt obligations of every kind, options, warrants and rights to acquire shares or debt obligations .

Surplus: The excess, if any, at the time of the determination, of the total assets of the Company over the sum of its total liabilities, as shown in its books of account, plus the Company's capital .

The Memorandum: The Memorandum of Association of the Company as originally framed or as from time to time amended.

The Act: The International Business Companies Act, Chapter 270, of the Laws of Belize, Revised Edition, 2000.

The Seal: The Common Seal of the Company.

These Articles: These Articles of Association as originally framed or as from time to time amended .

Treasury Shares: Shares of the Company that were previously issued but were repurchased, redeemed or otherwise acquired by the Company and not cancelled .

Registered Shares: Shares in the Company that are issued as registered shares, and that are issued in the name or names of the holder(s) indicated on the certificate(s).

Court: The Supreme Court of Belize or a Judge thereof.

"Written" or any term of like import includes words typewritten, printed, painted, engraved, lithographed, photographed, or represented or reproduced by any mode of representing or reproducing words in a visible form, including telex, telegram, cable or other form of writing produced by electronic communication .

Save as aforesaid any words or expressions defined in the Act shall bear the same meaning in these Articles .

Whenever the singular or plural number, or the masculine, feminine or neuter gender is used in these Articles, it shall equally, where the context admits, include the others .

A reference in these Articles to voting in relation to shares shall be construed as a reference to voting by members holding the shares except that it is the votes allocated to the shares that shall be counted and not the number of members who actually voted and a reference to shares being present at a meeting shall be given a corresponding construction .

A reference to money in these Articles is a reference to the currency of the United States of America unless otherwise stated.

2. REGISTERED SHARES

2.1 The Company shall issue to every member holding registered shares in the Company a certificate signed by a director or officer of the Company and under the Seal specifying the share or shares held by him and the signature of the director or officer and the Seal may be facsimiles .

2.2 Any member receiving a share certificate for registered shares shall indemnify and hold the Company and its directors and officers harmless from any loss or liability which it or they may incur by reason of the wrongful or fraudulent use of representation made by any person by virtue of the possession thereof. If a share certificate for registered shares is worn out or lost, it may be renewed on production of the worn out certificate or on satisfactory proof of its loss together with such indemnity as may be required by a resolution of directors .

2.3 If several persons are registered as joint holders of any shares, any one of such persons may be given an effectual receipt for any dividend payable in respect of such shares .

2.4 Subject to any limitations or provisions to the contrary in its Memorandum and Articles of Association,

the Company may purchase, redeem or otherwise acquire and hold its own shares, but only out of surplus or in exchange for newly issued shares of equal value .

2.5 The Company may not purchase, redeem or otherwise acquire and hold its own shares, without the consent of the member whose shares are to be purchased, redeemed or otherwise acquired, unless it is permitted in the Memorandum and Articles of Association or by restrictions in the share certificates .

3. BEARER SHARES

3.1 Subject to a request for the issue of bearer shares and to the payment of the appropriate consideration for the shares to be issued, the Company may, to the extent authorised by the Memorandum, issue bearer shares to, and at the expense of, such person as shall be specified in the request. The Company may also upon receiving a request in writing accompanied by the share certificate for the shares in question, exchange registered shares for bearer shares or may exchange bearer shares for registered shares. Such request served on the Company by the holder of bearer shares shall specify the name and address of the person to be registered and unless the request is delivered in person by the bearer shall be authenticated as hereinafter provided. Such request served on the Company by the holder of bearer shares shall also be accompanied by any coupons or talons which at the date of such delivery have not become due for payments of dividends or any other distribution by the Company to the holders of such shares. Following such exchange the share certificate relating to the exchanged shares shall be delivered as directed by the member requesting the exchange .

3.2 Bearer share certificates shall be under the Seal and shall carry an identifying number and state that the bearer is entitled to the shares therein specified, and may provide by coupons, talon, or otherwise for the payment of dividends or other monies on the shares included therein to the address to which the bearer shares were originally sent .

3.3 Subject to the provisions of the Act and of these Articles the bearer of a bearer share certificate shall be deemed to be a member of the Company and shall be entitled to the same rights and privileges as he would have had if his name had been included in the share register of the Company as the holder of the shares .

3.4 Subject to any specific provisions in these Articles, in order to exercise his rights as a member of the Company, the bearer of a bearer share certificate shall produce the bearer share certificate as evidence of his membership of the Company. Without prejudice to the generality of the foregoing, the following rights may be exercised in the following manner :

(1) for the purpose of exercising his voting rights at a meeting, the bearer of a bearer share certificate shall produce such certificate to the chairman of the meeting;

(2) for the purpose of exercising his vote on a resolution in writing, the bearer of a bearer share certificate shall cause his signature to any such resolution to be authenticated as hereinafter set forth;

(3) for the purpose of requisitioning a meeting of members, the bearer of a bearer share certificate shall address his requisition to the directors and his signature thereon shall be duly authenticated as hereinafter provided; and

(4) for the purpose of receiving dividends, the bearer of the bearer share certificate shall present at such places as may be designated by the directors any coupons or talons issued for such purpose, or shall present the bearer share certificate to any paying agent authorised to pay dividends .

3.5 The signature of the bearer of a bearer share certificate shall be deemed to be duly authenticated if the bearer of the bearer share certificate shall produce such certificate to a notary public or a bank manager or a director or officer of the Company (herein referred to as an "authorised person" and if the authorised person shall endorse the document bearing such signature with a statement

(1) identifying the bearer share certificate produced to him by number and date and specifying the number of shares and the class of shares (if appropriate) comprised therein;

(2) confirming that the signature of the bearer of the bearer share certificate was subscribed in his presence and that if the bearer is representing a body corporate he has so acknowledged and has produced satisfactory evidence thereof;

(3) specifying the capacity in which he is qualified as an authorised person and, if a notary public, affixing his seal thereto, or, if a bank manager, attaching an identifying stamp of the bank of which he is a manager.

3.6 Notwithstanding any other provisions of these Articles, at any time, the bearer of a bearer share

certificate may deliver the certificate for such shares into the custody of the Company at its registered office, whereupon the Company shall issue a receipt therefore under the Seal signed by a director or officer identifying by name and address the person delivering such certificate and specifying the date and number of bearer share certificates so deposited and the number of shares comprised therein. Any such receipt may be used by the person named therein for the purpose of exercising the rights vested in the shares represented by the bearer share certificate so deposited including the right to appoint a proxy. Any bearer share certificate so deposited shall be returned to the person named in the receipt or his personal representative if such person be dead and thereupon the receipt issued therefore shall be of no further effect whatsoever and shall be returned to the Company for cancellation or, if it has been lost or mislaid, such indemnity as may be required by resolution of directors shall be given to the Company .

3.7 The bearer of a bearer share certificate shall for all purposes be deemed to be the owner of the shares comprised in such certificate and in no circumstances shall the Company or the Chairman of any meeting of members or the Company's registrars or any director or officer of the Company or any authorised person be obliged to inquire into the circumstance whereby a bearer share certificate came into the hands of the bearer thereof, or to question the validity or authenticity of any action taken by the bearer of a bearer share certificate whose signature has been authenticated as provided herein .

3.8 If the bearer of a bearer share certificate shall be a corporation, then all the rights exercisable by virtue of such shareholding may be exercised by an individual duly authorised to represent the corporation but unless such individual shall acknowledge that he is representing a corporation and shall produce upon request satisfactory evidence that he is duly authorised to represent the corporation, the individual shall for all purposes hereof be regarded as the holder of the shares in any bearer share certificate held by him.

3.9 The directors may provide for payment of dividends to the holders of bearer shares by coupons or talons and in such event the coupons or talons shall be in such form and payable at such time and in such place or places as the directors shall resolve. The Company shall be entitled to recognize the absolute right of the bearer of any coupon or talon issued as aforesaid to payment of the dividend to which it relates and delivery of the coupon or talon to the Company or its agents shall constitute in all respects a good discharge of the Company in respect of such dividend .

3.10 If any bearer share certificate, coupon or talon be worn out or defaced, the directors may, upon the surrender hereof for cancellation, issue a new one in its stead, and if any bearer share certificate, coupon or talon be lost or destroyed, the directors may upon the loss or destruction being established to their satisfaction, and upon such indemnity being given to the Company as it shall by resolution of directors determine, issue a new bearer share certificate in its stead, and in either case on payment of such sum as the Company may from time to time by resolution of directors require. In case of loss or destruction the person to whom such new bearer share certificate, coupon or talon is issued shall also bear and pay to the Company all expenses incidental to the investigation by the Company of the evidence of such loss or destruction and to such indemnity .

4. SHARES, AUTHORISED CAPITAL AND CAPITAL

4.1 Subject to the provisions of these Articles and any resolution of members the unissued shares of the Company shall be at the disposal of the directors who may without prejudice to any rights previously conferred on the holders of any existing shares or class or series of shares, offer, allot, grant options over or otherwise dispose of the shares to such persons, at such times and upon such terms and conditions as the Company may by resolution of directors determine .

(1) The Memorandum or Articles, or an agreement for the subscription of shares may contain provisions for the forfeiture of shares for which payment is not made pursuant to a promissory note or other written binding obligation for payment of a debt .

(2) Any provision in the Memorandum or Articles, or in an agreement for the subscription of shares providing for the forfeiture of shares, shall contain a requirement that written notice specifying a date for payment to be made, be served on the member who defaults in making payment, pursuant to a promissory note or other written binding obligation to pay a debt .

(3) The written notice referred to in subsection 4.1 paragraph (2) shall name a further date not earlier than the expiration of 14 days from the date of service of the notice on or before which the payment required by the notice is to be made and shall contain a statement that in the event of non-payment at or before the time named in the notice the shares, or any of them, in respect of which payment is not made will be subject to forfeiture .

(4) Where a notice has been issued under this section and the requirements of the notice have not been complied with, the directors may, at any time before tender of payment, by resolution of directors forfeit and cancel the shares to which the notice relates .

(5) The Company is under no obligation to refund any monies to the member whose shares have been cancelled pursuant to subsection 4.1 of paragraph (4) and that member shall be discharged from any further obligation to the Company.

4.2 Shares in the Company shall be issued for money, services rendered, personal property, an estate in real property, a promissory note or other binding obligation to contribute money or property, or any combination of the foregoing as shall be determined by a resolution of directors .

4.3 Shares in the Company may be issued for such amount of consideration as the directors may from time to time by resolution of directors determine, except that in the case of shares with par value, the amount shall not be less than the par value and in the absence of fraud the decision of the directors as to the value of the consideration received by the Company in respect of the issue is conclusive unless a question of law is involved. The consideration in respect of the shares constitutes capital to the extent of the par value and the excess constitutes surplus.

4.4 A share issued by the Company upon conversion of, or in exchange for, another share or a debt obligation or other security in the Company, shall be treated for all purposes as having been issued for money equal to the consideration received or deemed to have been received by the Company in respect of the other share, debt obligation or security.

4.5 Treasury shares may be disposed of by the Company on such terms and conditions (not otherwise inconsistent with these Articles) as the Company may by resolution of directors determine .

4.6 The Company may issue fractions of a share and a fractional share shall have the same corresponding fractional liabilities, limitations, preferences, privileges, qualifications, restrictions, rights and other attributes of a whole share of the same class or series of shares .

4.7 Upon the issue by the Company of a share without par value, the consideration in respect of the share constitutes capital to the extent designated by the directors and the excess constitutes surplus, except that the directors must designate as capital an amount of the consideration that is at least equal to the amount that the share is entitled to as a preference, if any, in the assets of the Company upon liquidation of the Company.

4.8 The Company may, by resolution of its shareholders, purchase, redeem or otherwise acquire and hold its own shares but no purchase, redemption or other acquisition which shall constitute a reduction in capital shall be made except in compliance with Regulations 7.4 and 7.5.

4.9 A determination by the directors under the preceding Article is not required where shares are purchased, redeemed or otherwise acquired:

(1) pursuant to a right of a member to have his shares redeemed or to have his shares exchanged for money or other property of the Company;
(2) in exchange for newly issued shares in the Company;
(3) by virtue of the provisions of Section 79 of the Act;
(4) pursuant to an order of the Court .

4.10 Shares that the Company purchases, redeems or otherwise acquires pursuant to Regulation 4.8 may be cancelled or held as treasury shares unless the shares are purchased, redeemed or otherwise acquired out of capital and would otherwise infringe upon the requirements of Regulations 7.4 and 7.5, or to the extent that such shares are in excess of 80 percent of the issued shares of the Company, in which case they shall be cancelled but they shall be available for reissue. Upon the cancellation of a share, the amount included as capital of the Company with respect to that share shall be deducted from the capital of the Company .

4.11 Where shares in the Company are held by the Company as treasury shares or are held by another company of which the Company holds, directly or indirectly, shares having more than 50 percent of the votes in the election of directors of the other company, such shares of the Company are not entitled to vote or to have dividends paid thereon and shall not be treated as outstanding for any purpose except for purposes of determining the capital of the Company.

5. TRANSFER OF SHARES

5.1 Subject to any limitations in the Memorandum, registered shares in the Company may be transferred by a written instrument of transfer signed by the transferor and containing the name and address of the transferee, but in the absence of such written instrument of transfer the directors may accept such evidence of a transfer of shares as they consider appropriate .

5.2 The Company shall not be required to treat a transferee of a registered share in the Company as a member until the transferee's name has been entered in the register of members .

5.3 Subject to any limitations in the Memorandum, the Company must on the application of the transferor or transferee of a registered share in the Company enter in the share register the name of the transferee of the share save that the registration of transfers may be suspended and the share register closed at such times and for such periods as the Company may from time to time by resolution of directors determine provided always that such registration shall not be suspended and the share register closed for more than 60 days in any period of 12 months.

6. TRANSMISSION OF SHARES

6.1 The executor or administrator of a deceased member, the guardian of an incompetent member or the trustee of a bankrupt member shall be the only person recognized by the Company as having any title to his share but they shall not be entitled to exercise any rights as a member of the Company until they have proceeded as set forth in the next following two regulations .

6.2 Any person becoming entitled by operation of law or otherwise to a share or shares in consequence of the death, incompetence or bankruptcy of any member may be registered as a member upon such evidence being produced as may reasonably be required by the directors. An application by any such person to be registered as a member shall be deemed to be a transfer of shares of the deceased, incompetent or bankrupt member and the directors shall treat it as such.

6.3 Any person who has become entitled to a share or shares in consequence of the death, incompetence or bankruptcy of any member may, instead of being registered himself, request in writing that some person to be named by him be registered as the transferee of such share or shares and such request shall likewise be treated as if it were a transfer.

6.4 What amounts to incompetence on the part of a person is a matter to be determined by the court having regard to all the relevant evidence and the circumstances of the case .

7. REDUCTION OR INCREASE IN AUTHORISED CAPITAL OR CAPITAL

7.1 The Company may, by a resolution of members or directors, amend the Memorandum to increase or reduce its authorised capital and in connection therewith the Company may in respect of any unissued shares increase or reduce the number of shares, increase or reduce the par value of any shares or effect any combination of the foregoing.

7.2 The Company may amend the Memorandum to :

(1) divide the shares, including issued shares, of a class or series into a larger number of shares of the same class or series; or

(2) combine the shares, including issued shares, of a class or series into smaller number of shares of the same class or series; provided however, that where shares are divided or combined under (1) and (2) of Regulation 7.2, the aggregate par value of the new shares must be equal to the aggregate par value of the original shares.

7.3 The capital of the Company may, by a resolution of members or directors, be increased by transferring an amount of the surplus of the Company to capital, and, subject to the provisions of Regulations 7.4 and 7.5, the capital of the Company may be reduced by transferring an amount of the capital of the Company to surplus .

7.4 No reduction of the capital shall be effected that reduce, the capital of the Company to an amount that immediately after the reduction is less than the aggregate par value of all outstanding shares with par value and all shares with par value held by the Company as treasury shares and the aggregate of the amounts designated as capital of all outstanding shares without par value and all shares without par value held by the Company as treasury shares that are entitled to a preference, if any, in the assets of the Company upon liquidation of the Company.

7.5 No reduction of capital shall be effected unless the members or directors determine that immediately after the reduction the Company will be able to satisfy its liabilities as they become due in the ordinary course of its business and that the realisable value of the assets of the Company will not be less than its total liabilities, other than deferred taxes, as shown in the books of the Company and its remaining capital, and, in the absence of fraud, the decision of the directors as to the realisable value of the assets of the Company is conclusive, unless a question of law is involved .

7.6 Where the Company reduces its capital the Company may :

(1) return to its members any amount received by the Company upon the issue of any of its shares ;

(2) purchase, redeem or otherwise acquire its shares out of capital; or

(3) cancel any capital that is lost or not represented by assets having a realisable value .

8. MEETINGS AND CONSENTS OF MEMBERS

8.1 The directors of the Company may convene meetings of the members of the Company at such times and in such manner and places within or outside Belize as the directors consider necessary or desirable .

8.2 Upon the written request of members holding 10 percent or more of the outstanding voting shares in the Company the directors shall convene a meeting of members .

8.3 The directors shall give not less than 7 days notice of meetings of members to those persons whose names on the date the notice is given appears as members in the share register of the Company .

8.4 A meeting of members held in contravention of the requirement in Regulation 8.3 is valid if:

(1) members holding not less than 90 percent of the total number of shares entitled to vote on all matters to be considered at the meeting, or 90 percent of the votes of each class or series of shares where members are entitled to vote thereon as a class or series together with not less than a 90 percent majority of the remaining votes, have agreed to shorter notice of the meeting; or,

(2) all members holding shares entitled to vote on all or any matters to be considered at the meeting have waived notice of the meeting and for this purpose presence at the meeting shall be deemed to constitute waiver.

8.5 The inadvertent failure of the directors to give notice of a meeting to a member, or the fact that a member has not received notice, does not invalidate the meeting .

8.6 A member may be represented at a meeting of members by a proxy who may speak and vote on behalf of the member.

8.7 The instrument appointing a proxy shall be produced at the place appointed for the meeting before the time for holding the meeting at which the person named in such instrument proposes to vote .

8.8 An instrument appointing a proxy shall be in substantially the following form or such other form as the Chairman of the Meeting shall accept as properly evidencing the wishes of the member appointing the proxy. Only members who are individuals may appoint proxies .

(Name of Company)

I/We ……being a member of the above Company with ……..... shares, HEREBY APPOINT .....……..…… of …..... or failing him ……..……..…… of …….. to be my/our proxy to vote for me/us at the meeting of members to be held on the…….day of…… , 20…., and at any adjournment thereof.

(Any restrictions on voting to be inserted here)

Signed this day of…….. ,……

……..

Member

8.9 The following shall apply in respect of joint ownership of shares :

(1) if two or more persons hold shares jointly each of them may be present in person or by proxy at a meeting of members and may speak as a member;

(2) if only one of the joint owners is present in person or by proxy he may vote on behalf of all joint owners; and,

(3) if two or more of the joint owners are present in person or by proxy they must vote as one .

8.10 A member shall be deemed to be present at a meeting of members if he participates by telephone or other electronic means and all members participating in the meeting are able to hear each other .

8.11 A meeting of members is duly constituted if, at the commencement of the meeting, there are present in person or by proxy not less than 50 percent of the votes of the shares or class or series of shares entitled to vote on resolution of members to be considered at the meeting. If a quorum be present, notwithstanding the fact that such quorum may be represented by only one person, then, such person may resolve any matter and a certificate signed by such person accompanied where such person be a proxy by a copy of the proxy form shall constitute a valid resolution of members .

8.12 If within two hours from the time appointed for the meeting a quorum is not present, the meeting, if convened upon the requisition of members, shall be dissolved; in any other case it shall stand adjourned to the next business day at the same time and place or to such other time and place as the directors may determine, and if at the adjourned meeting there are present within an hour from the time appointed for the meeting in person or by proxy not less than one third of the votes of the shares or each class or series of shares entitled to vote on the resolutions to be considered by the meeting, those present shall constitute a quorum but otherwise the meeting shall be dissolved.

8.13 At every meeting of members, the Chairman of the Board of Directors shall preside as chairman of the meeting. If there is no Chairman of the Board of Directors or if the Chairman of the Board of Directors is not present at the meeting, the members present shall choose someone of their number to be the chairman. If the members are unable to choose a chairman for any reason, then the person representing the greatest number of voting shares present in person or by prescribed form of proxy at the meeting shall preside as chairman failing which the oldest individual member or representative of a member present shall take the chair .

8.14 The Chairman may, with the consent of the meeting, adjourn any meeting from time to time, and from place to place, but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place .

8.15 At any meeting of the members the chairman shall be responsible for deciding in such manner as he shall consider appropriate whether any resolution has been carried or not and the result of his decision shall be announced to the meeting and recorded in the minutes thereof. If the chairman shall have any doubt as to the outcome of any resolution put to the vote, he shall cause a poll to be taken of all votes cast upon such resolution, but if the chairman shall fail to take a poll, then, any member present in person or by proxy who disputes the announcement by the chairman of the result of any vote may immediately following such announcement demand that a poll be taken and the chairman shall thereupon cause a poll to be taken. If a poll is taken at any meeting, the result thereof shall be duly recorded in the minutes of that meeting by the chairman.

8.16 Any person other than an individual shall be regarded as one member and subject to Regulation 8.17 the right of any individual to speak for or represent such member shall be determined by the law of the jurisdiction where, and by the documents by which, the person is constituted or derives its existence. In case of doubt, the directors may in good faith seek legal advice from any qualified person and unless and until a court of competent jurisdiction shall otherwise rule, the directors may rely and act upon such advice without incurring any liability to any member.

8.17 Any person other than an individual which is a member of the Company may by resolution of its directors or other governing body authorise such person as it thinks fit to act as its representative at any meeting of the Company or of any class of members of the Company, and the person so authorised shall be entitled to exercise the same powers on behalf of the person which he represents as that person could exercise if it were an individual member of the Company.

8.18 The chairman of any meeting at which a vote is cast by proxy or on behalf of any person other than an individual may call for a notarially certified copy of such proxy or authority which shall be produced within 7 days of being so requested or the votes cast by such proxy or on behalf of such person shall be disregarded .

8.19 The directors of the Company may attend and speak at any meeting of members of the Company and at any separate meeting of the holders of any class or series of shares in the Company.

8.20 An action that may be taken by the members at a meeting may also be taken by a resolution of members consented to in writing or by telex, telegram, cable, telecopier, or other written electronic communication, without the need for any notice, but if any resolution of members is adopted otherwise

than by the unanimous written consent of all members, a copy of such resolution shall forthwith be sent to all members not consenting to such resolution .

9. DIRECTORS

9.1 The first directors of the Company shall be elected by the subscribers to the Memorandum; and thereafter, the directors shall be elected by the members or the existing directors for such terms as the members or directors determine.

9.2 The minimum number of directors shall be one and the maximum number shall be nine .

9.3 Each director shall hold office for the term, if any, fixed by resolution of members or until his earlier death, resignation or removal.

9.4 A director may be removed from office, with or without cause, by a resolution of members .

9.5 A director may resign his office by giving written notice of his resignation to the Company and the resignation shall have effect from the date the notice is received by the Company or from such later date as may be specified in the notice.

9.6 A vacancy in the Board of Directors may be filled by a resolution of members or by a resolution of a majority of the remaining directors.

9.7 With the prior or subsequent approval by a resolution of members, the directors may, by a resolution of directors, fix the emoluments of directors with respect to services to be rendered in any capacity to the Company.

9.8 A director shall not require a share qualification, and may be an individual or a company.

9.9 A director by writing under his hand deposited at the Registered Office of the Company, may from time to time appoint another director or any other person to be his alternate. Every such alternate shall be entitled to be given notice of meeting of the directors and to attend and vote as a director at any such meeting at which the director appointing him is not personally present and generally at such meeting to have and exercise all the powers, rights, duties and authorities of the director appointing him. Every such alternate shall be deemed to be an officer of the Company and shall not be deemed to be an agent of the director appointing him. If undue delay or difficulty would be occasioned by giving notice to a director of a resolution of which his approval is sought in accordance with Regulation 8, his alternate (if any) shall be entitled to signify approval of the same on behalf of that director. A director by writing under his hand deposited at the Registered Office of the Company may at any time revoke the appointment of an alternate appointed by him. If a director shall die or cease to hold the office of director, the appointment of his alternate shall thereupon cease and terminate.

10. POWERS OF DIRECTORS

10.1 The business and affairs of the Company shall be managed by the directors who may pay all expenses incurred preliminary to and in connection with the formation and registration of the Company and may exercise all such powers of the Company as are not by the Act or by the Memorandum or these Articles required to be exercised by the members of the Company, subject to any delegation of such powers as may be authorised by these Articles and to such requirements as may be prescribed by a resolution of members; but no requirements made by a resolution of members shall prevail if it be inconsistent with these Articles nor shall such requirement invalidate any prior act of the directors which would have been valid if such requirement had not been made.

10.2 The directors may by a resolution of directors, appoint any person, including a person who is a director, to be an officer or agent of the Company.

10.3 Every officer or agent of the Company has such powers and authority of the directors, including the power and authority to affix the Seal, as are set forth in these Articles, or in the resolution of directors appointing the officer or agent, except that no officer or agent has any power or authority with respect to the matters requiring a resolution of directors under the Act.

10.4 Any director which is a body corporate may appoint any person as its duly authorised representative for the purpose of representing it at meetings of the Board of Directors or with respect to unanimous written consents.

.0.5 The continuing directors may act notwithstanding any vacancy in their body, save that if their number is reduced below the number fixed by or pursuant to these Articles as the necessary quorum for a meeting of directors, the continuing directors or director may act only for the purpose of appointing directors to fill any vacancy that has arisen or summoning a meeting of members .

10.6 All cheques, promissory notes, drafts, bills of exchange and other negotiable instruments and all receipts for monies paid to the Company, shall be signed, drawn, accepted, endorsed, or otherwise executed, as the case may be, in such manner as shall from time to time be determined by resolution of directors .

10.7 The Company may from time to time and at any time by resolution of directors appoint any company, firm or person or body of persons, whether nominated directly or indirectly by the directors, to be the attorney or attorneys of the Company for such purposes and with such powers, authorities and discretions (not exceeding those vested in or exercisable by the directors under these Regulations) and for such period and subject to such conditions as they may think fit, and any such powers of attorney may contain such provisions for the protection and convenience of persons dealing with any such attorney as the directors may think fit and may also authorise any such attorney to delegate all or any of the powers, authorities and discretions vested in him .

11. PROCEEDINGS OF DIRECTORS

11.1 The directors of the Company or any committee thereof may meet at such times and in such manner and places within or outside Belize as the directors may determine to be necessary or desirable .

11.2 A director shall be deemed to be present at a meeting of directors if he participates by telephone or other electronic means and all directors participating in the meeting are able to hear each other .

11.3 A director shall be given not less than 5 days notice of meetings of directors, but a meeting of directors held without 5 days notice having been given to all directors shall be valid if all the directors entitled to vote at the meeting who do not attend, waive notice of the meeting. The inadvertent failure to give notice of a meeting to a director or the fact that a director has not received the notice does not invalidate the meeting .

11.4 A director may by a written instrument appoint an alternate who need not to be a director and an alternate is entitled to attend meetings in the absence of the director who appointed him and vote or consent in place of the director.

11.5 A meeting of directors is duly constituted for all purposes if at the commencement of the meeting there are present in person or by alternate not less than one half of the total number of directors, unless there are only two directors in which case the quorum shall be two .

11.6 If the Company shall have only one director the provisions herein contained for meetings of the directors shall not apply but such sole director shall have full power to represent and act for the Company in all matters as are not by the Act or the Memorandum or these Articles required to be exercised by the members of the Company and in lieu of minutes of a meeting shall record in writing and sign a note or memorandum of all matters requiring a resolution of directors. Such a note or memorandum shall constitute sufficient evidence of such resolution for all purposes.

11.7 At every meeting of the directors the Chairman of the Board of Directors shall preside as chairman of the meeting. If there is no Chairman of the Board of Directors or if the Chairman of the Board of Directors is not present at the meeting the Vice Chairman of the Board of Directors shall preside. If there is no Vice Chairman of the Board of Directors or if the Vice Chairman of the Board of Directors is not present at the meeting the directors present shall choose someone of their number to be chairman of the meeting .

11.8 The emoluments of all officers shall be fixed by resolution of directors .

11.9 The directors shall cause the following corporate records to be kept:

(1) minutes of all meetings of directors, members, committees of directors, committees of officers and committees of members;

(2) copies of all resolutions consented to by directors, members, committees of directors, committees of officers and committees of members; and,

(3) such other accounts and records as the directors by resolution of directors consider necessary or desirable in order to reflect the financial position of the Company.

11.10 The books, records and minutes shall be kept at the registered office of the Company or at such other

place as the directors determine.

11.11 The Company may keep a register of directors containing the names and addresses of the directors of the Company, the date on which each director is appointed as a director of the Company, and the date on which each person named as a director ceased to be a director of the Company. If the Company keeps a register of directors referred to in this Regulation, a copy of such register shall be kept at the registered office of the Company.

11.12 The directors may, by a resolution of directors, designate one or more committees, each consisting of one or more directors.

11.13 Each committee of directors has such powers and authorities of the directors, including the power and authority to affix the Seal as are set forth in the resolution of directors establishing the committee, except that no committee has any power or authority either to amend the Memorandum or these Articles or with respect to the matters requiring a resolution of directors under Regulations 9.6, 9.7, and 10.2.

11.14 The meetings and proceedings of each committee of directors consisting of two or more directors shall be governed mutatis mutandis by the provisions of these Articles regulating the proceedings of directors so far as the same are not superseded by any provisions in the resolution establishing the committee .

12. OFFICERS

12.1 The Company may by resolution of directors appoint officers of the Company at such times as shall be considered necessary or expedient. Such officers may consist of a Chairman of the Board of Directors, a Vice Chairman of the Board of Directors, President and one or more Vice Presidents, Secretaries and Treasurers and such other officers as may from time to time be deemed desirable. Any number of offices may be held by the same person.

12.2 The officers shall perform such duties as shall be prescribed at the time of their appointment subject to any modification in such duties as may be prescribed thereafter by resolution of directors or resolution of members, but in the absence of any specific allocation of duties it shall be the responsibility of the Chairman of the Board of Directors to preside at meetings of directors and members, the Vice Chairman to act in the absence of the Chairman, the President to manage the day to day affairs of the Company, the Vice Presidents to act in order of seniority in the absence of the President but otherwise to perform such duties as may be delegated to them by the President, the Secretaries to maintain the share register, minute books and records (other than financial records) of the Company and to ensure compliance with all procedural requirements imposed on the Company by applicable law and the Treasurer to be responsible for the financial affairs of the Company.

12.3 The emoluments of all officers shall be fixed by resolution of directors .

12.4 The officers of the Company shall hold office until their successors are duly elected and qualified, but any officer elected or appointed by the directors may be removed at any time, with or without cause, by resolution of directors. Any vacancy occurring in any office of the Company may be filled by resolution of directors .

13. INDEMNIFICATION

13.1 Subject to Regulation 13.2, the Company shall indemnify against all expenses, including legal fees, and against all judgments, fines and amounts paid in settlement and reasonably incurred in connection with legal, administrative or investigative proceedings any person who :

(1) is or was a party or is threatened to be made a party to any threatened, pending or completed proceedings, whether civil, criminal, administrative or investigative, by reason of the fact that the person is or was a director, an officer or a liquidator of the Company; or,

(2) is or was, at the request of the Company, serving as a director, officer or liquidator of, or in any other capacity is or was acting for another company or a partnership, joint venture, trust or other enterprise .

13.2 Regulation 13.1 only applies to a person referred to in that Regulation if the person acted honestly and in good faith with a view to the best interests of the Company and, in the case of criminal proceedings, the person had no reasonable cause to believe that his conduct was unlawful .

13.3 The decision of the directors as to whether the person acted honestly and in good faith and with a view to

the best interests of the Company and as to whether the person had no reasonable cause to believe that his conduct was unlawful is, in the absence of fraud, sufficient for the purposes of this Regulation 13, unless a question of law is involved .

13.4 The termination of any proceedings by any judgment, order, settlement, conviction or the entering of a nolle prosequi does not, by itself, create a presumption that the person did not act honestly and in good faith and with a view to the best interests of the Company or that the person had reasonable cause to believe that his conduct was unlawful .

13.5 If a person referred to in Regulation 13.1 has been successful in defense of any proceedings referred to in that Regulation, the person is entitled to be indemnified against all expenses, including legal fees, and against all judgments, fines and amounts paid in settlement and reasonably incurred by the person in connection with the proceedings.

13.6 The Company may purchase and maintain insurance in relation to any person who is or was a director, an officer or a liquidator of the Company, or who at the request of the Company is or was serving as a director, an officer or a liquidator of, or in any other capacity is or was acting for another company or a partnership, joint venture, trust or other enterprise, against any liability asserted against the person and incurred by the person in that capacity, whether or not the Company has or would have had the power to indemnify the person against the liability under Regulation 13.1.

14. SEAL

The directors shall provide for the safe custody of the Seal. The Seal when affixed to any written instrument shall be witnessed by a director or any other person so authorised from time to time by resolution of directors. The directors may provide for a facsimile of the Seal and of the signature of any director or authorised person which may be reproduced by printing or other means on any instrument and it shall have the same force and validity as if the Seal had been affixed to such instrument and the same had been signed as hereinbefore described.

15. DIVIDENDS

15.1 The Company may by a resolution of directors declare and pay dividends in money, shares, or other property, but dividends shall only be declared and paid out of surplus. In the event that dividends are paid in specie the directors shall have responsibility for establishing and recording in the resolution of directors authorising the dividends, a fair and proper value for the assets to be so distributed .

15.2 The directors may from time to time pay to the members such interim dividends as appear to the directors to be justified by the profits of the Company.

15.3 The directors may, before declaring any dividend, set aside out of the profits of the Company such sum as they think proper as a reserve fund, and may invest the sum so set apart as a reserve fund upon such securities as they may select .

15.4 No dividend shall be declared and paid unless the directors determine that immediately after the payment of the dividend the Company will be able to satisfy its liabilities as they become due in the ordinary course of its business and the realisable value of the assets of the Company will not be less than the sum of its total liabilities, other than deferred taxes, as shown in its books of account, and its capital. In the absence of fraud, the decision of the directors as to the realisable value of the assets of the Company is conclusive, unless a question of law is involved .

15.5 Notice of any dividend that may have been declared shall be given to each member in manner hereinafter mentioned and all dividends unclaimed for three years after having been declared may be forfeited by resolution of directors for the benefit of the Company.

15.6 No dividend shall bear interest as against the Company and no dividend shall be paid on shares described in Regulation 4.10.

15.7 A share issued as a dividend by the Company shall be treated for all purposes as having been issued for money equal to the surplus that is transferred to capital upon the issue of the share .

15.8 In the case of a dividend of authorised but unissued shares with par value, an amount equal to the aggregate par value of the shares shall be transferred from surplus to capital at the time of the distribution .

15.9 In the case of a dividend of authorised but unissued shares without par value, the amount designated by the directors shall be transferred from surplus to capital at the time of the distributions, except that the directors must designate as capital an amount that is at least equal to the amount that the shares are entitled to as a preference, if any, in the assets of the Company upon liquidation of the Company .

15.10 A division of the issued and outstanding shares of a class or series of shares into a larger number of shares of the same class or series having a proportionately smaller par value does not constitute a dividend of shares .

16. BOOKS AND RECORDS

16.1 The Company shall keep such accounts and records as the directors consider necessary or desirable in order to reflect the financial position of the Company.

16.2 The Company shall keep minutes of all meetings of directors, members, committees of directors, committees of officers and committees of members, and copies of all resolutions consented to by the directors, members, committees of directors, committees of officers and committees of members .

16.3 The books, records and minutes required by Regulations 18.1 and 18.2 shall be kept either in its original or a copy thereof, at the Registered Office of the Company or at such other place as the directors may determine, and shall be open to the inspection of the directors at all times .

16.4 The directors shall from time to time determine whether and to what extent and at what times and places and under what conditions of regulations the books, records and minutes of the Company or any of them shall be open to the inspection of members not being directors and, no member (not being a director) shall have any right of inspecting any book, record, minute or document of the Company except as conferred by Law or authorised by resolution of the directors .

17. ACCOUNTS

The Company shall keep such accounts and records as the directors consider necessary or desirable in order to reflect the financial position of the Company.

18. AUDIT

18.1 The Company may by resolution of members call for the accounts to be examined by auditors .

18.2 The first auditors shall be appointed by resolution of directors; subsequent auditors shall be appointed by a resolution of members.

18.3 The auditors may be members of the Company but no director or other officer shall be eligible to be an auditor of the Company during his continuance in office .

18.4 The remuneration of the auditors of the Company :

(1) in the case of auditors appointed by the directors, may be fixed by resolution of directors.

(2) subject to the foregoing, shall be fixed by resolution of members or in such manner as the Company may by resolution of members determine .

18.5 The auditors shall examine each profit and loss account and balance sheet required to be served on every member of the Company or laid before a meeting of the members of the Company and shall state in a written report whether or not:

(1) in their opinion the profit and loss account and balance sheet give a true and fair view respectively of the profit and loss for the period covered by the accounts, and of the state of affairs of the Company at the end of that period;

(2) all the information and explanations required by the auditors have been obtained .

18.6 The report of the auditors shall be annexed to the accounts and shall be read at the meeting of members at which the accounts are laid before the Company or shall be served on the members .

18.7 Every auditor of the Company shall have a right of access at all times to the books of account and vouchers of the Company, and shall be entitled to require from the directors and officers of the Company such information and explanations as he thinks necessary for the performance of the duties of the auditors .

18.8 The auditors of the Company shall be entitled to receive notice of, and to attend any meetings of members of the Company at which the Company's profit and loss account and balance sheet are to be presented .

19. NOTICES

19.1 Any notice, information or written statement to be given by the Company to members must be served in the case of members holding registered shares by mail addressed to each member at the address shown in the share register and in the case of members holding shares issued to bearer, in the manner provided in the Memorandum.

19.2 Any summons, notice, order, document, process, information or written statement to be served on the Company may be served by leaving it, or by sending it by registered mail addressed to the Company, at its registered office, or by leaving it with, or by sending it by registered mail to the registered agent of the Company.

19.3 Service of any summons, notice, order, document, process, information or written statement to be served on the Company may be proven by showing that the summons, notice, order, document, process, information or written statement was mailed in such time as to admit to its being delivered in the normal course of delivery within the period prescribed for service and was correctly addressed and the postage was prepaid .

20. VOLUNTARY WINDING UP AND DISSOLUTION

The Company may voluntarily commence to wind up and dissolve by a resolution of members but if the Company has never issued shares, it may voluntarily commence to wind up and dissolve by resolution of directors.

21. CONTINUATION

21.1 The Company may by resolution of members or by resolution passed unanimously by all directors of the Company continue as a company incorporated under the laws of a Jurisdiction outside Belize in the manner provided under those laws.

21.2 The Registered Agent, duly authorised by the Company members, may submit to the Registrar, an Affidavit expressing an interest as to continue the Company in another Jurisdiction, upon registration of this request, the Registrar will strike off the Company, issuing a certificate of discontinuance in Belize .

22. AMENDMENTS

These Articles may only be altered, repealed or replaced by resolution of the members of the Company .

We, A.J.K. CORPORATE SERVICES (BELIZE) LIMITED of, Blake Building, Suite 306, Corner of Eyre & Hutson Street, P.O. Box 2670, Belize City, Belize, for the purpose of incorporating an International Business Company under the laws of Belize hereby subscribe our name to these Articles of Association on this **30th June, 2016** in the presence of the undersigned witness .

WITNESS: [redacted]

Shirleen White
Belize City, Belize

SUBSCRIBER: [redacted]

Alva Bensie on behalf of
A.J.K. CORPORATE SERVICES (BELIZE) LIMITED,
Blake Building, Suite 306, Corner of Eyre & Hutson Street,
P.O. Box 2670, Belize City, Belize

Appendix OP.2.1: Correspondence with the CAA regarding timing of EASA certification process

From: Bromley-Fox Kat[redacted]
Sent: 29 April 2019 16:08
To: Jamie
Subject: RE: EASA Certification

Good afternoon Jamie

Thank you for your email.

I have spoken with the Manager, Aerodromes and ATM and can confirm that the CAA would adhere to established policy/practice as you have described below.

With best regards,
Kate

Kate Bromley-Fox
Principal Aerodrome Inspector (Operations)
Aerodromes
Civil Aviation Authority

[redacted]

Civil Aviation Authority

Follow us on Twitter: @UK_CAA

[redacted]

From: Jamie <jamie[redacted]
Sent: 25 April 2019 16:58
To: Bromley-Fox Kate <[redacted]
Subject: RE: EASA Certification

Dear Kate,

Many thanks for your time earlier.

As we discussed, Stone Hill Park Ltd ("SHP") is the landowner of the site of the former Manston Airport in Kent. By way of background, SHP acquired the site after the airport closed in 2014 (following c15 years of commercial failure for successive operators) and is now pursuing plans to transform the site into a new settlement comprising housing, leisure facilities and a heritage aviation quarter, incorporating a retained 1,200m runway.

Our progress has been hindered by attempts by a third party, RiverOak Strategic Partners Ltd ("RSP"), to compulsorily acquire the land as part of a Development Consent Order ("DCO") it is promoting to reopen the site as a commercial cargo airport. Notwithstanding the lack of any evidence to support RSP's plans, the DCO application is in the middle of a 6 month examination phase, which involves the testing and assessment of the merits of the application. We would further note that RSP is owned 90% by an offshore Belize based entity, MIO Investments Ltd, that has anonymous directors and shareholders.

We have long been concerned that discussions between RSP and CAA regarding EASA licence certification requirements have not been presented by RSP in an entirely accurate and complete fashion to the government appointed Examining Authority.

[redacted]

Based on the guidance on the CAA website, it appears clear to us that the CAA will only progress discussions on a licence/certificate if it is satisfied that an Applicant is able to prove that it has control over or access to the land it wants to be licensed/certified as an aerodrome. The guidance further notes that *"the applicant must either be the landowner or have the permission of the landowner to use the site as an aerodrome, with rights to control the aerodrome under the terms of a lease or other operating agreement."*

RSP is neither the owner of the land to which its "project" relates nor does it have permission of the landowner to use the site as an aerodrome. The grant of a DCO, including powers of compulsory acquisition over SHP's land, would not change that situation. It would only be by actually using powers to compulsorily acquire the land that RSP could gain *"control over or access to the land"* in the manner set out in the guidance. This would require a value to be set by the Lands Tribunal, and there would be no certainty that RSP could afford to, or choose to, meet the costs required to acquire the land.

This brings us on to the representations that RSP has made to the examination about the timing of the commencement of the EASA certification process (we note the Statement of Common Ground between the CAA and RSP (copy attached) is silent on this). In its latest Written Summary of Oral Submissions put at a hearing on Need and Operations (https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR020002/TR020002-003786-Need%20and%20Operation%20Hearing%20Summary%20and%20Appendices.pdf), RSP states the following;

> ***"8 Agenda Item 10 - Operations – Aerodrome Certificate***
>
> *8.1 The Applicant explained that they anticipate it would take 2 years for the certification process to be completed. The Applicant stated that it would be an iterative process, and although the formal process had not started, a team was ready to begin immediately. The Applicant explained that the CAA would not allow the Applicant to enter the formal process until the DCO is granted, as the CAA require certainty before commencing the certification process. The same procedure will be followed by Heathrow."*

As we discussed on our call, even if the Secretary of State made the decision to grant the DCO with powers of compulsory acquisition (for the avoidance of doubt we consider there is no credible evidence to support this), RSP would not be in control of the land at that point and there would be no certainty that it would ever be in control of the land. Even if it was successful, it would likely take c. 18 months following an initial decision by the Secretary of State before RSP could be in control of the land – this would cover the period required to get past (or not as the case would likely be) any judicial review proceedings and associated appeals, and a further period beyond that to complete the compulsory acquisition process. Please also be aware that RSP is seeking the right to acquire the land at any time in a 5 year period, which could delay this further.

Therefore, to ensure that the CAA's position is not being misrepresented, we would appreciate if the CAA could confirm whether it has departed from its published guidance and would intend to begin the certification process ahead of RSP being either (i) the landowner (having completed the acquisition of the aerodrome site using powers of compulsory acquisition) or (ii) have the express permission of the landowner. If a decision has been made to depart from the guidance, as the landowner with a vested interest in the site we would be grateful if you could provide the justification for doing so and an explanation of the basis on which the certification process would be progressed.

I apologise for the lengthy nature of this email. Should you require any further information or clarification, please do not hesitate to contact me.

Best regards

Jamie

[redacted]

From: [redacted]
To: Richard Price
Subject: Manston - re email from BDB Pitmans dated 5 April 2019
Date: 17 April 2019 19:01:03

Dear Richard,

Please accept my apologies for writing so soon after my previous email, however we have only just had sight of the email from Angus Walker of BDB Pitmans, which was published on the Planning Inspectorate's website yesterday (16 April 2019).

We trust that the Mr Walker's email will be considered and responded to in a manner consistent with the fundamental values of the Planning Inspectorate and its commitment to openness, transparency and impartiality. We also take comfort from the express commitments provided by the Examining Authority in the Rule 6 and Rule 8 letters dated 11 December 2018 and 18 January 2019, respectively, which both confirm;

> *"The Planning Inspectorate has a commitment to transparency. Therefore all information submitted for this project (if accepted by the Panel) and a record of any advice which has been provided by the Planning Inspectorate, is published at https://infrastructure.planninginspectorate.gov.uk/projects/south-east/manston-airport/"*

Whilst the questions that have been asked of RSP by the Examining Authority support our ongoing trust in the process, we do wish to place on the record our considered view that the nature of this application and Applicant has presented unique challenges for the Examining Authority, Planning Inspectorate and affected parties.

We are now over half way through the examination phase and the Applicant has consistently failed to furnish the examination with the required information in accordance with the Deadlines set by the Examining Authority or the commitments it has given, with the Applicant seemingly either unwilling or unable to provide such information.

As explained in SHP's submissions to the examination, many of the Applicant's answers to questions posed by the Examining Authority are incomplete, lack veracity, evidence and context, or were wholly misleading. Where the Applicant's submissions have been tested through written and oral questions, the contradictions, inconsistencies and lack of credibility of the Applicant's case become clear. Accordingly, we are concerned that the Applicant is seeking to withhold as much information from the examination as it can in order to avoid adequate and fair testing of its application.

The Applicant's willingness to overstate the significance of its evidence, also reinforces the need for transparency. For example, the Applicant's claims about the "PWC letter", which simply confirms that certain levels of funds are held in a bank account that Helix operate on behalf of certain clients, defies logic but also highlights the very real risk that redacted evidence, which cannot be properly tested, could be misrepresented by the Applicant.

Funding and concerns regarding RSP's ability to raise it continues to infect every aspect of this DCO application. This fact was recognised at the outset in the section 51 letter of 14 August

2018. The examination is now over half way through its timetable and no clarity on funding arrangements has been provided that would allow the Examining Authority or other interested parties to begin to test the proposals or form a view on RSP ever being able to raise the necessary development funding. This is despite the Applicant's acknowledgement that its aviation consultant, Azimuth Associates, on whose report the whole need case is predicated, had no relevant air freight forecasting experience and did not consider costs or viability in arriving at her forecasts.

We are increasingly concerned about the volume of public and private time and money that is being expended in the consideration of a DCO examination where it is now apparent that the submissions being provided by RSP are not up to the standard that is required to deliver an efficient and effective examination process. Unfortunately, the email from Mr Walker seems to be preparing the ground for more of the same.

For the reasons we set out above, we believe there could be no justification for deviating from the Examining Authority's previous commitment to openness and transparency and consider that RSP can no longer be given the "benefit of the doubt".

Best regards
Jamie

Jamie Macnamara
Stone Hill Park Limited

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING

OF MANSTON AIRPORT (PINS Reference Number: TR020002)

STONE HILL PARK LTD'S COMMENTS ON THE APPLICANT'S WRITTEN SUMMARY OF ORAL SUBMISSIONS PUT AT THE NEED AND OPERATIONS ISSUE SPECIFIC HEARING HELD ON 21 MARCH 2019

1. BACKGROUND

1.1 The Need and Operations Issue Specific Hearing ("Hearing") was held at 10:00am on 21 March 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2 The Applicant's Written Summary of Oral Submissions ("Applicant's Written Summary") was published on 5 April 2019.

1.3 The purpose of this note is to highlight anomalies, discrepancies and a number of issues of serious concern relating to the information submitted by the Applicant.

2. AGENDA ITEM 4: POLICY

2.1 Despite the length of the Applicants' submissions on planning policy, the relevant position is clear and can be briefly stated. In summary, Manston is not referred to or relied upon in any national aviation policy document and the local planning policy evidence base is clear that an airport is very unlikely to be financially viable in the long term and almost certainly not in the period to 2031.

2.2 The position is as set out in section 3 of SHP's Written Summary of Oral Submissions an extract of which is noted below;

"3.1.1 The Airport's NPS does not have effect for the Manston application, although the NPS is important and relevant to the determination. As paragraph 1.41 of the NPS explains, amongst the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme (at Heathrow) is the most appropriate means of meeting that need.

3.1.2 For both of these reasons (no NPS and the need having been settled), there is no policy presumption that a need exists and the Examining Authority have rightly made the need for the development of Manston a Principal Issue. As paragraph 1.42 of the NPS makes clear, applications for more intensive use of existing runways will be judged on the application's individual merits and it will be for the applicant to demonstrate that a need exists.

3.1.3 The requirement for any such application to be treated on its merits is clearly stated both at paragraph 1.39 of the Airports NPS and at paragraph 1.29 of Making Better Use.

3.1.4 The other relevant consideration that arises from the NPS is the requirement to demonstrate that the scheme is cost-efficient and sustainable, and seeks to minimise costs to airlines, passengers and freight owners over its lifetime (Airports NPS paragraph 4.36). Whilst the NPS does not directly have effect, it is important and relevant and these principles represent no more than the common sense principles of sustainable planning.

3.1.5 Manston is not referred to or relied upon in any national aviation policy document.

3.1.6 The extent to which Manston was considered by the Airports Commission is fully set out in SHP's Written Representations at paragraph 2.21 of the York Aviation Report in Appendix 4 [REP3-025] and in SHP's Comments on RSP's responses to Written Question ND.1.1 [REP4-067]. SHP's comments on the Applicant's response to written question is noted below

> *"The response to this question claims that the Airports Commission did not consider the potential role that Manston might play as a freight airport. In its response to the ExA's questions, the Civil Aviation Authority helpfully provides the submission made by the previous operator of the Airport to the Airports Commission. It is clear here that the proposition submitted by Manston was for a major freight airport (point b) of the submission, which we note was written by the Aviation Strategy and Policy Consultancy now part of Northpoint and one of RSP's current advisers.*
>
> *In the light of this, it is not credible to suggest that the Airports Commission did not consider Manston other than in terms of a role in meeting passenger demand. It is also disingenuous to say that the Airports Commission's Interim Report and shortlisting did not consider freight as benefits to freight users were extensively discussed throughout the Commission's Interim Report (Section 3) and formed part of the consideration of benefits, albeit these could not be specifically quantified (AC Interim Report, para. 3.100). The inclusion of air freight benefits as part of the Commission's Sift criteria is made clear at para. 3.7 of their Guidance Document 02: Long Term Capacity Options: Sift Criteria May 2013. Whilst there may have been further submissions on air freight by TfL on behalf of the Mayor of London (Ramboll/Oxford Economic Report Impacts on the Air Freight Industry, Customers and Associated Businesses 2013) later in the process, it is clear that the Airports Commission gave full consideration to the implications for the air freight sector in its shortlisting process.*
>
> *The proposal that Manston could act as a major freight airport to relieve congestion at the other airports was not followed through/rejected by the Airports Commission, which only mentioned Manston as a possible reliever airport for General Aviation (see our 2019 Update Report para. 2.21). RSP have added reference to passenger capacity in square brackets to quotation from Appendix 2 to the Airports Commission's Interim Report. This is not correct and seeks to mislead the reader. The quotation needs to be read in context of proposition submitted by the operator of Manston which put forward a major freight role."*

3.2 Neither are the Applicants in a position to claim the support of local planning policy. The Thanet Local Plan is currently at examination and paragraph 1.41 of the Local Plan confirms that the Council is not proposing to allocate the airport site for any specific purpose in the draft Local Plan.

3.3 The current draft Local Plan confirms the existing use of the site for aviation (paragraph 1.43) but sets out clearly that the Council's evidence base has concluded that it is very unlikely to be financially viable in the long term and almost certainly not possible in the period to 2031 (paragraph 1.40).

3.4 The existing Thanet Local Plan 2006 is now so out of date that no significant weight could be attached to its policies. In this context, it is relevant to note:

3.4.1 the 2006 Local Plan only sets policies up to 2011 (paragraph 2.62);

3.4.2 the strategies on which the Local Plan is based derived from the now abolished RPG for the South-East and the Regional Economic Strategy 1999 (paragraph 2.19);

3.4.3 at the time the 2006 Local Plan was being prepared the airport had just been taken over by Infratil, leading the Council to express that there is an undoubted market opportunity and that "the Council has every confidence the airport will be successful" (paragraphs 2.47 and 2.61).

3.5 Given the age of the plan and the up to date evidence about viability, no significant weight should attach to the 2006 policies.

3.6 It is relevant to note that Policy EC4 from the 2006 Local Plan did identify the Northern Grass Area for development but specifically for "airside development", which has an operational requirement for direct access to aircraft, and for which such a location is essential. The Applicant's proposals for the Northern Grass are explained in the Planning Statement as a "business park" and were explained at the hearing to relate to uses "beyond the security fence", thereby failing the Local Plan test. "

2.3 Whilst the Airports NPS does not directly have effect, it is important to note that the Applicant's evidence does not demonstrate;

2.3.1 that a need exists for an airport at Manston – indeed the compelling, detailed evidence from York Aviation and Altitude Aviation Advisory demonstrates that there is no need for the Applicant's scheme;

2.3.2 that the Applicant's scheme is cost efficient and sustainable, and seeks to minimise costs to airlines, passengers and freight owners over its lifetime – again the evidence contained in the York Aviation and Altitude Aviation reports submitted by SHP demonstrates the opposite and the Applicant's own evidence shows that airlines and freight owners would be charged costs materially ahead of other airports.

3. AGENDA ITEM 5: FORECASTS AND FREIGHT TYPES / PATTERNS

3.1 SHP has made a number of detailed written and oral submissions to the examination, supported by detailed evidenced backed reports prepared by its highly regarded and experienced aviation advisers. The evidence submitted by SHP contrasts sharply with the unevidenced assertions submitted by the Applicant.

3.2 The purpose of the comments below is not therefore to repeat SHP's evidence (which has not been refuted by the Applicant), but to highlight some of the clear anomalies, discrepancies and misleading statements in the written summary provided by the Applicant.

3.3 Should the Examining Authority have any queries on the evidence submitted by SHP and its aviation advisers, SHP is ready to assist and provide further information / supporting evidence as required.

3.4 **Paragraph 3.1:** The Applicant has provided its summary of projected average freight loads that were used in the Azimuth report at Appendix 1 to its written summary. In paragraph 3 of the Appendix 1, Azimuth explain the projected freight loads for its E-commerce integrators as follows;

> *"3. E-commerce integrator aircraft types were assumed to be Code D initially swapping to Code E as volumes build. Feeder aircraft are modelled as Code C.* ***For e-commerce integrator movements, tonnage was calculated as 100% outbound (being 65% of maximum payload) with a return (import) calculation of 20% included in Years 2 and 3, rising by an additional 5% every two years [emphasis added].*** *Integrator feeders were assumed to carry 100% inbound traffic with 10% return loads added to Year 5, 15% to Year 9, and 20% thereafter." [emphasis added]*

3.4.1 As explained in paragraphs 35-38 of Appendix NOPS.5.2 (Altitude Aviation) of SHP's Written Summary of Oral Submissions, the "integrator movements assumed in the Azimuth report are in no way compatible with an import-based e-commerce airline model." The Applicant explained at considerable length in the hearing the view that this new E-commerce integrator model will require freight to be imported into the UK to stock fulfilment centres to then supply consumers based in the South-East. However, Azimuth's explanation (as noted above and set out in its report) confirms that the Azimuth forecasts assume the opposite i.e. tonnage on integrator flights is forecast to be 100% outbound with a return calculation of 20%, more akin to traditional integrator operations.

3.4.2 This is a wholly contradictory and illogical position and would suggest a serious material error in the split of import and exports assessed and further materially undermines the credibility of the "forecasts". It is also incredible that, even in the course of preparing the Appendix 1 note, neither the Applicant nor Azimuth appears to understand the fundamental contradiction with the information being submitted to the examination. This displays a gross lack of understanding.

3.5 **Paragraph 3.2:** We would refer the Examining Authority to paragraphs 4.18 and 4.19 of SHP's Written Summary of Oral Submissions put at the Need and Operations

Hearing, which explains the anomalies and discrepancies regarding the type of aircraft that the Applicant claims would be used. For example, it is claimed that ATR-72 turbo-prop aircraft would account for around 25% of all freighter aircraft movements and be linked to integrator flights, despite the future "new" integrators not operating these aircraft types. This erroneous fleet mix will have material knock on effects on the Applicant's noise and environmental assessments that have not been fully considered.

3.6 **Paragraphs 3.5 to 3.7:** The Applicant seeks to give credibility to its own forecasts for cargo movements at Manston by claiming that the recently submitted Northpoint Report uses top down forecasting techniques and Azimuth uses bottom up forecasting techniques, going onto dismiss the York Aviation forecasts as being based erroneously on the extrapolation of past trends. This is simply not correct.

3.6.1 The flaws in the bottom up approach adopted by Azimuth and the resultant lack of realism have been explained in detail in the York Aviation November 2017 and February 2019 Reports attached as Appendix 4 to SHP's Written Representations [REP3-025]. The more recent attempt by the Applicant to justify these forecasts after the event by Northpoint is also flawed, as set out at length in paragraphs 28-38 of the York Aviation Supplementary Note appended as Appendix NOPS.5.1 to SHP's Written Summary of Oral Submissions to the Need and Operations hearing [Reference to be allocated].

3.6.2 In practice, both Northpoint and York Aviation have adopted a form of top down approach, examining the growth in demand for air cargo services based on a relationship to GDP, which the base case produces virtually identical forecasts of underlying cargo tonnage in future. Once again, the Applicant appears not to recognise the approach adopted by its own consultant when it seeks to dismiss a GDP multiplier based approach at para 3.7 *"For example, York Aviation appear to have looked at the past relationship between GDP and growth in freight traffic and assumed that the relationship will remain constant into the future. The Applicant considers this to be a wholly unsuitable approach"*. In essence, the Applicant is rejecting the approach adopted by Northpoint, which relied on an historic GDP relationship, albeit relying erroneously on growth back to 1990 to justify a higher GDP multiplier adopted in its high case projections.

3.6.3 From this point on, the approaches adopted by Northpoint and York Aviation diverge. Northpoint uses a simple spreadsheet deterministic approach, with a hard coded assumption of clawback of trucked freight set out its scenarios of potential tonnage at Manston. As explained in York Aviation's Supplementary Note referred to above (at paragraph 28), having identified the factors that should be taken into account in a top down model to determine which airports would be used to meet that demand, the Northpoint 'model' does not take any of these into account. It is not a top down model in any proper sense of the expression. In contrast, York Aviation used a top down allocation model based on that derived for the Freight Transport Association (upon which RSP otherwise seek to rely) to examine the likelihood of Manston being able to attract a share of that demand in a competitive market.

3.7 **Paragraph 3.6:** The Applicant claims in paragraph 3.6.3 that the bottom up approach to forecasting adopted by Azimuth Associates is *"more commercially focussed"* yet Dr Dixon accepted at the hearing that no regard was paid to viability or costs in preparing the forecasts and she had no relevant experience of air freight forecasting. Therefore, it is simply wrong to suggest that the Azimuth approach is more commercially focussed. In absence of any assessment of viability or any consideration of switching costs and the relative competitiveness of the charges to be levied at Manston, the so-called 'forecasts' can have no validity as they neither reflect market realities or the Applicant's need to charge airlines and freight forwarders materially higher costs than competitor airports currently charge.

3.7.1 The York Aviation and Altitude Aviation Advisory Reports submitted as appendices 4 and 5 to SHP's Written Representations [REP3-025] provide detailed critiques of the Azimuth forecasting methodology. The evidence showing the flaws in the Azimuth approach is so extensive that it cannot be summarised briefly. We would therefore request that the Examining Authority consider the relevant evidence contained primarily in section 3 of York Aviation's 2019 report, Section 2 of York Aviation's 2017 Report and section 8 (specifically 8.5) of the Altitude Aviation Advisory 2018 Report.

3.8 **Paragraph 3.8:** The Applicant continues to make assertions (e.g. regarding British Airways decision not to use Manston), that are not supported by any evidence that is before the examination.

3.9 **Paragraph 3.9:** Here, the Applicant quotes from the Inspector's Report into the London Ashford Airport Inquiry. The quote is not actually taken from Louise Congdon's evidence but is the Inspector's summary of the gist of the applicant's case. At the outset, it is important to note that this Inquiry took place in 2011, soon after the Government had cancelled its support (as expressed in the 2003 Future of Air Transport White Paper) for the provision of any additional runway capacity serving London. Hence, any remarks regarding the role of spill in terms of the use of airports such as Lydd and Manston need to be seen in the context of a very different landscape in terms of the potential shortage of airport capacity serving London.

3.9.1 The point actually being made by Louise Congdon in evidence was that Manston has a substantially smaller catchment area than Lydd and so would be more dependent on spill if it was to achieve its then Master Plan forecasts**.** The evidence also related solely to passenger flying as cargo was not an issue at the Lydd Inquiry:

"4.16 ……..In terms of the scale of its local catchment area, Manston is more dependent on spill from the congested London airports to achieve its Master Plan growth projections.

4.17 The fact that Manston has historically struggled to sustain commercial air services does not provide a proper indication as to LAA's ability to support viable operations to the identified destinations in future, not least as conditions of congestion at the main London airports have not yet reached the critical levels overall, as opposed to at Heathrow, which would have led to airlines seeking alternative airports from which to serve the London market. In this, I differentiate clawing back local demand which

currently uses the London airports, as I expect to happen at LAA, from depending on London based demand spilling to other airports."[1].

3.9.2 When properly read, the evidence being given at the Lydd Inquiry was that Manston could only succeed if the conditions existed for there to be a substantial spill of traffic from a congested London system, in contrast to Lydd which had a sufficient catchment area for there to be a prospect of clawing back local demand. As has been set out clearly in the York Aviation and Altitude Aviation reports, the circumstance of excess demand for pure freighter services across the London airports simply will not arise given capacity and facility developments at the other airports, including Heathrow. The references to the evidence at the Lydd Inquiry do not support the Applicant's case.

3.10 **Paragraph 3.10**: The Applicant has submitted a 51 page academic study concerning Qantas Freighter operations at Appendix 2 to its Written Summary of Oral Submissions without any real context or explanation as to how it supports its case.

3.10.1 From a review of the study, we are surprised that the Applicant considers it is helpful to its case. As is common throughout the Azimuth Report, the Applicant appears to have selectively latched on to a couple of paragraphs that it asserts supports its arguments, yet completely ignores the wider context of the study.

3.10.2 The wider context of the study and its findings demonstrate the dominance of bellyhold and the weakness of the Applicant's arguments (please note that the dominance of bellyhold is also evidenced in the Australian Government report attached as Appendix A, and referred to in our comments on paragraph 13.3 below).

3.10.3 A closer review of the Qantas study would highlight both the very limited number of dedicated freighter flights operated by Qantas Freight and the concentrated focus on a few key trade lanes that are not well served by passenger flights (with bellyhold freight capacity). For example, the key dedicated freighter routes include North America, where Qantas has very limited passenger flight connectivity.

3.10.4 This is in contrast to London Heathrow, which has huge connectivity to North America, from which the UK derives significant advantages. This passenger flight connectivity at London Heathrow serves to reduce the need for dedicated freighters to operate between the UK and North America (and similarly other global gateway cities). As noted in our comments on paragraph 3.18 of the Applicant's submissions, the strength of London Heathrow's bellyhold route network is such that "*goods destined for North America are also often trucked to the UK, in particular Heathrow, from continental Europe in order to take advantage of cheaper rates from the UK on North American routes"* (Paragraph 2.25 of the Steer Report 2018).

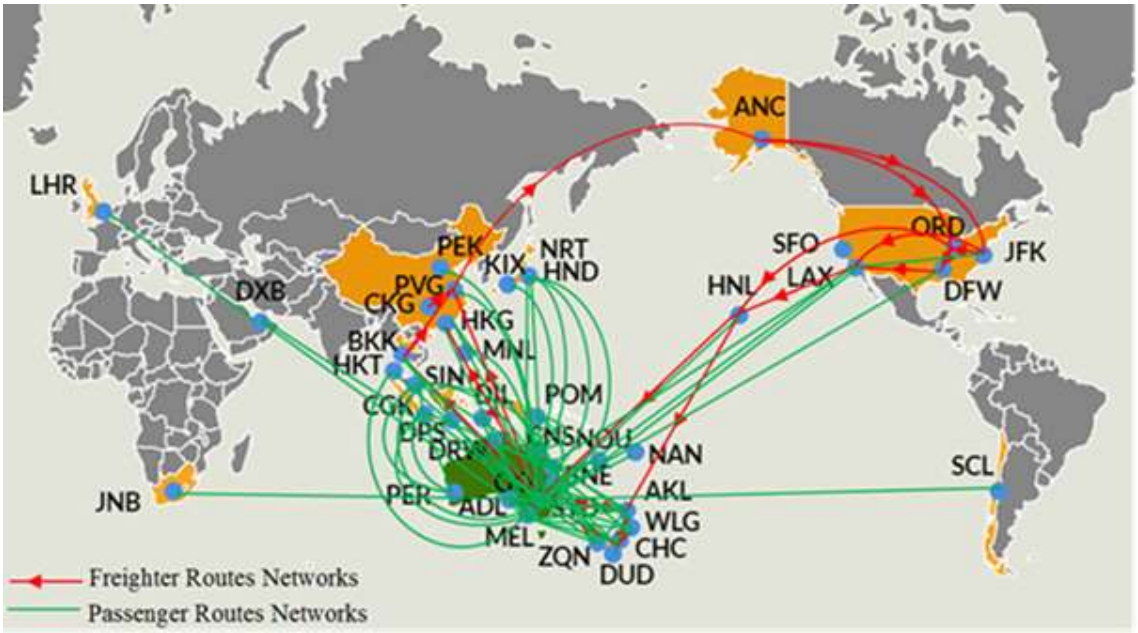
3.10.5 Section 4.3 through to the conclusion in section 5 of the Qantas study explains that Qantas **only operated 3 dedicated freighters on international**

[1] Socio-economic Rebuttal Proof, paras. 4.16-4.17.

routes, flying a total of 6 routes. The study explains that Qantas's two Boeing 767-400 aircraft fly a total of 4 weekly routes taking in Asia and the US before returning to Australia, whilst the single Boeing 767-300 aircraft flies 5 weekly rotations to New Zealand airports and a further single rotation to Hong Kong. Despite the geographic remoteness of Australia and less developed international bellyhold network, the study shows there is a total of only 20 Qantas international cargo ATMs per week at Australian airports (equivalent to c.1,000 cargo ATMs per annum), half of which are to/from New Zealand.

3.10.6 It is important to note that a single flight route can take in 8 different airports. For example, Route 1 starts in Sydney on a Monday and flies the following route: Sydney / Chongqing / Pudong International Air-port (Shanghai) / Anchorage / O'Hare International Air-port (Chicago) / Dallas FortWorth / Los Angeles /Honolulu before returning to Sydney on the Friday. These 8 individual flight legs comprise 16 ATMs per week (each flight = 2 ATMs i.e. one landing plus one take-off), however, **only 2 (12.5%) of the ATMs** are in Australian airports. The size of the market is extremely small in ATM terms, and as noted in Table 14, this is because Qantas Freight's dedicated freighter services are concentrated on key trade lanes.

3.10.7 We note below an extract of Figure 15 from the Appendix 2 which shows Qantas International passenger and dedicated freighter route networks (during the 2017/2018 northern winter flight schedule period). This demonstrates the lack of freighter services, but also the lack of passenger aircraft (bellyhold freight) connectivity from Australian airports to North America.



3.11 **Paragraph 3.11:** It is inexplicable that the Applicant does not yet have an understanding of the relative costs associated with different air freight modes. At the hearing, Azimuth accepted that it had no regard to costs or viability in preparing its forecasts, and it now appears clear that the Applicant's "business plan" was not informed by the required research or analysis to support its assessment of the scale

of the market which might actually be available to Manston and the realism of its revenue projections. The only conclusions that can be reached are that either the Applicant is aware that its revenue projections are completely unrealistic, including its claim at Appendix 6 (paragraph 1.3) that it would be a "price setter" in the market, and cannot be substantiated, or it really does not have an understanding of the relative costs of using bellyhold freight capacity or dedicated freighters. This lack of understanding further reinforces the expressed concern over the validity of the Applicant's business model. If the Applicant had a credible position that could be substantiated, it would have been able to attempt an explanation to the Examining Authority at the hearing.

3.12 **Paragraph 3.12:** It is unclear what case the Applicant is trying to make. Firstly, it is a generally accepted fact that shippers will seek to use the most effective route for shipping air freight, which means that belly hold is preferred to dedicated freighters where capacity is available.

3.12.1 As SHP's aviation adviser, York Aviation, explained in detail in SHP's comments on the Applicant's response to written question ND.1.6 [see REP4-067], the context for the greater number of dedicated freighter aircraft operated to Amsterdam, Paris and Frankfurt airports is easily explained by the difference in bellyhold capacity offered for sale to non-European points at each of these airports. As supporting evidence, York Aviation provided the following information on the tonnage capacity offered in the bellyhold of departing passenger aircraft in the week beginning 4th March 2019 (based on the Official Airline Guide database (OAG)):

- Heathrow - 41,275 tonnes
- Paris - 25,382 tonnes
- Amsterdam - 20,707 tonnes
- Frankfurt - 17,122 tonnes

3.12.2 The relative share of freight carried in dedicated freighter aircraft is in inverse proportion to the amount of bellyhold capacity available at each of the airports.

3.13 **Paragraph 3.13:** The Applicant has provided a simplistic answer that is not supported by the evidence.

3.13.1 Throughout SHP's submissions, detailed evidence has been submitted to the examination from SHP's highly experienced aviation consultants, which explains the rational reasons behind both the dominance of bellyhold freight in the UK and the important role trucking plays in the air freight market. For example, paragraphs 18-21 of Appendix NOPS.5.1 to SHP's Written Summary of Oral Submissions to the Need and Operations hearing provides a summary explanation on trucking of air freight between the UK and Europe, why these truck movements would not be divertible and the commercial reasons why trucking is common place and an integral part of the general and integrator sectors, rather than something to be remedied with freighter aircraft. This builds on the detailed analysis provided in paragraphs 4.7-4.15 of the York Aviation 2019 report and throughout the

Altitude Aviation 2019 report attached as Appendix 4 and Appendix 5 to SHP's Written Representations [REP3-025].

3.13.2 The level of detailed analysis (supported by evidence) provided by SHP's advisers continues to contrast sharply with the highly simplistic arguments from the Applicant that trucking is a consequence of capacity constraints and which ignores the commercial realities that freight will seek the most cost-effective solution. This was illustrated by the Applicant's inability to provide a coherent answer/explanation during the hearing on Need and Operations when questioned by the Examining Authority on the logistics/economics of transporting racehorses and seafood by air – SHP has sought to provide more clarity that addresses that point in its response to Question ND.2.5.

3.13.3 It is evident that Azimuth Associates, which accepted it has no relevant experience of air cargo forecasting, has fundamentally misunderstood the market. Apart from the mis-reliance on the York Aviation reports, trucking is the principal explanation for the Applicant's 'need' case. However, had Azimuth or the Applicant given any consideration to the relative price of dedicated freighter operations v. bellyhold for the shipper, the critical role of trucking of air freight would have been apparent to them. In absence of this, or any consideration of switching costs and the charges to be levied at Manston, the so-called 'forecasts' can have no validity as they do not reflect market realities.

3.13.4 Building on the Australian theme (the Applicant's flawed reliance on the Qantas study) we attach as Appendix A the Australian Government's recent Air Freight paper published as part of the Inquiry Into National Freight and Supply Chain Priorities, which we consider provides useful context.

3.13.5 Published in March 2018, the paper acknowledges that the air freight market in Australia, like the UK, is primarily a belly hold market supported by "some dedicated freighters". Tellingly the inquiry considered the potential to establish regional air cargo hubs in the North of Australia and we note below relevant extracts of the report.

"*Some stakeholders are optimistic that future investment could support 'air freight hubs' in regional Australia, although the business cases for such proposals are challenged by a range of factors. Infrastructure Australia's Northern Australia Audit (January 2014) explored some of these issues in the context of Northern Australia, although its findings may have broader relevance:*

> *"Anecdotally, substantial volumes of fruit and vegetables are trucked to Brisbane, Adelaide and Melbourne, taking advantage of competitive trucking back haul rates, for subsequent air freighting to Southeast Asia (together with domestic capital city use). A combination of factors—a substantial domestic market in the southern capitals, a highly efficient road freight sector (with refrigerated capability), low international air freight rates from airports in southern capitals, due to wide-body passenger aircraft use that northern air markets could not sustain—appear likely to*

preclude development of northern air freight capacity for the foreseeable future".

3.13.6 It must be remembered that these products are being trucked South only to be flown back North to Asian markets in bellyhold. There is plenty of runway capacity in Northern Australia that could facilitate direct air freighter routes to markets, yet the chosen, most efficient option is to truck for 1,000s of km to benefit from low cost bellyhold capacity. This, like the UK, is a choice driven by economics not by lack of air freight infrastructure capacity.

3.14 **Paragraph 3.14:** The Applicant makes reference to the York Aviation Report of 2015 and the Steer Report of October 2018 appended as Appendix ND.1.7 and Appendix ND.1.13, respectively to the Applicant's first written questions [REP3-187]. In addition to the information commenting on paragraph 3.13 above, we would respectfully refer the Examining Authority to SHP's comments on the Applicant's responses to written questions [REP4-067] and related appendix [REP4-065], with regard to questions ND.1.7 and ND.1.13, to demonstrate the incoherence of the Applicant's position.

3.15 **Paragraph 3.15 – 3.17:** We would refer the Examining Authority to paragraph 4.5 of SHP's Written Summary of Oral Submission put at the Need and Operations, together with the detailed submission in paragraphs 2-17 of the Appendix NOPS.5.1, which provides a correct interpretation of York Aviation's work for the FTA and TfL. An extract of paragraph 4.5 is shown below;

"4.5 York Aviation expressed its frustration and irritation that the Applicant continues to rely erroneously on its work for TfL and the FTA. As explained in York Aviation's report appended to SHP's Comments on the Applicants responses to Written Questions, York Aviation had made Dr Dixon of Azimuth Associates fully aware of the misinterpretation of this work in 2017 (see comments on ND.1.7 and correspondence attached at Appendix B to that submission). In view of the continued misrepresentation of the York Aviation work and selective quoting of that work during the hearing, paragraphs 2-17 of Appendix NOPS.5.1 provides a correct interpretation of York Aviation's work for the FTA and TfL."

3.16 **Paragraph 3.18:** Again, the Applicant is highly selective in its quotes from the Steer Report and demonstrates a lack of understanding of the market realities of air freight. The Applicant refers to the Steer Report of 2018, yet fails to bring to the Examining Authority's attention a number of points that contradict its position as referred to throughout the York Aviation 2019 Report attached as Appendix 4 to Written Representations [REP3-025]. For example, it ignores the fact that "*goods destined for North America are also often trucked to the UK, in particular Heathrow, from continental Europe in order to take advantage of cheaper rates from the UK on North American routes. As Heathrow is the primary European hub for North American passenger connections, there is a significant level of bellyhold capacity available, which means air freight rates are cheaper compared to other European airports." [Paragraph 2.25 of the Steer Report 2018).*

3.17 **Paragraph 3.19:** The Applicant again fails to provide any evidence to support its assertions about the future of air freight in the UK. Instead, the Examining Authority

is asked to place its complete trust in an Applicant with no experience, that has a need case and forecast prepared by someone without any relevant experience or expertise, that is claiming its airport would be price setter charging rates far in excess of competitor airports, yet at the same time would be reliant on attracting a new e-commerce integrator that doesn't currently operate flights to the UK for c.50% of its cargo flights.

3.17.1 In any event, to the extent that there is emerging evidence that there is a role for a number of specialist air freight airports, it is clear that centrally located East Midlands Airport fulfils that role for the UK, which is geographically too small to justify more than one air freight hub.

3.18 **Paragraph 3.20:** The Applicant's claims regarding a digitalised state of the art facility contradicts its other claims regarding employment, for example in the Applicant's response to first written question SE.1.3 [REP3-195]. We note that the Examining Authority has raised a further question on this subject in its 2nd written questions (ND.2.5). We also note that the Applicant has provided no evidence to the examination to support its assertion that *"[T]he offer at Manston will be extremely attractive to the market."* The Applicant's summary "business plan" suggests that operating out of Manston would be significantly more expensive that using other airports in the UK so it is hard to see how, in a market that is fundamentally focused on getting goods from A-B at the lowest possible cost such a premium price air freight service on the periphery of a well-served market could ever be *"extremely attractive to the market".*

3.19 **Paragraph 3.21:** The Applicant makes a number of references to airports that it claims would be comparable to a reopened Manston. In keeping with its previous "evidence", the information is incomplete and gives a highly misleading impression to the reader.

3.19.1 Firstly, we take the example given of Rockford International Airport in the US and set out some real facts on this airport that the Applicant either is not aware of, or has elected not to share with the Examining Authority. These facts clearly undermines the Applicant's arguments. This factual information is contained in the Greater Rockford Airport Authority's 2018 Annual Financial Report attached as Appendix B, sections of which are referenced below;

3.19.2 The airport is publically owned by the Greater Rockford Airport Authority, and is heavily subsidised;

3.19.3 The Schedule of Staffing (see page 47 of the annual report) shows Rockford International airport employed 41 members of staff at the end of financial year to April 2018. This included the 7 members of the Board of Commissioners;

3.19.4 Whilst air freight increased significantly in the last financial year this is principally as a result of UPS transferring (i.e. displacing) operations from Des Moines airport, consisting of 13 daily flights to Rockford International Airport, in July 2017 (see page III of the Introductory section) – it is noted that press articles also reference growth resulting from some Amazon related flights;

3.19.5 In the year to 30 April 2018, the airport handled a total of 526 million pounds (lbs) of air freight (see page 48). This is equivalent to c.238,710 tonnes, a level of freight throughput that the Applicant is forecasting to reach in Year 13 (2034). Rockford also had c.225,000 passengers through the airport based on published news articles (please note that the 2018 annual financial report only gives figures for passengers leaving the airport of 114,881 passenger enplanements - numbers are not available for arrivals);

3.19.6 Despite the significant level of freight throughput, page 13 of the annual financial report shows;

(a) the airport generated Airport Fees (includes landing fees, fuel margin and rental car commission) of $4.331m (equivalent to £3.357m), $1.913m in property lease revenue and $0.887m in other revenue, giving total revenues of $7.131m (£5.527m).

(b) The airport's operating expenses (excluding depreciation) totalled $8.849m with depreciation of a further $12.009m resulting in a loss of $13.727m (£10.641m). This financial performance is comparable with prior years.

(c) The airport is subsidised by local and federal authorities, and in the financial year 2018, received a capital contribution of $10.188m (£7.898m), up from $7.744m (£6.003m) in 2017.

3.19.7 The annual financial report does not set out fees generated from passenger operations, although it does separate out rental car commissions of $203,659 (page 38). Therefore, even if we were to assume that the airport generated nil revenue from passenger flights, the disparity between the performance of Rockford in 2018 versus the aeronautical revenue forecast by the Applicant in its first year of operations (Year 2) is extremely stark.

(a) Rockford achieved aeronautical revenue of $4.128 million (£3.178 million equivalent) on 238,710 tonnes of freight and 225,000 passengers. Even assuming nil passenger revenues and excluding the passenger work load units ("WLU"), this works out at £1.32 per WLU – each WLU equates to 100kg of freight. If passenger WLUs are included and the rental car commissions added back, revenues reduce further to £1.27 per WLU.

(b) In its summary "business plan" attached at Appendix F.1.5 to its written questions [REP3-187], the Applicant claims it would generate £16.682million of aeronautical revenue in its first year of operations, from 96,553 tonnes of air freight. This works out at £17.27 per WLU (more than 12x the level achieved at Rockford).

(c) Comparative information is summarised in tabular format below - revenues in USD have been converted to Sterling (at the current exchange rate of $1.29:£1) and imperial weights (lbs) have been converted to UK tonnes. Whilst the Applicant has sought to showcase the increased freight going through Rockford to support

its case, it is not surprising to us that it has elected not to share information on Rockford's financial performance with the Examining Authority.

	Rockford International Airport 2018	**Riveroak Strategic Partners Manston – Yr 2**	**Variance %**
Aeronautical Revenue	£3.357m	£16.682m	**497%**
Freight Tonnage	238,710	96,553	40%
Work Load Units ("WLU")	2,387,100	965,530	40%
Revenue per WLU	£1.40	£17.27	1,234%

3.19.8 Secondly, the Applicant also references Liege and claims its geographic advantages are similar to Manston, being 60 miles from Brussels.

3.19.9 It is true that Liege Airport is close to Brussels. It is also close to Antwerp, Rotterdam, Cologne, Bonn Luxembourg, Dortmund and Dusseldorf. It is also **not** surrounded on three sides by sea, further demonstrating that the comparison to Liege is wholly inappropriate. As paragraph 3.21 of the Steer Report 2018 states *"[M]any of the largest freight airports in the EU are concentrated in North-West Europe, which is relatively well off and densely populated (therefore generates demand for imports), and is the home of a lot of European industry (therefore produces a large amount of goods for export)."*

3.19.10 We are left in a position whereby the Applicant is refusing to provide any evidence or detail to support its unrealistic revenue assertions, yet it provides highly selective information of the sort provided on Rockford International Airport in an attempt to bolster its case, without demonstrating any understanding of the underlying financial performance of these "comparator" airports and the market realities they face.

3.19.11 In light of the quality of the "evidence" submitted by the Applicant, it is not unfair to remind the Examining Authority that the need case and forecasts were prepared by someone without any relevant experience (who had no regard to costs or viability in preparing the forecasts) and the Applicant (and its directors) have no experience of airport development. It is also revealing that the Applicant has elected not to submit any information to the examination on the track record of Anthony Freudmann, the only RSP director that has any experience of airport operations. We do note that a number of other parties have submitted evidence to the examination and, as far as we are aware, this remains unchallenged by the Applicant. SHP continues to be frustrated that it is having to expend significant time and resource explaining the serious deficiencies and contradictions in the information the Applicant has submitted to this examination.

3.20 **Paragraph 3.22:** The Applicant continues to make enormous assumptions about how the market will evolve without providing any evidence that it will actually do so. The Applicant is effectively asking the Examining Authority to take a leap of faith and trust its assertions about the future with no evidence. However, as set out above, and in SHP's previous submissions, the Applicant's submissions on need, aviation forecasts and its "business plan" have been shown to be deeply flawed and demonstrates a fundamental lack of understanding of the market.

3.20.1 The Applicant has assumed that c.50% of its cargo ATMs will be from a new e-commerce integrator, despite this being an unproven market (the lack of supporting commentary/evidence in the Azimuth Report is highly concerning), but one that would be aggressively targeted by other airports that could offer materially lower charges than a reopened Manston.

3.20.2 In the absence of any evidence provided by the Applicant, it appears SHP, and the Examining Authority, are being led to believe that Amazon and Alibaba are putting their UK distribution strategies on hold pending the opening of a new Manston airport. A project that is being managed by promoters with no relevant experience and no funding behind them.

3.20.3 We are also expected to believe that Amazon and Alibaba, who are well known to be hard-nosed cost focussed operators, would be attracted to an airport that aims to be a price setter and aims to command a significant premium to other airports in the UK. As this is simply not credible, we are not surprised that the Applicant continues to refuse to provide any detail on its business plan, or any evidence that is capable of being adequately and fairly tested.

3.20.4 With regard to the Applicant's statements that flights would primarily be for Business-to-consumer operations and used to stock fulfilment centres, we would refer the Examining Authority to our comments on paragraph 3.1 above where we explain the fundamental errors in the Applicant's import and export freight forecasts.

3.20.5 With regard to the Applicant's claims that this new e-commerce integrator model would not require night flights, we refer the Examining Authority to paragraphs 4.13–4.17 of SHP's written summary of oral submissions put at the Need and Operations hearing for a detailed rebuttal (with supporting evidence) of the Applicant's assertions.

4. AGENDA ITEM 6 – EXISTING AND FUTURE CAPACITY CONSTRAINTS IN THE SOUTH EAST AND WIDER UK AIRPORTS

4.1 **Paragraph 4.2:** the claim that most airlines *"view freight merely as useful additional income"* is wholly misleading. As can be seen from the high number of recent airline failures, aviation is a very competitive business and the ability to secure marginal revenues at limited additional costs from bellyhold freight is a critical component of an airlines business model, particularly those that fly longer routes (the very part of the market that the Applicant is claiming to target based on the statements in Volume III of the Azimuth Report). In practice, the ability to carry bellyhold freight is

fundamental to the viability of most long haul scheduled passenger operations and not simply a marginal source of revenue.

4.2 **Paragraph 4.3:** the note on Doncaster Sheffield attached as Appendix 3 simply confirmed what SHP's advisers said at the hearing was accurate (see paragraph 5.7 of SHP's Written Summary or Oral Submissions), i.e. that the CAA statistics shows cargo ATMs fell to 147 in 2018 from 340 in 2017 despite the airport heavily marketing itself as a specialist freight airport. As Mr Cain accepts, freight tonnage also fell in 2018, whilst average tonnage per ATM increased to 47.8 tonnes, materially ahead of the tonnages in Azimuth's forecasts (which would suggest the number of ATMs is overstated).

4.3 **Paragraph 4.4:** unlike the detailed, evidence backed reports prepared by York Aviation and Altitude Aviation, neither Northpoint or Azimuth has provide any real analysis of UK airport freight capacity and how this is expected to change over time. The SHP evidence is primarily set out in appendices 4 and 5 to SHP's Written Representations [REP3-025], with the detailed capacity analysis explained in the initial 2017/2018 reports with updating commentary in the 2019 reports.

4.4 **Paragraph 4.5:** SHP's Written Summary of Oral Submissions to the Need and Operations hearing explained the position on Stansted in detail in paragraphs 5.4-5.6. In particular, paragraph 5.4 makes reference to SHP's detailed comments (prepared by York Aviation) on the Applicant's response to Written Questions ND.1.13 and ND.1.18 [REP4-067], which provides evidence to refute the Applicant's assertions regarding Stansted.

4.4.1 Appendix 4 to the Applicant's Summary of Oral Evidence again shows a lack of understanding of the current demand and capacity position at Stansted and makes unsubstantiated assertions about passenger flights crowding out freighter operations leading to a reduction in the number of freighters being operated. There is simply no evidence for this as made clear in York Aviation's comments on the previous written answers from the Applicant.

4.4.2 As to whether Stansted is reaching the cusp of 75% utilisation of available capacity such that congestion and delays would deter further growth, it is important to take into account that the limit of 274,000 annual air transport movements is a planning cap rather than an assessed limit of capacity and so may not be the relevant consideration. Examination of the extent to which available slot capacity is taken up on an hourly basis (see York Aviation commentary on ND.1.13 referred to above) would suggest the physical limit is quite some way from being reached.

4.4.3 We note that the CAA Airport Statistics show no freight on passenger aircraft at Stansted in 2018, despite Emirates advertising the availability of 20 tonnes per movement on its daily service which started in June 2018, increasing to double daily in July 20192. It does not seem plausible that Emirates, with its well established 'Skycargo' brand, did not carry any bellyhold freight at all on its passenger service to/from Stansted. SHP believes that this is an error in the CAA statistics and has made inquiries of the CAA, who have confirmed that there appear to be discrepancies in the

[2] https://mediacentre.stanstedairport.com/emirates-to-launch-second-daily-flight-to-london-stansted/

published statistics. SHP will provide further information in relation to Stansted freight when the CAA confirms the correct position.

4.4.4 The Emirates service provided capacity for over 8,000 tonnes of freight in 2018, which is relatively small in relation to overall cargo tonnage at Stansted of over 225,000 tonnes. Nonetheless, the Emirates service alone will provide annual capacity for 14,600 tonnes of bellyhold freight on a double daily basis – around ¼ of the target bellyhold uplift cited in Stansted's 2015 Sustainable Development Plan3. Although other long haul services operated in 2018, other than charter services, which tend not to carry freight, the three routes cited by Northpoint for the Applicant to New York, Washington and Toronto were all operated by the short lived low cost long haul airline Primera, which ceased operating in October 2018. It is unsurprising that no freight was recorded on these services. Given the growth of the Emirates service and the reasonable expectation that additional long haul services will be attracted to Stansted, the achievement of 60,000 tonnes of bellyhold freight at Stansted does not seem unreasonable.

4.4.5 SHP maintains that the evidence supports the position that there will be material growth in freight capacity at Stansted over the next decade or more such that, in combination with Heathrow and East Midlands, there would be simply no need for demand to be displaced to Manston.

4.5 **Paragraph 4.6:** the Applicant states that "[A]s requested by the ExA, the Applicant provided a note explaining its business model" at Appendix 6.

4.5.1 We would note that the Examining Authority explained in the hearing that they only had a spreadsheet without any detail and requested a more comprehensive business model by Deadline 5. Despite the Applicant's commitment to do so, it has not answered the Examining Authority's question and instead, has provided a very high level "Janet and John" style explanation of the constituent parts that make up an airport's revenue and cost lines.

4.5.2 We are now nearly 4 months into the examination and there is still no information about the Applicant's actual business plan that can be properly assessed or tested by the Examining Authority. In its previous submissions, SHP provided a detailed explanation by Altitude Aviation Advisory of the scope and detail of information that would be required in a Business Plan.

4.5.3 The only comment of note in the Appendix 6 is the Applicant's assertion in paragraph 1.3 that Manston would be *"a price-setter rather than a taker".* This is at least an acknowledgement from the Applicant that its revenue assumptions are above what airports actually achieve in the real world.

4.5.4 SHP has submitted detailed evidence to the examination that demonstrates Manston would not be viable even if its wholly unrealistic ATM and freight forecasts were to be achieved. We would refer the Examining Authority to the 2019 reports prepared by York Aviation and Altitude Aviation Advisory attached as appendices 4 and 5 to SHP's Written Representations [REP3-

[3] Land use volume, page 26.

025] and Section 6 (and Appendix CA.10.1) to SHP's Written Summary of Oral Submissions to the Compulsory Acquisition, which further explains the lack of credibility of the Applicant's revenue assumptions that were first provided in the Applicant's Deadline 3 submissions.

4.5.5 We would further highlight that the evidence of Rockford International Airport as a comparator airport (see comments on paragraph 3.21 above) demonstrates that revenues generated from the Applicant's target market are highly likely to be significantly below revenues per WLU from traditional freighter business. As set out above, the Applicant is forecasting aeronautical revenues that are >12x the level achieved by Rockford International Airport. This further demonstrates that the Applicant's assertion that Manston would be a *"price setter rather than a taker",* which would be able to achieve massive premiums over other UK airports, is patently not credible.

5. AGENDA ITEM 9: OPERATIONS – SCALE AND CAPACITY

5.1 **Paragraphs 7.1 – 7.4:** The Applicant has provided a completely inadequate explanation of the Applicant's case in relation to scale and capacity. It is also wholly inadequate in relation to both principal development and associated development. A summary of SHP's submissions is set out in paragraphs 57-74 of Appendix NOPS.5.1 to SHP's Written Summary of Oral Submissions put at the Need and Operations Hearing.

5.1.1 There is little over two month's remaining in the examination phase and the Applicant is yet to provide the examination with the explanation and justification of the Works that form the NSIP development and the Works that comprise Association Development. This is despite the request made by the Examining Authority and the specific commitments given by the Applicant at the dDCO hearing held on 10 January 2019 and subsequently, the many submissions SHP has made on this matter. The only conclusion that can be reached, is that the Applicant is unable to explain, justify and evidence their assertions.

5.1.2 For any development to qualify under section 23 of the Planning Act 2008, they must have the requisite effect referred to in section 23(5)(b) which is *"to increase by at least 10,000 per year the number of air transport movements of air cargo movements for which the airport is capable of providing air cargo services".* Any development that does not have this requisite effect is therefore **not** NSIP development.

5.1.3 Section 115(1) of the Planning Act 2008 is clear that there are only **two** categories of development for which development consent may be granted. These are (a) development for which development consent **is required**, or (b) associated development.

5.1.4 As set out section 5 of Appendix 1: Rebuttal of NSIP Justification appended to SHP's Written Representations [REP3-025], even on the most favourable interpretation, Works 2, 10, 11 and 13 in no way satisfy the NSIP criteria.

Quite simply these works would have no effect on the airport's ability to operate air cargo movements whatsoever.

5.1.5 For the reasons set out in 5.3-5.6 of that Appendix 1, which is largely based on the Applicant's own evidence, Works 1 (the airside cargo facilities) would also not qualify as NSIP development. There also a number of other works that are discretionary (e.g. new fire station) that do not require development consent, and should therefore be treated as associated development.

5.1.6 In view of the Applicant's continued failure to furnish the examination with an explanation and justification of the Works that form the NSIP development and the Works that comprise Associated Development, and given the very limited time left in the examination, SHP wrote to the Planning Inspectorate expressing its deep concern that this omission was not flagged to the Applicant in the second round of written questions issued on 5 April.

5.1.7 As set out in SHP's detailed submissions, there are many elements of development that the Applicant has listed as NSIP development that do not meet the required criteria under s23 of the Planning Act 2008. There are also many elements of the purported Associated Development that do not comply with the relevant guidance criteria.

5.1.8 In order to assess whether development satisfies the criteria for associated development set out in the relevant guidance, **an assessment must first be made about development that comprises the principal (i.e. NSIP) development**. This requires a clear explanation and justification of the NSIP development to be provided by the Applicant and for the evidence to be tested in the examination to ensure it satisfies the required tests under section 23.

5.1.9 Under the guidance, associated development must be **proportionate to the nature and scale of NSIP development, the purpose of associated development should not be to cross-subsidise and associated development should be subordinate to principal development.** Without having clarity over the applicability of the claimed NSIP development, no assessment of these tests can be made.

5.1.10 There are also further prerequisites, which the Examining Authority placed on record in the hearings regarding **the need for detailed business plan and financial forecasts to be provided by the Applicant to allow an assessment of the cross-subsidy test**. As a minimum, this would require the Applicant to have submitted detailed granular evidence showing the capital costs and the ongoing revenues and costs attributable to the NSIP works and also each element of associated development works. Based on the wholly inadequate information before the examination, the Examining Authority cannot even start to make an assessment against the tests.

5.1.11 It is clear from our review of historic and current DCO applications that the commercial nature, scope, scale, proportionality and dominant nature of

the purported associated development in the Applicant's application is without precedent.

5.1.12 This requires a detailed, robust assessment of the evidence, however the failure of the Applicant to provide information that is critical to the examination, is preventing the Examining Authority from being able to adequately test the evidence and, for affected parties such as SHP, a fair chance to put their case.

5.1.13 As we stand today, SHP's submissions provide the only detailed analysis on the applicability of the purported NSIP development and Associated Development that is before the examination.

5.1.14 A summary of SHP's post application submissions on this point are summarised below;

- 8 October 2018: Submission of Relevant Representations. Please refer to paragraphs 3.11, 5.5, 5.6, 5.8, 7.6 – 7.12 and 9.8 of SHP's Relevant Representations [RR-1601];

- 19 January 2019: Deadline 1 Submission: Please refer to paragraphs 3.1 – 3.14 of the written summary of SHP's oral submissions at dDCO Hearing [REP1-023] which confirms the request that was made by the Examining Authority and the commitment provided by the Applicant. This can be checked via the recordings from the hearing;

- 15 February 2019: Deadline 3 Submissions: Please refer to sections 5 and 6 of Appendix 1: Rebuttal of NSIP Justification, which forms part of SHP's written representations [REP3-025]. As set out in the analysis, Works 1, 2 10, 11 and 13 would not qualify as NSIP works as they do not have the effect required by section 23 of the Planning Act 2008. Further detailed analysis is also provided on the non-compliance with the associated development criteria;

- 8 March 2019: Deadline 4 Submissions: Please refer to paragraphs 1.3, 3.8 and 3.9 of SHP's covering letter [REP4-064] and SHP's comments on the Applicant's Response to Written Question DCO.1.1 [see page 10 and 11 of REP4-067];

- 29 March 2019: Deadline 5 Submissions: Please refer to paragraphs 2.9.3, 2.9.16 and 2.9.17 of SHP's Comments on the Applicant's Comments on the Written Representations [Rep5 - reference to be provided] and paragraphs 3.1.2 – 3.1.5 and 9.1 of SHP's written summary of oral submissions put at the Compulsory Acquisition hearing on 20 March 2019 [REP5 reference to be provided].

5.2 **Paragraphs 7.3-7.4:** At Appendix 11 to the Applicant's Written Summary of Oral Evidence to the Compulsory Acquisition Hearing, a table is set out showing how the

number of stands required was calculated. However, this is based on an asserted number of 'based' aircraft each needing a dedicated stand available to it all day long and then adding the requirements for non-based aircraft over the rest of the day. First of all, there is simply no explanation provided for the claimed number of based aircraft as this is not set out in the Azimuth Reports. Secondly, once the overnight based aircraft have departed, the stands would be available for other aircraft during the day. Hence, there is double counting in the number of stands required.

5.2.1 A calculation is also set out for the amount of warehousing space required to accommodate the asserted freight tonnage. Importantly, no account is taken of the e-commerce/integrator freight which would likely to be taken immediately off-site to the e-commerce integrator's own fulfilment centre(s) and not require storage at the airport. Hence, the tonnage requiring warehousing on site has been overstated in the first instance. Secondly, the tonnage per sq. m. assumed in relation to the area of warehousing required is unrealistically low and inconsistent with the claim that Manston is going to operate a modern digitalised facility, which would necessarily reduce the time which goods spend in warehousing on airport. Detailed information on the appropriate scale of warehousing required is set out at paragraphs 6.19 to 6.24 of York Aviation's 2019 Report.

5.2.2 As noted in evidence provided by SHP, the infrastructure is vastly overstated as the comments above would corroborate. SHP's case in relation to the necessary scale of facilities for the principal development is set out in its Written Representations, Appendix 4, Section 6 [REP3-025]. That analysis shows that the facilities proposed (and the consequent land take) are grossly over-scaled and that the same applies to the "associated development" proposed for the Northern Grass. We would also refer the Examining Authority to SHP's evidence set out in paragraphs 57-74 of Appendix CA.15.1 to its written summary of oral submissions, which, inter alia, also explains why the proposed scale of infrastructure provision is completely inconsistent with claimed cost efficiency of the development (as required by the Airports NPS) nor likely to facilitate RSP being able to offer operators competitive terms as claimed by them, given the scale and cost of the infrastructure it proposes to provide and the consequent implications for the level of charges that it would have to levy to cover the costs of investment.

5.2.3 The information on "associated uses" contained in Appendix 7 is completely inadequate. The Applicant's continued inability to explain and justify the most basic elements of its development proposals on the Northern Grass area (which extend to well over 1 million square feet) are considered disrespectful to examination and those taking part in it. We would respectfully bring to the Examining Authority's attention that it is now over 9 months since it submitted its second Application and over 3 months on from the following commitment made in paragraph 18 of Annex 4 of the Revised NSIP Justification [REP1-006] to provide additional information at Deadline 3;

"18. Having indicated the kind of occupiers that are likely to be attracted to the Northern Grass and their role in supporting the airport's operation, the Applicant will seek to provide to the Examining Authority further examples

of this type of airport-related development from other UK airports and important cargo led airports in Europe and North America. This additional evidence will be submitted by Deadline 3."

5.2.4 To the extent that RSP has provided further examples of the type of business park development it would expect on the Northern Grass at Appendix 7, these relate principally to non-airport related uses on land adjacent to airports such as the Aerohub at Newquay and Aerospace park at Prestwick (see paragraphs 70 - 73 of York Aviation's supplementary note appended as Appendix NOPS.5.1 to SHP's Written Summary of Oral Submissions to the Need and Operations hearing) as well as introducing new examples of non-airport related business parks adjacent to airports such as the Meteor Business Park at Gloucestershire, which supports non-airport related activities and provides a financial cross-subsidy to the operation of the airport.

5.2.5 Similarly, business parks adjacent to airports such as Doncaster Sheffield, Biggin Hill and Bournemouth, other than where buildings have direct airside access which is not the case for the Northern Grass at Manston, contain general manufacturing and business uses. This would not meet the airport related test, particularly if strictly limited to uses associated with the NSIP development. Even the examples cited at larger airports contain substantial non-airport related uses, such as the Estuary Business Park at Liverpool or the Enterprise Zone at Manchester Airport.

5.2.6 The Applicant appears confused itself as to its intentions regarding the Northern Grass. On the one hand, it seeks to justify the area of land proposed by reference to development on land with airside access and with non-airport related business parks adjacent to airports neither of which are relevant comparators for the Northern Grass, whilst on the other appearing to accept that only associated development to the primary NSIP purpose can be allowed. The position is fundamentally contradictory.

6. AGENDA ITEM 10 – OPERATIONS – AERODROME CERTIFICATE

6.1 **Paragraph 8.1:** The Applicant continues to be imprecise in the claims it is making regarding the timing of the CAA certification process. We refer the Examining Authority to the explanation provided in paragraphs 8.1 – 8.4 of SHP's written summary of oral submissions and the correspondence from the CAA dated 29 April 2019 attached as Appendix C, which confirms the accuracy of SHP's submissions on this matter and demonstrates that the Applicant has been "economical" with the facts.

7. AGENDA ITEM 11 – OPERATIONS – AIRSPACE CHANGE PROCESS

7.1 **Paragraph 9.4:** The Applicant continues to gloss over the issues raised by SHP at the Need and Operations hearing. We would refer the Examining Authority to paragraphs 9.1 – 9.5 of SHP's written summary of oral submissions.

8. AGENDA ITEM: 12 – OPERATIONS – PUBLIC SAFTEY ZONES

8.1 **Paragraph 10.2:** in stating that *"it is therefore possible that PSZs may need to be introduced towards year 20"* it is clear the Applicant does not understand the requirements for PSZs. SHP's comments on the Applicant's responses to Examining Authorities Written Questions OP.1.7 and OP.1.8 [REP4-067], **explained that PSZs would be required to be put in place just after the third year of operations (i.e. Year 4 of the forecasts**). At this point, the Applicant is forecasting to exceed 1,500 movements per month (including general aviation movements), and would have a forward looking forecast showing that it would be exceeding 2,500 movements per month within 15 years of that point. This is consistent with paragraph 3 of the relevant Guidance which states that *"[T]he Public Safety Zones are based upon risk contours modelled looking fifteen years ahead, in order to allow a reasonable period of stability after their introduction."* Notwithstanding the clarity in the guidance and the information submitted by SHP at Deadlines 4 and 5, the Applicant continues to misrepresent the position on PSZs.

8.2 **Paragraph 10.3:** We would note that the PSZ drawing submitted by the Applicant at Deadline 5 only shows an indicative 1 in 10,000 risk contour. As the Applicant and its advisors should be aware, the 1 in 100,000 PSZ contour would extend much further based on the comparison to the airports identified by the Applicant. Whilst detailed modelling (taking into account the higher accident rates of cargo aircraft) would be required to properly assess the risk contour, at a minimum it would expect the 100,000 PSZ risk contour to extend at least 2.5km from the end of the runway and would therefore cover a large part of Ramsgate. We would seriously question why the Applicant has failed to provide the Examining Authority with an indicative 1 in 100,000 risk contour given the significant impact it would have on the rights of occupiers and landowners within the relevant affected area.

8.3 **Paragraph 10.4:** It is noted that the Applicant has advised that it will consider the environmental effects of introducing PSZs and report to the ExA at the next Deadline. The failure to assess the environmental effects (and consult on them) in its application is a material failure that cannot be rectified at this late stage, however we look forward to reviewing the Applicant's submission.

9. CONCLUSION

9.1 As the comments above clearly demonstrate, there remains significant gaping holes in the information that the Applicant has submitted to the examination. Where the Applicant has submitted information to support its assertions, this has generally been shown to be deeply flawed.

9.2 It is highly concerning to SHP that there is only two months left in the examination phase and the Examining Authority and affected parties do not have access to the most basic of information that would allow the Applicant's application to be properly and fairly tested.

9.3 SHP consider that there is no information or evidence that the Applicant could submit to "fix" the material deficiencies and shortcomings in its application. In view of the short time left in the examination phase, SHP also considers that it is now too

late in the process for information (that should have been in the application itself or at least provided by Deadline 1) to be submitted to the examination that would allow for the application to be adequately and fairly tested.

Appendices

Appendix A: Australian Government - Inquiry National Freight and Supply Chain Priorities - Air Freight (March 2018)

Appendix B: Greater Rockford Airport Authority – 2018 Annual Financial Report

Appendix C: Correspondence with the CAA regarding timing of the EASA Certification process

Australian Government

Inquiry into National Freight and Supply Chain Priorities

SUPPORTING PAPER NO. 1

AIR FREIGHT

March 2018

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Air freight key facts

Australia's domestic and international air freight task represents 21 per cent of our total international trade value, while being less than 0.1 per cent by volume.

The majority of air freight is carried in the cargo hold of passenger aircraft, supported by some dedicated freighters. Goods are typically characterised as high value, time sensitive and perishable.

Australia's major domestic and international airports are operated by private companies under long term Commonwealth leases. These airports have significant freight specific infrastructure, including hangars and cargo handling facilities.

While approximately 80 per cent of domestic cargo movements occur between main airports in capital cities, air freight is important to delivering supplies to regional and remote Australia. Road transport often can't reach isolated towns due to distance and poor road access.

International air freight is largely carried on passenger services and capacity will increase with growth in international air movements to and from Australia.

Relaxation of operational restrictions, such as curfews, on new airports, and modifying operational curfews at existing airports, will assist the air freight sector to improve productivity.

Despite its curfew and capacity limitations, Kingsford Smith Airport (KSA) at Sydney is expected to retain the role of Australia's most significant international air cargo gateway due to the volume and variety of its international passenger connections. Western Sydney Airport is expected to become an important freight hub for Sydney as it will attract dedicated overnight freighters unable to land at KSA due to curfew restrictions, or carrying cargo destined for Western Sydney logistics centres.

Airport access issues, in particular road congestion around key access points and better rail connections, are important to ensuring air freight remains viable for time sensitive products.

Tightening of the air security arrangements in response to emerging threats against aviation transport, may impact on productivity and affect the future viability of some routes.

1. Introduction

Air freight is a relatively small but highly valuable part of the overall freight task in Australia. The total weight of domestic and international air freight, around 1.5 million tonnes in 2016-17, represents less than 0.1 per cent of the freight moved in Australia. About 70 per cent of air freight is international freight, meaning it is a major contributor to the nation's economy.

The Bureau of Infrastructure, Transport and Regional Economics (BITRE) reported in 2014 that air freight in international merchandise trade makes up 21 per cent of total trade by value[1], worth over $130 billion in 2016-17. The value of trade flowing through Sydney and Perth airports is about the same as that shipped through the ports of Botany and Fremantle.[2]

The International Air Transport Association (IATA) reports a recent study calculated the global value of air freight is now $18.6 billion each day, and the benefits of air transport include driving economic and social progress, providing access to global markets, generating trade and forging links between nations.[3]

2. Overview of the air freight sector

On average, air freight is 20 times more expensive than road freight and 70 times more expensive than sea freight. Goods most suited to air freight are those that are time sensitive, light, compact, perishable or highly valuable. These include medicinal supplies, pharmaceuticals, meat, seafood, jewellery, currency and gold, live animals, high value electronics and critical spare parts.

While there are dedicated air freighters servicing Australia's major capital city airports, the bulk of domestic and international air freight is carried in the holds of passenger aircraft. Dedicated freight aircraft within Australia are operated by Toll, Qantas and Virgin, providing services for freight forwarders, corporate shippers, businesses and individuals. Virgin Cargo reports it uses dedicated freighter aircraft to service Cairns, Townsville, Brisbane, Sydney, Melbourne, Launceston, Adelaide and Perth airports.[4] Qantas ships more than 4,000 air freight items each day to over 500 destinations globally.[5]

Australia's major capital city airports are owned by the Commonwealth and operated by private companies with very long-term leases and provide a range of aviation infrastructure dedicated to freight operations, including hangars, freight aprons, aircraft parking bays and cargo handling facilities. Air freight activities at airports compete with passenger based facilities, including passenger terminals, passenger parking and other airport-related businesses.

Rapid growth in passenger numbers at the major airports has promoted the expansion of passenger based facilities, placing pressure on freight facilities located close to the runways and terminals. Many businesses involved in air freight operations would like to see airports place a greater priority on servicing freight needs. Airport land not required for aviation purposes has been developed for major freight forwarding facilities and distribution centres at some airports, such as Melbourne Airport.

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[1] BITRE (2014) *Freightline 1.* https://bitre.gov.au/publications/2014/freightline_01.aspx
[2] BITRE (2015), *International trade and Australian cities: what house prices say*, Information Sheet 67, https://bitre.gov.au/publications/2015/files/is_067.pdf
[3] IATA Fact Sheet Economic and Social Benefits of Air Transport, June 2017. http://www.iata.org/pressroom/facts_figures/fact_sheets/Documents/fact-sheet-economic-and-social-benefits-of-air-transport.pdf
[4] Virgin Australia (2017) submission 85 to the *Inquiry into national freight and supply chain priorities*, page 1https://infrastructure.gov.au/transport/freight/freight-supply-chain-submissions/index.aspx
[5] https://freight.qantas.com/our-freight-business.html

Curfews restrict dedicated air freight movements between 11.00pm and 6.00am at Sydney and Adelaide airports. The *Sydney Airport Curfew Act 1995* (Cth) allows only 74 freight take-offs and landings each week during the curfew period, with only Bae-146 aircraft permitted to operate. At Adelaide Airport freight aircraft are permitted to operate during the curfew period provided the noise levels are less than 95 decibels on landing. While these restrictions also apply at the Gold Coast and Essendon airports there is minimal demand for such services at these sites. Gold Coast Airport has further restrictions on the level of operations and the type of aircraft allowed to operate.

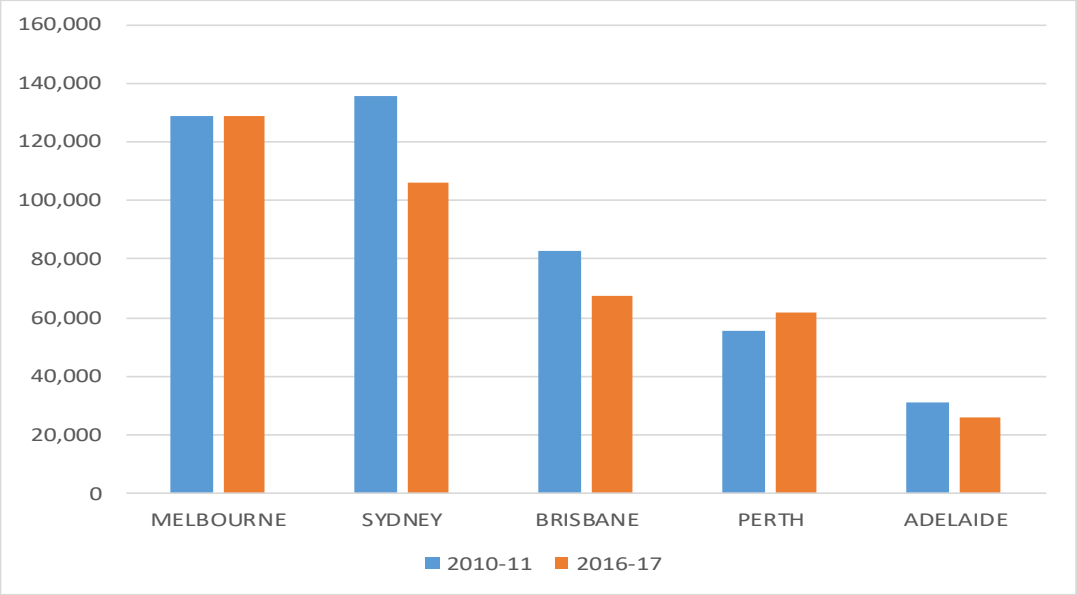
3. The sector in Australia today and future trends

Domestic air freight

More than 450 thousand tonnes of air cargo movements were carried on domestic air services at Australian airports in 2016-17.

In 2016-17, Melbourne Airport had the largest share of domestic air cargo (28.7 per cent) followed by Sydney (23.6 per cent), Brisbane (15 per cent), Perth (13.8 per cent) and Adelaide (5.8 per cent). Cargo movements at these airports accounted for 86.8 per cent of total domestic air cargo movements.

Figure 1 – Domestic cargo movements (tonnes) 2010-11 and 2016-17[6]



In 2016-17, approximately 80 per cent of domestic cargo movements were from the main airport in one capital city to the main airport in another capital city, with 44.2 per cent of domestic cargo movements made on dedicated freighter aircraft.

Air freight also plays an essential role delivering supplies to remote and isolated regions in Australia. Due to long distances involved and with road access to many communities often cut for

[6] BITRE domestic aviation activity data collection — 2017 (note: cargo refers to freight and mail)

several months during the wet season, a regular air service offers the only reliable means of transporting goods such as educational materials, medicines, fresh foods and other vital supplies to these communities. Such services typically involve small piston powered aircraft, often operating at unsealed airstrips.

International air freight

Sydney, Melbourne and Brisbane are currently the only airports in Australia with markets large enough to sustain dedicated international freighter services, except for one weekly service operating from Toowoomba Wellcamp Airport.

Nationally, only 17 per cent of scheduled international air cargo carried to and from Australia is on dedicated freighter aircraft while the rest is on passenger aircraft.

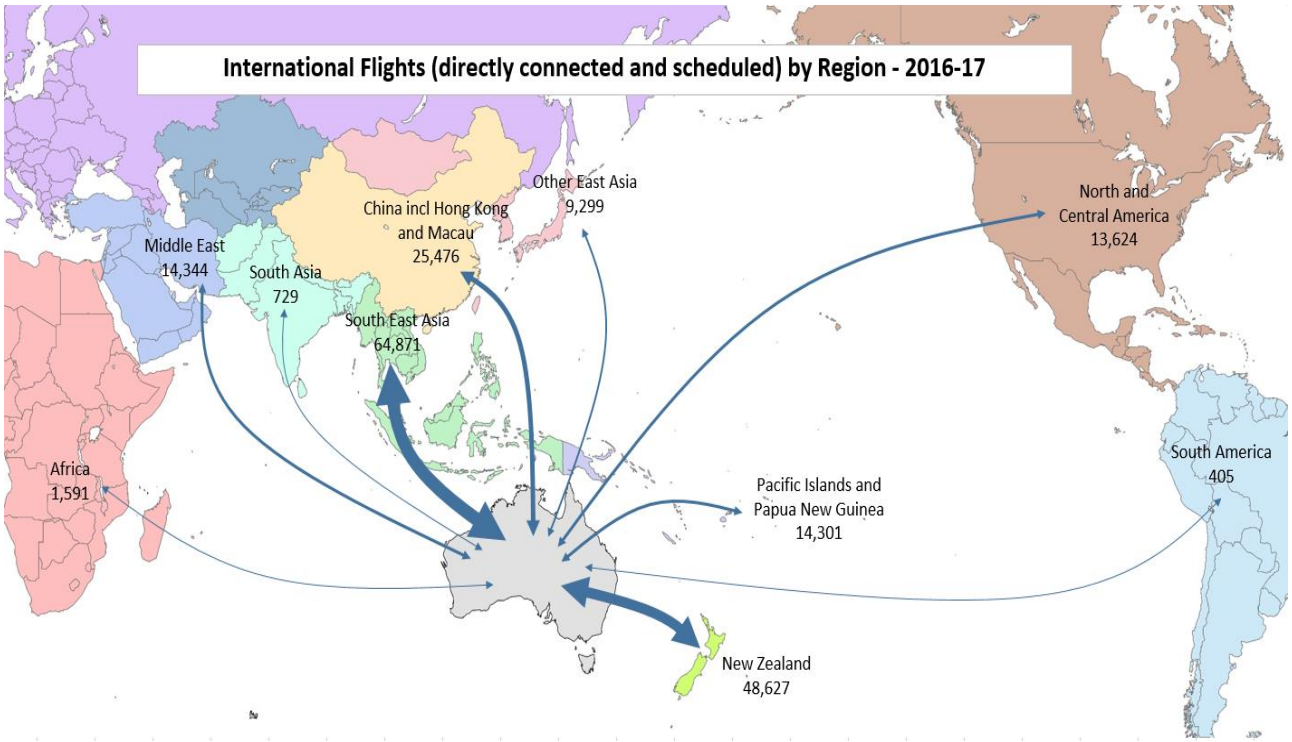
At Sydney, around 28 per cent of international air cargo is carried on dedicated freighter aircraft. Therefore, the amount of air freight that can be carried and the destinations served depend significantly on the passenger aircraft routes; as these expand or contract, so do the opportunities for air freight exports.

Conversely, the profitability of international passenger routes may depend on the amount of air freight the route can attract. IATA estimates that on average, air cargo generates 9 per cent of airline revenues.[7]

The map at Figure 2 shows the number of directly connected scheduled flights operated between Australia and international regions during 2016-17. All cargo carried to or from Australia other than on charter services was carried on one of these flights.

[7] IATA Air Cargo home http://www.iata.org/whatwedo/cargo/Pages/index.aspx

Figure 2 – Number of directly connected scheduled flights operated between Australia and international regions during 2016 to 2017[8]



Almost half of Australia's scheduled international air cargo by weight is cleared through Sydney Airport and Sydney's share of international air cargo has remained relatively stable over the years.

Table A – Sydney Airport's share of international air cargo[9]

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Sydney	389,501	414,471	366,335	401,204	421,114	444,614	443,728	434,250	450,283	482,681	512,531
Australia	787,932	819,899	745,955	798,120	864,808	900,468	924,879	922,918	980,457	1,032,393	1,082,400
Sydney's share	49.4%	50.6%	49.1%	50.3%	48.7%	49.4%	48.0%	47.1%	45.9%	46.8%	47.4%

By monetary value, Sydney Airport also has the largest share of imports, worth $43.4 billion in 2016 (56.4 per cent of the total of $77.1 billion in air freight imports). For exports, Perth Airport has the highest value at over $22.6 billion (40.8 per cent of the total of $55.4 billion in air freight exports). Detailed air freight statistics for the major airports are at Attachment A of this report.

The major products imported and exported via air freight vary from airport to airport. Table B shows the three highest value imports and exports, as well as the main countries of origin or destination.

[8] BITRE International airline activity data collection — 2017 (note: cargo refers to freight and mail)
[9] Ibid

Table B – The three highest value imports and exports and the main countries of origin/destination[10]

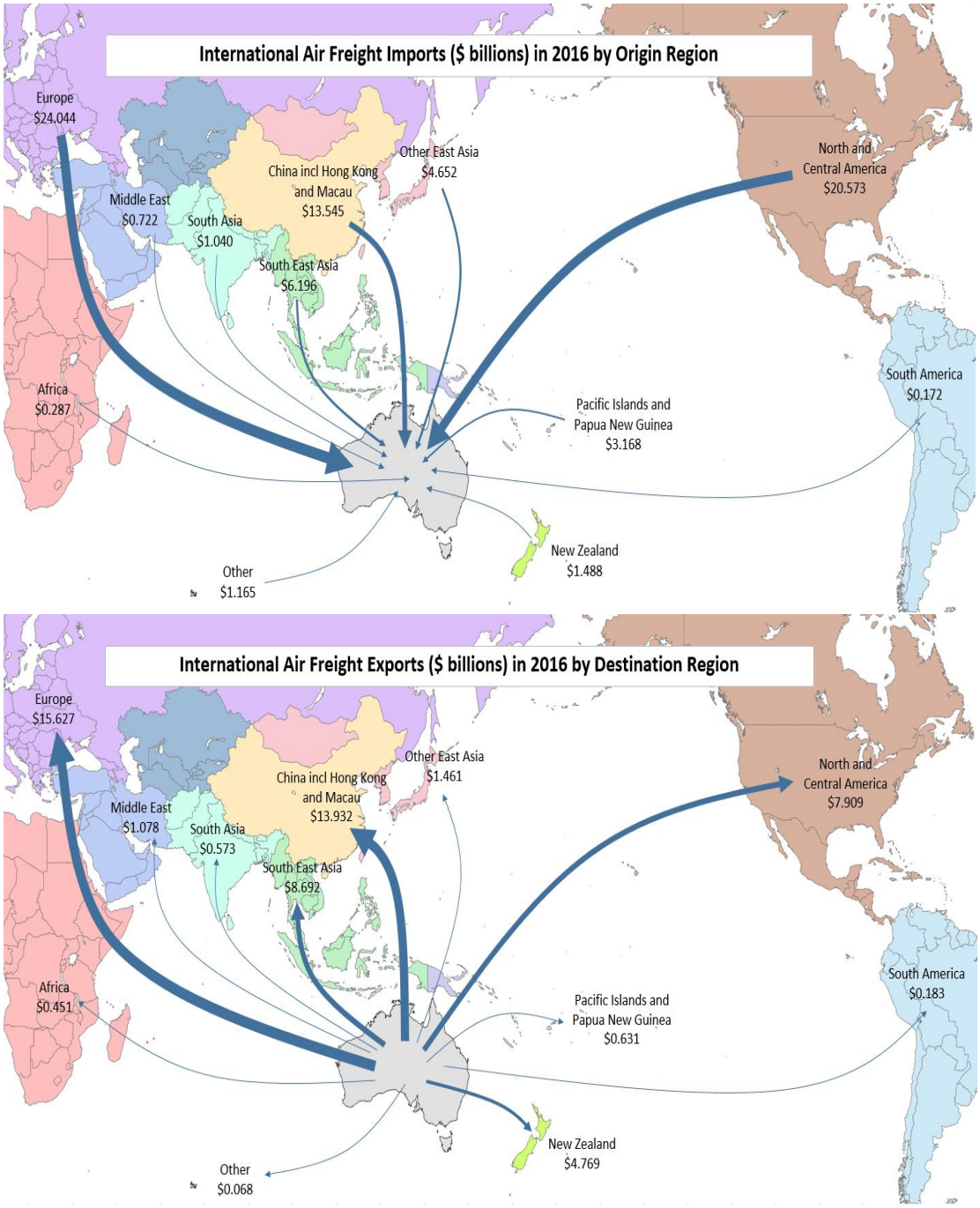
Airport		Highest value products	Main countries of origin or destination
Sydney	**Imports**	Telecommunications and sound recording equipment; medicinal and pharmaceutical products; commodities and transactions not in merchandise trade*	China USA France
	Exports	Commodities and transactions not in merchandise trade*; miscellaneous manufactured articles; professional, scientific and controlling instruments	USA New Zealand UK
Melbourne	**Imports**	Commodities and transactions not in merchandise trade*; office machines and automatic data processing machines; telecommunications and sound recording equipment	USA China France
	Exports	Commodities and transactions not in merchandise trade*; medicinal and pharmaceutical products; meat and meat preparations	USA New Zealand Singapore
Brisbane	**Imports**	Commodities and transactions not in merchandise trade*; miscellaneous manufactured articles; professional, scientific and controlling instruments	USA China France
	Exports	Commodities and transactions not in merchandise trade*; transport equipment excluding road vehicles; meat and meat preparations	New Zealand USA Singapore
Perth	**Imports**	Non-monetary gold; Commodities and transactions not in merchandise trade*; general industrial machinery and equipment.	Japan USA Papua New Guinea
	Exports	Non-monetary gold; commodities and transactions not in merchandise trade*; gold coin and other coin being legal tender	UK Hong Kong China

*The category 'Commodities and transactions not in merchandise trade' includes:

- goods exported after being imported on a temporary basis—ships, boats, floating structures, goods for public exhibition and goods such as racing cars and associated equipment, race horses, paintings for art exhibitions
- goods exported on a temporary basis and intended to be re-imported
- goods exported for repair, alteration or renovation and subsequent re-importation
- goods re-exported from Australia after being imported for repair, alteration or renovation
- passengers' personal effects for which a customs entry is required
- goods exported by the Australian Defence Force (ADF), for use by the ADF, for operational, training or military exercise deployment.

[10] Australian Bureau of Statistics (ABS), 2017, Customised report based on International Merchandise Trade data – prepared by BITRE

Figure 3 – Key air freight routes for imports and exports[11]



[11] Australian Bureau of Statistics (ABS), 2017, Customised report based on International Merchandise Trade data – prepared by BITRE

International supply chains (origin and destination)

Air freight is often a component of more extensive supply chains, which may involve road, rail and sea transport on the journey to the ultimate user. While there are few statistics on international air freight export supply chains, BITRE data indicates the airport of export origin and the destination for different categories of goods. Examples have been drawn from this source for seafood exports and medicinal and pharmaceutical exports.

Just over $1 billion worth of seafood (fish, crustaceans, molluscs and preparations thereof) were exported from Australia in 2016. Of this, almost half was exported from Western Australia, with Vietnam being the major overseas market. Other states mainly exported to China, Hong Kong and Vietnam.

Table C – Air freight exports of fish, crustaceans, molluscs and preparations thereof, 2016[12]

State of origin	Value of exports ($ million)	Main destination countries (exports valued at over $10 million)
New South Wales	15.6	Japan
Queensland	112.3	Hong Kong, USA
South Australia	120.9	Vietnam, Hong Kong, Japan
Tasmania	136.9	China, Hong Kong, Vietnam, Japan
Victoria	145.6	Vietnam, Hong Kong, China
Western Australia	465.2	Vietnam, Hong Kong

For medicinal and pharmaceutical products, the major overseas markets are New Zealand, Europe, the USA and Asia. These exports were valued at $2.1 billion in 2016, more than twice the value of seafood exported. Victoria has the highest value of such exports, about half of the total value for Australia, with the USA being the dominant export market.

Table D – Air freight exports of medicinal and pharmaceutical products, 2016[13]

State of origin	Value of exports ($ million)	Main destination countries (exports valued at over $20 million)
Northern Territory	1.2	*Information not available*
Tasmania	5.5	*Information not available*
South Australia	63.2	USA
Western Australia	83.8	Belgium, USA
Queensland	91.1	United Kingdom
New South Wales	448.5	New Zealand, China, Hong Kong, Korea, Malaysia, United Kingdom
Victoria	1,099	USA, Germany, Hong Kong, China, Singapore, United Kingdom

[12] Australian Bureau of Statistics (ABS), 2017, Customised report based on International Merchandise Trade data – prepared by BITRE
[13] Ibid

Future trends and developments

The air freight market will be driven by a range of factors in coming years, including:

- growth in international travel
- changing consumer purchasing preferences
- customer expectations about delivery times
- changes in industry processes such as international component sourcing
- the types and capacity of planes
- changes in the size, weight and value of consumer goods
- jet fuel costs
- changing security processes to meet emerging threats.

The capacity for air freight should grow considerably in coming years. IATA predicts the world freighter aircraft fleet will grow by 70 per cent in the next 20 years.[14] The global air passenger network, which is equally important for air freight, is also undergoing rapid growth. The International Civil Aviation Authority (ICAO) reports global international passenger numbers have increased by between 5.2 per cent and 10.6 per cent each year from 2010-15.[15]

In Australia, annual air passenger growth has been averaging 3.4 per cent over the past 10 years.[16] Melbourne Airport has forecast its international air freight will grow from 250,000 tonnes to 393,000 tonnes by 2033.[17]

New technologies are making production more mobile as automation reduces the importance of low-cost labour. This is facilitating a shift in production of goods toward the locations where consumers live. Some products are getting smaller and lighter (or flatter, such as televisions), which means they are more suited to air freight. Other products however, formerly carried by air freight, are now digitised (for example, newspapers, mail and music).

Where once products were produced and exported from a single location, today it is not unusual for a product such as a smart phone to have components from several countries where specialised processes have been developed. The components themselves may travel to several countries to be compiled. Just-in-time stock control requires rapid replenishment of component parts. These practices, together with the trend to smaller and lighter products, will support further air freight growth.

Consumer practices such as e-commerce are changing the way products are purchased and transported. On-line sales are growing rapidly, and it is reported that 70 per cent of on-line sales have an international component, either buying from a different country or buying a product that has an international production process.[18]

---

[14] IATA the Value of Air Cargo http://www.iata.org/whatwedo/cargo/sustainability/Documents/air-cargo-brochure.pdf
[15] ICAO Tables relating to the world of air transport in 2015. https://www.icao.int/annual-report-2015/Documents/Appendix_1_en.pdf
[16] BITRE Airport Traffic Data 1985–86 to 2016–17. https://bitre.gov.au/publications/ongoing/airport_traffic_data.aspx
[17] *Melbourne Airport Master Plan 2013*, p.38
[18] IATA *Cargo must pick up the pace March 2017*. http://airlines.iata.org/analysis/cargo-must-pick-up-the-pace

Companies such as Amazon have developed fast and efficient supply chains for their e-customers based on rapid delivery times for both domestic and international cargo. There is a growing market for air transport in the delivery processes, with Amazon moving to establish its own airline supported by 40 dedicated freighter aircraft.[19]

Emerging security concerns mean that air freight is expected to be subject to more stringent security screening, as demonstrated by the recently implemented and more rigorous requirements for screening air freight to the USA.[20]

This trend has the potential to negatively impact on productivity in the air freight sector unless carefully managed. It must be balanced with the very significant economic impact that an inflight incident resulting in the loss of an aircraft would have on the Australian economy.

Trusted business models, such as the recently established Known Consignor scheme for air freight, are important to future security and efficiency. The Known Consignor scheme allows trusted businesses with high levels of security in their processes to secure cargo at its source so that it does not require further security screening before export.

The Australian Government decision to support a new airport at Western Sydney will have an impact on the air freight sector. The *Western Sydney Infrastructure Plan* will plan and deliver a transport investment program funded jointly by the Commonwealth and NSW Governments. Under the current legislation concerning the curfew at Kingsford Smith Airport (KSA), night freight operations are to be transferred from KSA to Western Sydney Airport once night operations are possible there.

As most international air freight is carried in passenger planes, in the next 20 years it is expected KSA will continue to be the key air freight hub in Sydney, with provision in the current airport master plan to retain the current Terminal 1 freight precinct and build new facilities in close proximity to expanded passenger T2 and T3 terminals.

Transport links developed under the *Western Sydney Infrastructure Plan* and future intermodal terminal opportunities should also see significant air freight growth at Western Sydney Airport. The privately owned and operated Toowoomba Wellcamp Airport presents a new model for air freight in Australia. The airport's good road connections and proposed links to the Inland Rail project create air freight opportunities for agricultural and other products.

The increase in international passenger travel at other Australian airports in recent years, including at Melbourne, Brisbane and Perth, has increased the potential for international air freight. International passenger numbers through Australian airports has increased by approximately 7 per cent per year in the past two years and with favourable world economic conditions, should increase further in the coming years.

Some stakeholders are optimistic that future investment could support 'air freight hubs' in regional Australia, although the business cases for such proposals are challenged by a range of factors.

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[19] http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=2241026

[20] These requirements mean all air cargo being transported to the USA must either be examined at piece level (box, carton, pallet or another deconsolidated form of cargo) or originate from a Known Consignor https://infrastructure.gov.au/security/air-cargo/us-bound-air-cargo-security-arrangements.aspx

Infrastructure Australia's *Northern Australia Audit* (January 2014) explored some of these issues in the context of Northern Australia, although its findings may have broader relevance:

> *"Anecdotally, substantial volumes of fruit and vegetables are trucked to Brisbane, Adelaide and Melbourne, taking advantage of competitive trucking back haul rates, for subsequent air freighting to Southeast Asia (together with domestic capital city use). A combination of factors—a substantial domestic market in the southern capitals, a highly efficient road freight sector (with refrigerated capability), low international air freight rates from airports in southern capitals, due to wide-body passenger aircraft use that northern air markets could not sustain—appear likely to preclude development of northern air freight capacity for the foreseeable future".*[21]

[21] http://infrastructureaustralia.gov.au/policy-publications/publications/files/IA_Northern_Australia_Audit.pdf p.74

4. Stakeholder priorities

The *Inquiry into National Freight and Supply Chain Priorities* has undertaken extensive consultation with stakeholders and has received a number of suggestions for greater productivity in the air freight sector. These include:

- avoid placing restrictions on airport operations (for example, curfews), particularly for new airports such as the Western Sydney Airport, by ensuring that land use planning provides effective buffers between residential areas and industrial activities
- consider modifying operational curfews at existing airports where appropriate (in particular at Sydney Airport)
- address road traffic congestion at the access points of our major domestic and international airports
- introduce a dedicated rail freight line to Western Sydney Airport early in the airport development process
- encourage airport lessee companies to give air freight operations appropriate significance in airport master plans required under the *Airports Act 1996* (Cth)
- produce and publish more extensive statistics on air freight and air freight supply chains, as part of a national freight performance framework
- facilitate greater uptake of the electronic air waybill (e-AWB) to expedite carriage and delivery of air freight.

ATTACHMENT A:
Air freight statistics for the major airports[22]

AIR EXPORTS by Airports - Value ($)
Year ended December 2016

	Not Perishable	Perishable	Total	Share of Total
Adelaide	309,513,158	141,435,006	450,948,164	0.8%
Brisbane	3,734,004,308	649,383,202	4,383,387,510	7.9%
Cairns	210,050,271	75,178,659	285,228,930	0.5%
Darwin	369,079,399	1,604,897	370,684,296	0.7%
Melbourne	5,814,136,461	2,511,941,530	8,326,077,991	15.0%
Perth	21,773,491,246	830,952,817	22,604,444,063	40.8%
Sydney	16,501,466,364	1,976,496,973	18,477,963,337	33.4%
Other	453,554,069	21,738,444	475,292,513	0.9%
Total	49,165,295,276	6,208,731,528	55,374,026,804	100.0%

AIR EXPORTS by Airports - Weight (tonnes)
Year ended December 2016

	Not Perishable	Perishable	Total	Share of Total
Adelaide	4,279	10,342	14,621	2.6%
Brisbane	14,864	52,876	67,740	11.9%
Cairns	1,530	3,147	4,677	0.8%
Darwin	836	65	900	0.2%
Melbourne	43,478	122,755	166,233	29.3%
Perth	10,810	43,492	54,302	9.6%
Sydney	155,297	99,876	255,173	44.9%
Other	2,497	2,081	4,578	0.8%
Total	233,591	334,634	568,225	100.0%

AIR IMPORTS by Airports - Value ($)
Year ended December 2016

	Not Perishable	Perishable	Total	Share of Total
Adelaide Airport	720,384,699	53,043,369	773,428,067	1.0%
Brisbane	5,881,702,763	162,018,875	6,043,721,637	7.8%
Cairns	344,840,697	253,845	345,094,542	0.4%
Darwin	288,485,555	82,642	288,568,197	0.4%
Melbourne	12,458,844,080	1,246,573,181	13,705,417,261	17.8%
Perth Airport	9,107,523,301	86,275,482	9,193,798,782	11.9%
Sydney	36,286,043,584	7,158,708,574	43,444,752,158	56.4%
Townsville	1,877,746,896		1,877,746,896	2.4%
Other	1,374,787,423	5,378,416	1,380,165,839	1.8%
Total	68,340,358,998	8,712,334,382	77,052,693,380	100.0%

AIR IMPORTS by Airports - Weight (tonnes)
Year ended December 2016

	Not Perishable	Perishable	Total	Share of Total
Adelaide Airport	6,985	956	7,941	2.0%
Brisbane	33,598	7,220	40,818	10.1%
Cairns	498	18	516	0.1%
Darwin	893	4	897	0.2%
Melbourne	94,944	19,403	114,346	28.2%
Perth Airport	25,367	4,950	30,317	7.5%
Sydney	165,107	39,958	205,065	50.6%
Townsville	419		419	0.1%
Other	4,789	155	4,944	1.2%
Total	332,601	72,664	405,265	100.0%

[22] Customs data from the Australian Bureau of Statistics 2017 — prepared by BITRE. Perishable/not perishable split is based on BITRE estimates

COMPREHENSIVE ANNUAL FINANCIAL REPORT

2018

GREATER ROCKFORD AIRPORT AUTHORITY
FOR THE FISCAL YEAR ENDING
APRIL 30 2018 & APRIL 30, 2017
ROCKFORD, ILLINOIS

CHICAGO ROCKFORD INTERNATIONAL AIRPORT

COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the
Greater Rockford Airport Authority
Rockford, Illinois

For the fiscal years ended
April 30, 2018 and 2017

Prepared by:
Michelle Cassaro
Deputy Director of Finance and Administration

Jan Benoit
Finance Manager

ROCKFORD

RFD

CHICAGO ROCKFORD
INTERNATIONAL AIRPORT

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ROCKFORD

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CHICAGO ROCKFORD
INTERNATIONAL AIRPORT

Introductory Section

This section contains the following subsections:

- Letter of Transmittal
- Organizational Chart, Senior Management and Board of Commissioners
- Certificate of Achievement for Excellence in Financial Reporting

ROCKFORD

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CHICAGO ROCKFORD
INTERNATIONAL AIRPORT

CHICAGO ROCKFORD INTERNATIONAL AIRPORT

August 31, 2018

To the Board of Commissioners:

The Comprehensive Annual Financial Report (CAFR) for the Greater Rockford Airport Authority (the Authority) (Chicago Rockford International Airport) for the fiscal year ended April 30, 2018 is hereby transmitted for your review. This report is the responsibility of the Authority's Finance Department and represents the Authority's commitment to provide accurate, concise and high-quality financial information to its Board of Commissioners and to the regional community we serve.

The CAFR contains financial statements and statistical information that fully disclose all the material financial operations of the Authority. The financial statements and statistical information contained herein are representations of the Authority's management, which bears the responsibility for the accuracy, completeness, and fairness of the CAFR. This letter should be read in conjunction with the Authority's Management's Discussion and Analysis (MD&A) found in the Financial Section. The MD&A provides narrative overview and analysis of the financial activities of the Authority, that occurred during the fiscal year ended April 30, 2018.

This year's CAFR is prepared in accordance with the guidelines set forth by the Government Finance Officers Association of the United States and Canada (GFOA). The GFOA awards a Certificate of Achievement to all public entities whose annual financial reports are judged to conform to the high standards of public financial reporting, including generally accepted accounting principles promulgated by the Government Accounting Standards Board (GASB). It is our belief that the accompanying fiscal year April 30, 2018 CAFR meets the program standards, and will be submitted to the GFOA for review.

✈ THE AUTHORITY

The Authority is an independent municipal corporation of the State of Illinois, created by and formed in 1946 shortly after the State of Illinois adopted the Airport Authorities Act of 1945. At the time, the original Board of Commissioners requested and received a grant of 1,500 acres of Federal land located near Rockford, Illinois, for airport use. This land was formerly used as a U.S. Army base, known as Camp Grant, during WWI and WWII. Physical development of the airport began in 1947 with aircraft use in 1949.

The Authority is located within Winnebago County and is empowered to levy a property tax on real properties located within the Authority area, which encompasses an area of approximately 216 square miles and includes all land within Cherry Valley, Harlem, Owen and Rockford Townships with the exception of roughly 12 square miles of rural land in Owen Township. Although ten other Townships in Winnebago County are not included within the boundaries of the Authority, nearly 83% of Winnebago County's land area and 73% of Winnebago County's 2017 equalized assessed valuation are within the Authority Area.

The Authority is governed by a seven-member Board of Commissioners (Board). One or two commissioners are appointed each year to staggered five-year terms. Policy-making and legislative authority rests with the Board that is responsible, among other responsibilities, for passing ordinances, resolutions, adopting the budget, and hiring the

Executive Director. The Executive Director is responsible for carrying out the policies, ordinances and resolutions of the Board, for overseeing the day-to-day operations of the Authority, and overseeing hiring practices. Meetings of the Board are scheduled twice per month on the third and fourth Thursdays. Meetings are open to the public.

✈ FINANCIAL REPORTING ENTITY

The financial statements contained within this CAFR include all departments and operations for which the Authority is financially accountable. Financial accountability is defined in Note 1 to the financial statements. On this basis, no governmental organizations other than the Authority itself are included in the financial reporting entity.

✈ INTERNAL CONTROLS

The Authority's internal control structure is an important and integral part of its entire accounting system. The current structure in place is designed to provide reasonable, but not absolute assurance that: (1) assets are safeguarded against loss from unauthorized use or disposition; (2) transactions are executed in accordance with management's authorization; (3) financial records are reliable for preparing financial statements and maintaining accountability for assets; (4) there is compliance with applicable laws and regulations; and (5) there is effectiveness and efficiency of operations. The concept of reasonable assurance recognizes that the cost of control should not exceed the benefits that are likely to be derived from them, and that the evaluation of cost and benefits requires estimates and judgment by management.

We believe that the Authority's internal control framework adequately safeguards assets and provides reasonable assurance and proper recording of financial transactions. Management also believes that the data in this CAFR, as presented, is accurate in all material respects, that it presents fairly the financial position, results of operations and cash flows of the Authority, and that all disclosures necessary to enable the reader to gain maximum understanding of the Authority's financial affairs have been included.

One duty of the Finance Manager is to perform internal auditing functions. In the course of this assignment, the Finance Manager is authorized to have full, free and unrestricted access to all records relating to the audit.

✈ THE BUDGET

Authority management has long recognized the importance of proper and accurate budgeting. Management annually creates a comprehensive line item budget that is adopted by the Board of Commissioners in a public meeting before the beginning of each fiscal year. The budget narratives are detailed projections of the expected financial operation over the next year in accordance with the Authority's long-range financial plans. The budget is created using zero-based budgeting techniques where staff estimates all revenues and expenditures as though each revenue and/or expenditure was being initiated for the first time.

Management's control of the budget is maintained at the department level. It is the responsibility of each department to administer its operations in such a manner as to ensure that the use of funds is consistent with the goals and programs authorized by the Board of Commissioners. The annual budget is presented on our website site at http://flyrfd.com/minutes/.

✈ LOCAL ECONOMIC CONDITION

The financial condition of the Authority is primarily dependent upon the amount of aircraft utilization at the Chicago Rockford International Airport (RFD). That utilization, in turn, is dependent upon several factors: the amount of cargo that is sorted at the United Parcel Service hub; the number of passenger airlines that service RFD; the number of passengers that use the airport; the national economy, which influences buying and subsequent shipping habits; and, the local economy that influences the willingness of the consumer to purchase air travel.

Passenger growth increased 3.24% from the prior year. Increases were seen in both domestic and international service. Apple Vacations celebrated their 13th season of non-stop flights to popular tropical vacation destinations in Mexico, the Dominican Republic and Jamaica. More than 150,00 passengers have taken advantage of the services and specials Apple Vacations have offered. Seasonal flights were provided from December 2017 through April 2018.

Allegiant continues to be our principal carrier for regularly scheduled non-stop passenger service. Currently Allegiant Air offers service to Las Vegas, Orlando/Sanford, Clearwater/St Pete, Punta Gorda/Ft Myers, and Phoenix/Mesa. RFD continues to strive to grow convenient, quality passenger service in both the domestic and international markets.

Nearly 1.4 billion pounds of cargo travelled through RFD in 2017, a 50% increase over the year before. One of the many factors influencing the airport's growth in 2017 included UPS moving its Des Moines operation, consisting of 13 daily flights to RFD last July. The most recent FAA cargo report states that RFD is the 22nd largest cargo airport in the United States, an increase from 29th in 2016. The Authority will continue to work toward the goal to compete globally to become one of the top cargo airports in the world.

The Chicago Rockford International Airport remains a viable economic engine for the region and state. The most recent State of Illinois economic impact report for all Illinois airports shows RFD continues to be a driving force with $994.5 million in annual economic impact making it the third highest commercial service airport second and third only to O'Hare and Midway. Our combination of various business strengths and our international grade facility positions us well for future growth.

The economic condition and outlook for the region has improved over the prior year. The Metropolitan Statistical Area (MSA) includes almost 340,000 people. The number of employed individuals in the county is over 158,000. The region continues to expand and diversify its industrial base and employment opportunities. Business growth continues and employment needs are increasing. The unemployment rate decreased from 6.9% to 6.5% for Winnebago County. There is continued local collaboration to increase the quality of available workers to meet the demands of the increasingly technical and specialized job opportunities in the local area.

The region is considered an excellent location for manufacturing, trade, transportation, utilities, and educational and health services. The Rockford Region consists of Boone, Ogle, Stephenson and Winnebago counties in northern Illinois and Rock County in southern Wisconsin. The area lies in the heart of the Midwest, in very close proximity to Chicago, Milwaukee, Madison, Quad-Cities, and Peoria. Over the next ten years, employment in the local workforce area region is projected to expand by over 18,000 jobs.

The Foreign Trade Zone (FTZ) program is a partnership between the federal government and private business with the goal to protect or create new jobs in America. We believe that the FTZ can be a catalyst to improve the economic business climate of the region.

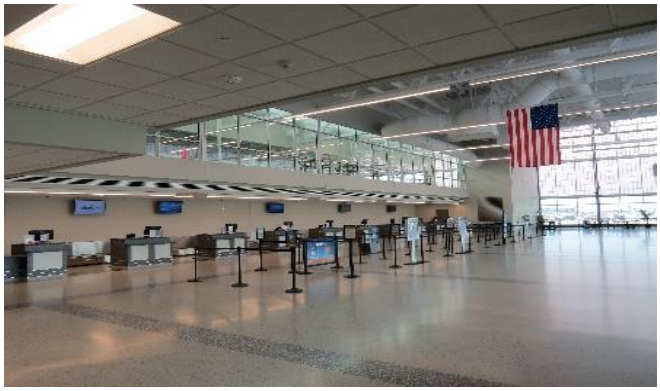
✈ INDEPENDENT AUDITOR

The Authority's independent accounting firm, Baker Tilly Virchow Krause, LLP, has rendered an unmodified opinion on the Authority's financial statements for the fiscal years ended April 30, 2018 and 2017, respectively which states that the financial statements present fairly, in all material respects, the results of the Authority's financial position, changes in financial position and cash flows. The Auditor's report on the financial statements is included in the financial section of the report.

The Authority participates in the federal single audit program, which consists of a single audit of federally funded programs administered by the Authority. Participation in the single audit program is mandatory as a condition for continued funding eligibility. The single audit performed by the Authority's independent accounting firm, Baker Tilly Virchow Krause, LLP, met the requirements set forth by the Federal Single Audit Act of 1996 and related Uniform Guidance. The independent auditor's report, which is issued based upon work performed in accordance with those requirements, noted no instances of non-compliance by the Authority with any applicable state or federal laws, regulations, or other matters that are required to be reported for the fiscal year ended April 30, 2018.

✈ MAJOR ACTIVITIES AND INITIATIVES

Cargo Service – This has been an excellent year for Air Cargo. Currently there are three cargo carriers, Atlas Air, ABX Air and ATI, serving one major customer. We expect to see more flights added during this year. UPS has added 13 more flights weekly to RFD and the hired an additional 250 personnel. UPS is currently expanding the capacity of the sorting facility which will increase the flight activity.



Terminal Expansion Construction – Construction began on the 30,000 square foot addition to the terminal in February 2017. The project will be completed in four phases. The new ticket counters and check-in area are operational. The new TSA screening check point and lobby area bathrooms are also completed and operational. Phase three interior construction has begun which includes inbound baggage claim, new restaurant, upstairs bathrooms, and updated gates. Phase four will include an exterior drive up canopy and is to be completed by February 2020. Upon completion of the fourth phase, the terminal will offer expanded passenger areas, increased TSA security lines, and improved baggage handling areas.

✈ CERTIFICATE OF ACHIEVEMENT

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Greater Rockford Airport Authority for its comprehensive annual financial report for the fiscal year ended April 30, 2017. The Certificate is the highest form of recognition for excellence in state and local government financial reporting.

To be awarded a Certificate of Achievement for Excellence in Financial Reporting, a governmental unit must publish an easily readable and efficiently organized, Comprehensive Annual Financial Report (CAFR), whose contents conform to program standards. Such CAFR must satisfy both accounting principles generally accepted in the United States of America and applicable legal requirements. A Certificate of Achievement is valid for a period of only one year. The Authority has received a Certificate of Achievement for each of the last nineteen consecutive years and we believe our current report conforms to the Certificate of Achievement program requirements, and we plan on submitting it to GFOA to determine its eligibility for another certificate.

✈ OTHER GOVERNMENT FINANCE OFFICERS ASSOCIATION AWARDS

The Government Finance Officers Association awarded the Authority Management the Distinguished Budget Presentation Award for its fiscal year 2018 budget. This was the eighteenth consecutive year the Authority was presented with this award.

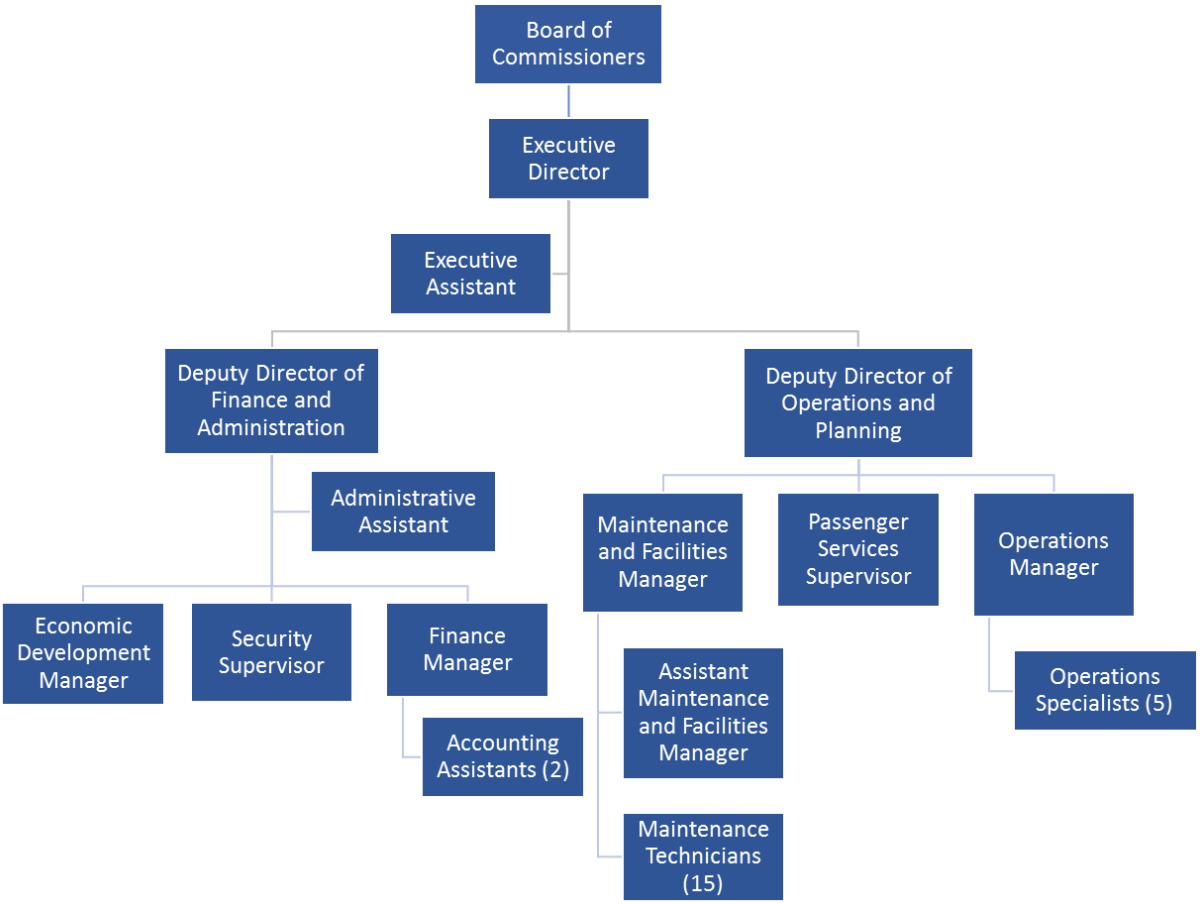
✈ ACKNOWLEDGEMENTS

The preparation of the current comprehensive annual financial report on a timely basis was made possible with the support of the Board of Commissioners, through their guidance and support provided in the planning and conducting of the financial operations of the Authority. Their direction and counsel have helped to ensure that the Greater Rockford Airport Authority will remain a model of excellence for airports throughout the world. The members of the Finance department were instrumental in bringing this comprehensive report to completion.

Respectfully submitted,

Michelle Cassaro
Deputy Director of Finance and Administration

Organizational Chart, Senior Management and Board of Commissioners



Board of Commissioners

Paul Cicero, Chairman
City of Rockford

Patrick Derry, Secretary
Winnebago County

Pat Agnew, Commissioner
City of Rockford

John Elliott, Commissioner
Village of Machesney Park

Thomas Myers, Vice Chairman
City of Loves Park

Kenneth Edward Copeland, Treasurer
City of Rockford

Thomas Dal Santo, Assistant Secretary
Winnebago County

Senior Management

Mike Dunn	Executive Director
Michelle Cassaro	Deputy Director of Finance and Administration
Janette Benoit	Finance Manager

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Greater Rockford Airport Authority

Illinois

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

April 30, 2017

[redacted]

Executive Director/CEO

Financial Section

This section contains the following subsections:

- Independent Auditors' Report
- Management's Discussion and Analysis (unaudited)
- Financial Statements
- Notes to Financial Statements
- Required Supplementary Information

BAKER TILLY

INDEPENDENT AUDITORS' REPORT

To the Board of Commissioners
Greater Rockford Airport Authority
Rockford, Illinois

Report on the Financial Statements

We have audited the accompanying financial statements of the Greater Rockford Airport Authority,Rockford, Illinois as of and for the years ended April 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the Greater Rockford Airport Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control over financial reporting relevant to the Greater Rockford Airport Authority's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Greater Rockford Airport Authority's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Greater Rockford Airport Authority, Rockford, Illinois as of April 30, 2018 and 2017 and the respective changes in financial position and its cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in the net pension liability/(asset) and related ratios, schedule of employer contributions, and the schedule of funding progress for other post-employment benefits, as listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Greater Rockford Airport Authority's basic financial statements. The introductory and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated August 31, 2018 on our consideration of the Greater Rockford Airport Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Greater Rockford Airport Authority's internal control over financial reporting and compliance.

[redacted]

Madison, Wisconsin
August 31, 2018

ROCKFORD

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CHICAGO ROCKFORD
INTERNATIONAL AIRPORT

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) of the Greater Rockford Airport Authority (the Authority) provides an introduction to the financial statements for the fiscal years ended April 30, 2018 and 2017. The information contained in this MD&A should be considered in conjunction with the information contained in the Authority's financial statements.

✈ Overview of the Financial Statements

The Authority's financial statements are prepared on the accrual basis in accordance with generally accepted accounting principles promulgated by the Government Accounting Standards Board (GASB). The Authority is structured as a single enterprise fund with revenues recognized when earned, not when received. Expenses are recognized when incurred, not when paid. Capital assets are capitalized and are depreciated (except land and construction in progress) over their estimated useful lives. See the Notes to Financial Statements for a summary of the Authority's significant accounting policies.

Following this MD&A are the basic financial statements of the Authority together with the notes, which are essential to a complete understanding of the data. The Authority's basic financial statements are designed to provide readers with a broad overview of the Authority's finances.

The *Statement of Net Position* presents information on all the Authority's assets, deferred outflows of resources, liabilities and deferred inflows of resources with the difference between them reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of the Authority's financial position.

The *Statement of Revenues, Expenses and Changes in Net Position* presents information showing how the Authority's net position changed during the year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of timing of related cash flows. Thus, revenues and expenses are reported in this statement for some items that will result in cash flows in future periods.

The *Statement of Cash Flows* relates to the flows of cash and cash equivalents. Consequently, only transactions that affect the Authority's cash accounts are recorded in this statement. Reconciliation is provided at the bottom of the Statement of Cash Flows to assist in the understanding of the difference between cash flows from operating activities and operating income.

✈ Financial Highlights

A summary of the Authority's financial highlights for the year 2018 is as follows:

The assets and deferred outflows of the Authority exceeded the liabilities and deferred inflows by $109.0 million (net position) at April 30, 2018. Of this amount, $12.0 million is unrestricted.

Total liabilities increased by $1.9 million. This is primarily the result of recording accounts payable due to an intergovernmental contribution.

Operating revenues increased by 48% to $7.1 million for FY2018. Landing fee revenue increased by 53% due to increased cargo operations.

Operating expenses for FY2018 increased by 16.5% to $8.8 million. Increased cargo activity resulted in additional operational costs related to snow removal and airfield maintenance.

A summary of the Authority's financial highlights for the year 2017 is as follow:

The assets and deferred outflows of the Authority exceeded the liabilities and deferred inflows by $111.7 million (net position) at April 30, 2018. Of this amount, $16.4 million is unrestricted.

Net capital assets increased by $6.7 million. This is a result of an increase in capital assets of $17.8 million less annual depreciation of $11.1 million.

Total liabilities increased by $11.1 million. This is primarily the result of an increase in debt financing related to the investment in capital assets during FY2017.

Operating revenues decreased by 6.2% to $4.8 million for FY2017. Operating expenses for FY2018 decreased by 10.9% to $7.6 million. This is primarily a result of the absence of AirFest.

✈ Financial Position

The following represents the Authority's financial position for the fiscal years ended April 30:

				% Change	
	FYE18	*FYE17*	*FYE16*	*2018*	*2017*
Assets					
Current assets	$ 14,068,394	$ 13,866,522	$ 10,657,507	1.5	30.1
Capital assets - net	137,648,396	136,435,887	129,727,823	0.9	5.2
Net OPEB asset	234,192	234,192	234,841	0.0	(0.3)
Net pension asset - restricted	562,643	-	-	100.0	0.0
Due from other governments	11,227,407	11,757,667	12,783,655	(4.5)	(8.0)
Total assets	$ 163,741,032	$ 162,294,268	$ 153,403,826	0.9	5.8
Deferred outflows of resources					
Pension-related items	$ 593,992	$ 823,209	$ 930,666	(27.8)	(11.5)
Liabilities					
Current liabilities	$ 8,328,753	$ 20,398,935	$ 12,829,431	(59.2)	59.0
Long-term liabilities, less current maturities	41,966,235	27,987,795	24,391,813	49.9	14.7
Total liabilities	50,294,988	48,386,730	37,221,244	3.9	30.0
Deferred inflows of resources					
Deferred tax revenue	$ 2,954,052	$ 2,894,611	$ 2,782,827	2.1	4.0
Pension-related items	2,126,296	100,920	148,804	2,006.9	(32.2)
Total deferred inflows of resources	5,080,348	2,995,531	2,931,631	69.6	2.2
Net position					
Net investment in capital assets	$ 96,396,493	$ 95,357,086	$ 104,161,337	1.1	(8.5)
Restricted for pension	562,643	-	-	100.00	0.0
Unrestricted	12,000,552	16,378,130	10,020,280	(26.7)	63.4
Total net position	108,959,688	111,735,216	114,181,617	(2.5)	(2.1)
Total liabilities, deferred inflows of resources and net position	$ 164,335,024	$ 163,117,477	$ 154,334,492	0.7	5.7

An analysis of significant changes in net position for the year 2018 is as follows:

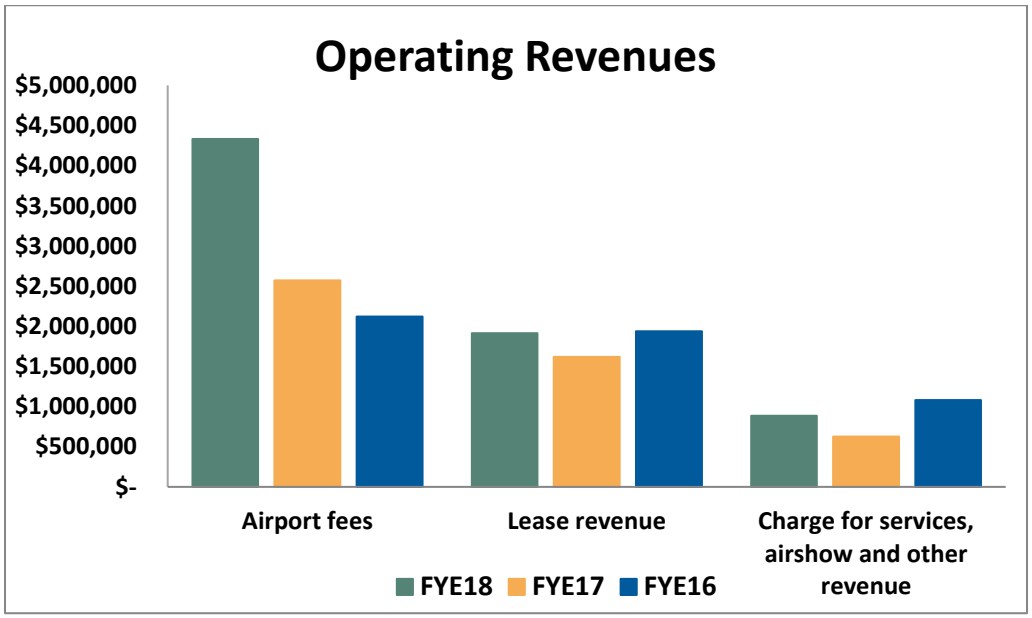
- Ending net position is $109.0 million. Of this amount $96.3 million represents net investment in capital assets, $562 thousand is restricted and $12.0 million represents unrestricted net position.
- Net position decreased by $2.7 million in 2018. This is a result of an increase in interest expense as well as an increase in depreciation related to capital projects placed in service.
- Total assets and deferred outflows of resources of the Authority exceeded its liabilities and deferred inflows of resources by $109.0 million.

An analysis of significant changes in net position for the year 2017 is as follows:

- Ending net position is $111.7 million. Of this amount $95.3 million represents net investment in capital assets and $16.4 million represents unrestricted net position.
- Net position decreased by $2.4 million in 2017. This is a result of an increase in interest expense as well as an increase in depreciation related to capital projects placed in service.
- Total assets and deferred outflows of resources of the Authority exceeded its liabilities and deferred inflows of resources by $111.7 million.

The Authority's summary of revenues for the fiscal years ended April 30:

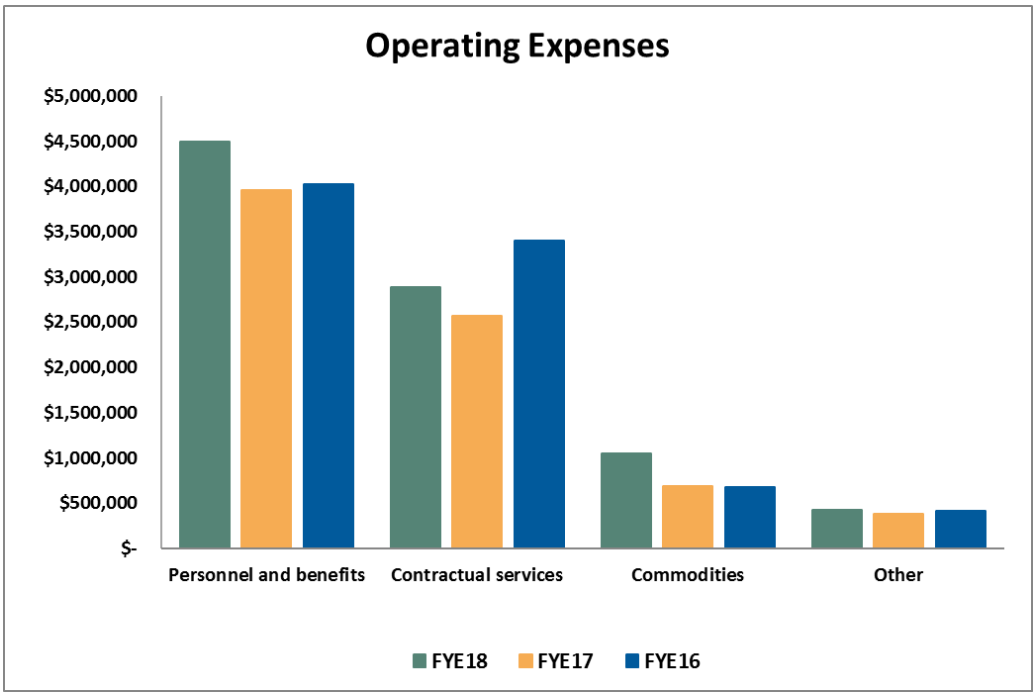
				% Change	
	FYE18	*FYE17*	*FYE16*	*2018*	*2017*
Operating revenues:					
Airport fees	$ 4,331,016	$ 2,571,899	$ 2,121,537	68.4	21.2
Lease revenue	1,913,107	1,620,438	1,936,549	18.1	(16.3)
Charge for services, airshow and other revenue	887,164	627,136	1,080,769	41.5	(42.0)
Total operating revenues	$ 7,131,287	$ 4,819,473	$ 5,138,855	48.0	(6.2)



- Airport fees are variable in nature and include on-airport fuel flowage and landing fees and rental car commissions. These fees are directly attributable to the direct operation of the airport. There was an increase in 2018 in airport fees from the prior year by 68.4%. Landing fees increased due to increased cargo activity.
- Lease revenues are collected from the tenants for the use of real and improved property on the airport grounds. Lease revenues increased by 18.1% in 2018 due to new lease agreements. In 2017, lease revenues decreased by 16.3% from 2016.
- Charges for services, airport service fees, and other revenues consist of several revenues collected for operating the airport. Charges for services showed a 41.5% increase for 2018 due to increased badging fees and other tenant charges. Lack of AirFest revenue caused a 42% decrease in this line item in 2017.

The following represents the Authority's summary of operating expenses before depreciation and amortization by source for the years ended April 30:

				% Change	
	FYE18	*FYE17*	*FYE16*	*2018*	*2017*
Operating expenses (excluding depreciation):					
Personnel and benefits	$ 4,495,847	$ 3,957,557	$ 4,026,916	13.6	(1.7)
Contractual services	2,886,151	2,570,490	3,402,197	12.3	(24.4)
Commodities	1,046,229	692,246	678,855	51.1	2.0
Other	421,174	377,857	418,571	11.5	(9.7)
Total operating expenses (excluding depreciation)	$ 8,849,401	$ 7,598,150	$ 8,526,539	16.5	(10.9)



- Personnel and Benefits in 2018 showed an increase of 13.6%. Staff promotions and filled vacancies during FY2018 contributed to the increase.
- Contractual Services increased by 12.3 percent in 2018. The increase is due to expenses related to increased cargo service in 2018.
- Commodities are materials the Authority purchases for maintaining the airport. Commodities costs overall were up 51.1% from prior year due to increased spending for chemicals for snow and ice removal.
- Other expenses are the costs associated with post closure care on two closed landfills on airport property, costs related to the glycol ponds and property taxes. Property taxes increased from the prior year amount.
- Non-operating revenue is comprised of property and corporate replacement taxes, interest income from investments and intergovernmental revenues and Passenger Facility Charges (PFCs). Included in the non-operating revenue category are non-operating expenses such as interest expense and intergovernmental contributions.
- Non-operating revenues and expenses decreased in 2018 by 79.4% primarily due to intergovernmental contributions recorded as payable to the City of Rockford. In addition, interest expense increased by 57.6%

The following represents the Authority's summary of changes in net position for the years ended April 30:

				% Change	
	FYE18	*FYE17*	*FYE16*	*2018*	*2017*
Operating revenues					
Airport fees	$ 4,331,016	$ 2,571,899	$ 2,121,537	68.4	21.2
Lease revenue	1,913,107	1,620,438	1,936,549	18.1	(16.3)
Charge for services and other revenue	887,164	627,136	1,080,769	41.5	(42.0)
Total operating revenues	7,131,287	4,819,473	5,138,855	48.0	(6.2)
Operating expenses					
Personnel and benefits	4,495,847	3,957,557	4,026,916	13.6	(1.7)
Contractual services	2,886,151	2,570,490	3,402,197	12.3	(24.4)
Commodities	1,046,229	692,246	678,855	51.1	2.0
Other	421,174	377,857	418,571	11.5	(9.7)
Total operating expenses	8,849,401	7,598,150	8,526,539	16.5	(10.9)
Less depreciation	12,009,242	11,114,108	10,484,932	8.1	6.0
Operating Loss	(13,727,356)	(13,892,785)	(13,872,616)	(1.2)	0.1
Nonoperating revenues (expenses)					
Taxes - property and corporate	3,397,623	3,385,292	3,469,200	0.4	(2.4)
Interest income	24,694	14,532	3,335	69.9	335.7
Other income	86,279	276,832	302,444	(68.8)	(8.5)
Intergovernmental revenue	563,609	525,365	-	7.3	100.0
Passenger facility charges	484,770	497,802	495,649	(2.6)	0.4
Interest expense	(1,535,629)	(974,449)	(111,194)	57.6	776.4
Intergovermental contribution	(2,199,824)	-	-	100.0	0.0
Other expense	(58,231)	(22,841)	(727,144)	154.9	(96.9)
Total other revenues (expenses)	763,291	3,702,533	3,432,290	(79.4)	7.9
Capital contributions	10,188,537	7,743,851	17,542,390	31.6	(55.9)
Change in net position	$ (2,775,528)	$ (2,446,401)	$ 7,102,064	13.5	(134.4)
Net position, beginning of year	111,735,216	114,181,617	107,238,382		
Restatement	-	-	(158,829)		
Net position, beginning of year (as restated)	111,735,216	114,181,617	107,079,553		
Net position, end of year	$ 108,959,688	$ 111,735,216	$ 114,181,617		

Source: The Authority Finance Department

✈ Capital Assets

The investment in capital assets includes land, buildings, building improvements, runways, taxiways, roads, machinery, equipment, vehicles, furniture and fixtures. The Authority's capital assets as of April 30, 2018 totaled $137.6 million (net of accumulated depreciation). This was a net increase of $1.2 million from the prior year with annual depreciation of $12 million, $13.2 million in additions during the year, and no disposals during FY2018.

Major capital projects in process during 2018 included the following:

- ✈ Implementation of Paid Parking
- ✈ Cargo Apron Expansion
- ✈ Terminal Expansion Construction

Major capital projects in process during 2017 included the following:

- ✈ Completion of MRO Facility
- ✈ Terminal Expansion Construction

Capital asset acquisitions are capitalized at cost and depreciated using the straight-line method. Acquisitions are funded using a variety of financing techniques, including federal and state grants, passenger facility charges, debt issuance and the Authority revenues, sinking funds and reserves.

The Authority's capital assets as of April 30, 2017 totaled $136.4 million (net of accumulated depreciation). This was a net increase of $6.7 million from the prior year with annual depreciation of $11.1 million, $17.8 million in additions during the year, and $363 thousand in disposals during FY2017.

See Notes 2 and 6 for further information on capital assets.

✈ Debt Administration

General Obligation Alternate Revenue Bonds, Series 2008

On December 1, 2008, the Authority issued General Obligation Alternate Revenue Bonds, Series 2008, in the principal amount of $8,200,000, in varying maturities up to twenty years. This issue was sold at a range of 4.30% to 5.35%. The bonds are non-taxable and secured by future Airport Improvement Program Federal Grant money expected to be received.

Balance outstanding at April 30, 2018 - $2,699,200, 2017 – $2,961,900.

Capital Lease

In 2014, the Authority entered into a tax-exempt lease purchase agreement for two Oshkosh H Series Snow Brooms. The amount of the capital lease is $1,223,800. The agreement was entered into on July 26, 2013 with the first payment due September 26, 2014 and each year after for a period of seven years. The annual interest rate is 2.91%. The annual payment of principal and interest is $196,230. There is a buy-out option of $1 at the end of the lease term.

Balance outstanding at April 30, 2018 - $556,021, 2017 – $730,980.

General Obligation Alternate Revenue Bonds, Series 2014

On November 24, 2014, the Authority issued General Obligation Alternate Revenue Bonds, Series 2014, in the principal amount of $400,000, in varying maturities for eight years and nine months. This issue was sold at 4.99% fixed. The bonds are non-taxable and secured by assignment of rents related to the lease agreement dated October 6, 2014 for property located at 40 Airport Drive.

Balance outstanding at April 30, 2018 - $270,930, 2017 – $311,994.

General Obligation Alternate Revenue Bonds, Series 2015A

On December 3, 2015, the Authority issued General Obligation Alternate Revenue Bonds, Series 2015A, in the principal amount of $8,000,000, in varying maturities for twenty years. This issue was sold at 3.19% fixed. An intergovernmental agreement was executed between the Authority and Winnebago County. The bonds are non-taxable and secured by landfill host fees revenue earned by the County.

Balance outstanding at April 30, 2018 - $7,611,181, 2017 – $7,923,890.

General Obligation Alternate Revenue Bonds, Series 2015B

On December 3, 2015, the Authority issued General Obligation Alternate Revenue Bonds, Series 2015B, in the principal amount of $5,000,000, in varying maturities for twenty years. This issue was sold at 3.19% fixed. An intergovernmental agreement was executed between the Authority and the City of Rockford. The bonds are non-taxable and secured by sales tax revenue collected by the City.

Balance outstanding at April 30, 2018 - $4,667,887, 2017 – $4,859,765.

General Obligation Alternate Revenue Bonds, Series 2015C

On December 3, 2015, the Authority issued General Obligation Alternate Revenue Bonds, Series 2015C, in the principal amount of $4,000,000, in varying maturities for twenty years. This issue was sold at 3.19% fixed. The bonds are non-taxable and secured by assignment of rents related to the lease agreement dated August 21, 2014 for property located at 6150 Cessna Drive.

Balance outstanding at April 30, 2018 - $3,695,425, 2017 – $3,887,812.

General Obligation Alternate Revenue Bonds, Series 2017

On February 8, 2017, the Authority issued General Obligation Alternate Revenue Bonds, Series 2017, in the principal amount of $4,750,000 in varying maturities for twenty years. This issue was sold with a 10-year 4.00% fixed interest rate. The interest rate will change on the first day of year eleven to the 10-year treasury rate on that day plus 1.55% and will be fixed for the remaining ten years of the term. The bonds are non-taxable and secured by revenues derived from Passenger Facility Charges.

Balance outstanding at April 30, 2018 - $4,560,936, 2017 – $4,719,533.

Lines of Credit

During FY2016, state and federal budget issues resulted in funding shortages in the construction of the MRO facility. The Authority opened a line of credit to continue construction of the facility. The initial line of credit totaled $8 million and was fully drawn down for construction-related expenses. This line of credit was paid off with bond proceeds when the Series 2015 bonds were issued in December 2015.

Bond proceeds were exhausted in March 2016. Federal and state funding was still on hold. Several local banks collaborated to authorize a second line of credit totaling $17 million. In December 2017, the line of credit was converted to a Promissory Note with a maturity date of December 10, 2022. Monthly payments consist of principal and interest in the amount of $96,229.72, based on a twenty-five (25) year amortization schedule, with the remaining principal and interest due on the new maturity date. The interest rate is a fixed rate of 4.75%. As of April 30, 2018, $16.6 million is outstanding on the note. It is expected that state and federal funds will be received prior to due date and will be utilized to pay off the note.

On September 29, 2017, the Authority entered into a Promissory Note to purchase equipment for paid parking implementation. The interest rate is a fixed rate of 4.50%. Monthly principal and interest payments of 14,003.16 will be made until the note matures on January 1, 2023. As of April 30, 2016, $676,151 remained outstanding on the note.

See Note 7 for further information on long-term debt.

The Authority is subject to debt limitations and those limitations are provided in Note 8. The Authority did not experience any negative changes in its credit rating or limitation during the year.

✈ Passenger Facility Charge (PFC)

In October 1992, the Authority received approval from the Federal Aviation Administration (FAA) to impose a PFC of $3.00 per enplaned passenger. In April 2007, the FAA approved the Authority's request to increase the PFC level to $4.50 on all remaining reimbursements. The new collection rate commenced on June 1, 2007. The total approved collectible amount is $7,476,945 and the Authority has collected PFCs, including interest earned totaling $7,128,354.

In 2016, the Authority received FAA approval to continue to impose a PFC until March 1, 2038. The total approved collectible amount is $8,627,885. PFC collections will be utilized to support the costs of the terminal expansion project including bond principal and interest payments.

✈ Factors Bearing on the Authority's Future

At the time these financial statements were prepared and audited, the Authority was unaware of any adverse existing circumstances that could significantly affect its financial health in the future.

✈ Contacting the Authority's Financial Management

This financial report is designed to provide the public with a general overview of the Authority's finances and to demonstrate the Authority's accountability for the money it receives. If you have questions about this report or need additional financial information, contact the Authority's Deputy Director of Finance and Administration, Michelle Cassaro, at the Greater Rockford Airport Authority, 60 Airport Drive, Rockford, Illinois 61109, 815.969.4445 or scassaro@flyrfd.com. A copy of this report as well as the last ten years can be found on our website at http://flyrfd.com/minutes/.

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INTERNATIONAL AIRPORT

Greater Rockford Airport Authority
Statements of Net Position
April 30, 2018 and 2017

Assets and Deferred Outflows of Resources	FYE18	FYE17
Current assets		
Cash and cash equivalents	$ 4,465,038	$ 5,076,147
Accounts receivable (net of allowances for uncollectibles of $3,389 and $2,249 in 2018 and 2017, respectively)	4,628,881	3,147,566
Taxes receivable	2,954,052	2,894,611
Prepaid expenses and other current assets	155,481	193,836
Due from other governments	587,883	945,239
Restricted cash and cash equivalents	1,277,059	1,609,123
Total current assets	14,068,394	13,866,522
Non-current assets		
Land	16,659,524	16,659,524
Construction in progress	23,127,499	21,353,229
Capital assets net of accumulated depreciation	97,861,373	98,423,134
Total capital assets, net	137,648,396	136,435,887
Net OPEB asset	234,192	234,192
Net pension asset - restricted	562,643	-
Due from other governments	11,227,407	11,757,667
Total non-current assets	149,672,638	148,427,746
Total assets	163,741,032	162,294,268
Deferred outflows of resources		
Pension-related items	593,992	823,209
Total deferred outflows of resources	593,992	823,209
Total assets and deferred outflows of resources	$ 164,335,024	$ 163,117,477

Liabilities, Deferred Inflows of Resources and Net Position	FYE18	FYE17
Current liabilities		
Accounts payable	$ 5,833,528	$ 1,982,796
Interest payable	194,823	183,850
Security deposits	26,823	26,919
Accrued payroll	84,279	73,766
Prepaid rent	56,146	35,453
Current maturities of long-term liabilities	2,088,098	1,295,563
Line of credit	-	16,762,190
Compensated absences	45,056	38,398
Total current liabilities	8,328,753	20,398,935
Long-term liabilities, less current maturities		
General obligation alternate revenue bond	22,098,606	23,544,292
Capital lease obligation	375,971	556,020
Promissory note	16,283,207	-
Line of credit	536,066	-
Compensated absences	87,824	82,236
Landfill closure and postclosure care	1,139,122	1,139,122
Stormwater retention	1,445,439	1,429,743
Net pension liability	-	1,236,382
Total long-term liabilities, less current maturities	41,966,235	27,987,795
Total liabilities	50,294,988	48,386,730
Deferred inflows of resources		
Deferred tax revenue	2,954,052	2,894,611
Pension-related items	2,126,296	100,920
Total deferred inflows of resources	5,080,348	2,995,531
Net position		
Net investment in capital assets	96,396,493	95,357,086
Restricted	562,643	-
Unrestricted	12,000,552	16,378,130
Total net position	108,959,688	111,735,216
Total liabilities, deferred inflows of resources and net position	$ 164,335,024	$ 163,117,477

Greater Rockford Airport Authority
Statements of Revenue, Expenses and Changes in Net Position
Years Ended April 30, 2018 and 2017

	FYE18	*FYE17*
Operating revenues		
Airport fees	$ 4,331,016	$ 2,571,899
Lease revenue	1,913,107	1,620,438
Charge for services and other revenue	887,164	627,136
Total operating revenues	7,131,287	4,819,473
Operating expenses		
Personnel and benefits	4,495,847	3,957,557
Contractual services	2,886,151	2,570,490
Commodities	1,046,229	692,246
Other	421,174	377,857
Total operating expenses	8,849,401	7,598,150
Operating loss before depreciation	(1,718,114)	(2,778,677)
Less: Depreciation	12,009,242	11,114,108
Operating loss	(13,727,356)	(13,892,785)
Nonoperating revenues (expenses)		
Taxes - property and corporate	3,397,623	3,385,292
Interest income	24,694	14,532
Passenger facility charges	484,770	497,802
Intergovernmental revenue	563,609	525,365
Other income	86,279	276,832
Interest expense	(1,535,629)	(974,449)
Intergovermental contribution	(2,199,824)	-
Loss on asset disposal	-	(10,966)
Bond issuance expense	-	(11,875)
Other expense	(58,231)	-
Total nonoperating revenues (expenses)	763,291	3,702,533
(Loss) before capital contributions	(12,964,065)	(10,190,252)
Capital contributions	10,188,537	7,743,851
Change in net position	(2,775,528)	(2,446,401)
Net position, beginning of year	111,735,216	114,181,617
Net position, end of year	$ 108,959,688	$ 111,735,216

Greater Rockford Airport Authority
Statements of Cash Flows
Years Ended April 30, 2018 and 2017

	FYE18	*FYE17*
Cash flows from operating activities		
Cash received from providing services	$ 7,190,800	$ 4,765,295
Cash paid to employees, including benefits	(4,017,520)	(3,752,886)
Cash paid to suppliers	(4,568,950)	(4,952,275)
Net cash used in operating activities	(1,395,670)	(3,939,866)
Cash flows from investing activities		
Interest received	24,694	14,532
Proceeds from maturities of investments	-	2,541,230
Net cash provided by investing activities	24,694	2,555,762
Cash flows from noncapital financing activities		
Cash receipts from property taxes, general	2,877,582	2,763,791
Cash receipts from corporate replacement taxes	520,041	621,501
Cash paid to city for capital contributions	(2,199,824)	-
Net cash provided by noncapital financing activities	1,197,799	3,385,292
Cash flows from capital and related financing activities		
Cash receipts from capital contributions for capital assets	8,754,585	7,209,756
Cash receipts from passenger facility charges	484,770	497,802
Payments for capital acquisitions	(9,159,804)	(21,641,842)
Principal payments on capital lease	(174,959)	(170,011)
Cash receipts from new bond issuance	-	4,750,000
Cash receipts from line of credit	700,331	12,657,414
Intergovernmental revenues	1,451,227	525,365
Principal payments on revenue bonds	(1,159,335)	(645,825)
Principal payments on promissory note	(117,975)	-
Principal payments on line of credit	(24,180)	-
Interest paid	(1,524,656)	(997,615)
Debt issuance costs	-	(11,875)
Net cash used in capital and related financing activities	(769,996)	2,173,169
Net increase (decrease) in cash and cash equivalents	(943,173)	4,174,357
Cash and cash equivalents, beginning of year	6,685,270	2,510,913
Cash and cash equivalents, end of year	$ 5,742,097	$ 6,685,270
Reconciliation of operating loss to net cash used in operating activities:		
Operating loss	$ (13,727,356)	$ (13,892,785)
Adjustments to reconcile operating loss to net cash used in operating activities:		
Depreciation	12,009,242	11,114,108
Other income (expense)	28,048	264,957
Increase (decrease) from changes in:		
Accounts receivable	(47,362)	(304,479)
Prepaid expenses and other current assets	38,355	(79,339)
Deferred outflows - pension related	229,217	107,457
Security deposits	(99)	431
Prepaid rent	20,693	(15,087)
Accrued payroll, compensated absences and OPEB's	22,759	(7,718)
Storm water retention	15,697	11,817
Net pension liability	(1,799,025)	152,816
Accounts payable	(211,215)	(1,244,160)
Deferred inflows - pension related	2,025,376	(47,884)
Net cash used in operating activities	$ (1,395,670)	$ (3,939,866)
Reconciliation of cash and cash equivalents to the statement of net position		
Current cash and cash equivalents	$ 4,465,038	$ 5,076,147
Restricted cash and cash equivalents	1,277,059	1,609,123
Subtotal	$ 5,742,097	$ 6,685,270
Less: Non-cash equivalents	-	-
Cash and cash equivalants, end of year	$ 5,742,097	$ 6,685,270
Schedule of noncash capital and related financing activities:		
Contributions of capital assets	$ -	$ 135,487
Interest charged to construction	$ 38,932	$ 661,055

Notes to Financial Statements

The accounting methods and procedures adopted by the Greater Rockford Airport Authority conform to accounting principles generally accepted in the United States of America as applied to governmental entities. The following notes are an integral part of the Authority's financial statements.

Note 1 – Organization and Reporting Entity

The Authority is a municipal corporation and body politic of the State of Illinois, organized in 1946 pursuant to the provisions of the Airport Authorities Act (Act) of 1945 to acquire, develop and manage the Chicago Rockford International Airport. As a municipal corporation, the Authority is independent and not an agency of the State of Illinois or any other local government unit.

The Authority is governed by a seven-member Board of Commissioners. The members are appointed as follows:

- The Mayor of the City of Rockford, 3 members;
- Winnebago County Board Chairman, 2 members;
- The Mayor of the City of Loves Park, 1 member; and
- The Village President of the Village of Machesney Park, 1 member.

The Authority members serve five-year terms, except that any person appointed to fill a vacancy will be appointed to serve the unexpired term. Members of the Board of Commissioners are eligible for reappointment. The Board selects an Executive Director to staff the respective departments and oversee the day-to-day operations.

The Authority is authorized to levy ad valorem taxes on all real property located within Winnebago County and is not subject to federal, state or local income taxes or sales taxes.

Note 2 – Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared on the accrual basis of accounting, whereby revenues and expenses are recognized in the period earned or incurred. All transactions are accounted for in a single enterprise fund.

Budgetary Data

The Authority prepares its budget partially on a cash basis. This basis is a departure from accounting principles generally accepted in the United States of America in that capital expenditures, including capital outlays and improvements, debt service and grant service, are entirely recognized in the year purchased or paid. Therefore, depreciation is not budgeted. All other revenues and expenses are budgeted on an accrual basis.

The budget process begins each October. The Deputy Director of Finance and Administration prepares a preliminary budget for review and approval by respective department heads. Upon favorable review by department heads, the Executive Director submits the budget for review, approval and adoption by the Board. The budget can be amended by the Board subsequent to its adoption.

There were no budget amendments in the fiscal years ended April 30, 2018 and 2017.

Note 2 – Summary of Significant Accounting Policies (continued)

Operating Revenues and Expenses

The Authority distinguishes operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services relating to the Authority's operations. The principal operating revenues of the Authority are airport fees (primarily landing fees and fuel flowage fees) and lease revenue. The Authority also recognizes certain other revenues as operating revenues, including storm water retention fees, fuel permits, quarry fees, and grant revenue for operating activities, etc. Operating expenses for the Authority include personnel and benefit costs, contractual services costs, commodities and others. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

Cash and Cash Equivalents

For purposes of the statement of cash flows, the Authority considers all highly liquid investments (including short-term investments) with maturities of three months or less when purchased to be cash equivalents.

Investments

Investments are stated at fair value. Fair value is determined primarily on the basis of quoted market prices. Interest income is recorded as earned.

Accounts Receivable

Accounts receivable includes amounts due from Authority tenants as well as amounts due from the federal and state governments for grants. The amount shown is reduced by an estimated reserve for uncollectible accounts.

Taxes Receivable

Taxes receivable include taxes levied in the current fiscal year that will be paid in the following fiscal year. The balance is reported as unearned at year-end because the tax levy will be used to fund expenses of the following year.

Due from Other Governments

During FY2016, the Authority entered into agreements with the City of Rockford and County of Winnebago. These agreements provide for quarterly payments from the City and County towards the 2015 Series A and Series B bonds. Total payments remaining to be received from the City and County are reflected on the Statement of Net Position.

Compensated Absences

The Authority accrues vacation and sick pay benefits as earned by its employees. Employees are expected to use their accrued vacation in the calendar year in which it is accrued. An employee whose employment terminates will be paid for accrued unused vacation days. Sick leave not used in a calendar year can be carried over to subsequent years up to a maximum of 75 days. Upon termination of employment, an employee may receive payment in the amount of 25% of accrued sick time.

Note 2 – Summary of Significant Accounting Policies (continued)

Capital Assets

All individual items with a cost in excess of $2,000 that provide more than one year of economic benefit are capitalized. Depreciation and amortization are calculated by the straight-line method using the assets' useful life that is classified as follows:

	Years
Buildings	20
Infrastructure	20
Equipment, office equipment and vehicles	3-10
Intangible Assets	5-10

Routine maintenance and repairs are expensed as incurred. Significant betterment and improvements are capitalized and depreciated over their estimated useful lives. Interest incurred during the construction phase of capital assets is reflected in the capitalized value of the assets constructed, net of interest earned on the invested proceeds over the same period. Donated capital assets, donated works of art and similar items, in addition to capital assets received in a service concession arrangement, are recorded at their estimated acquisition value at the date of donation. Airport Improvement Projects (AIP) financed by State of Illinois are capitalized as contributed capital using the most available information as provided by the Illinois Division of Aeronautics.

Deferred Outflows/Inflows of Resources

In addition to assets, the statement of net position contains a separate category titled deferred outflows of resources, which represents a consumption of net position that applies to a future period. In FY2016, the Authority implemented GASB Statement No. 68 resulting in deferred outflows of resources related to pension contributions made subsequent to the measurement date. For further information, see note 9.

In addition to liabilities, the statement of net position contains a separate category titled deferred inflows of resources, which represents an acquisition of net position that applies to a future period. The Authority recognizes taxes levied in the current fiscal year that will be paid in the following fiscal year as deferred inflows. The balance is reported as deferred inflows of resources at year-end because the tax levy will be used to fund expenses of the following year.

In FY2016, the Authority implemented GASB Statement No. 68 resulting in deferred inflows of resources related to pension related items. For further information, see note 9.

Use of Estimates

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Net Position

The Authority classified its net position in three categories as follows:

Net Investment in capital assets consists of capital assets, net of accumulated depreciation and reduced by outstanding balances for bonds and other debt that are attributable to the acquisition, construction or improvement of those assets.

Restricted results when constraints placed on net position use are either externally imposed by creditors, grantors, and the like, or imposed by law through constitutional provisions or enabling legislation. The Authority had restricted net position of $562,643 at April 30, 2018 and no restricted net position at April 30, 2017.

Note 2 – Summary of Significant Accounting Policies (continued)

Unrestricted consist of all other net position that does not meet the criteria above.

When both restricted and unrestricted resources are available for use, it is the Authority's policy to use restricted resources first, then unrestricted resources as they are needed.

Comparative Data – Certain amounts presented in the prior year data may have been reclassified to be consistent with the current year's presentation.

Note 3 – Cash, Cash Equivalents and Investments

Cash, cash equivalents and investments of the Authority at April 30 consist of the following:

	2018	2017
Cash and cash equivalents		
Cash on hand	$ 520	$ 520
Deposits and money market accounts	4,464,518	5,075,627
Total cash and cash equivalents	4,465,038	5,076,147
Restricted cash and cash equivalents	1,277,059	1,609,123
Total cash, cash equivalents and investments	$ 5,742,097	$ 6,685,270

Custodial Credit Risk – Deposits: Custodial credit risk is the risk that in the event of bank failure, the Authority's deposits may not be returned to it. The Authority has a policy regarding custodial credit risk which requires that funds on deposit in excess of FDIC or FSLIC limits be secured by either securities guaranteed by the full faith and credit of the United States of America or obligations of the United States of America or its agencies. The Authority's policy also requires that the amount of collateral provided shall not be less than 105% of the fair market value of the funds secured. Pledged collateral shall be held by the Authority or in safekeeping, evidenced by a safekeeping agreement. Collateral in safekeeping must be held by a third party or by an escrow agent of the pledging institution. As of year-end, the Authority did not have any deposits exposed to custodial credit risk.

Custodial Credit Risk – Investments: For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, the Authority will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The Authority's investment policy addresses custodial credit risk, as applicable, as detailed under *Custodial Credit Risk – Deposits*.

Interest Rate Risk: - Investments: The Authority had no investments at year-end for FY2018 and FY2017.

The Authority does not have a policy on interest rate risk however investments are structured so funds are available to meet ongoing operations and those funds intended for longer term purposes are invested to maturity dates to reflect potential future uses with limited maturity lengths.

Credit Risk:
The Greater Rockford Airport Authority may invest public funds in certain types of security as allowed by the Public Funds Investment Act, 30 ILCS 235 et seq. "Public Funds" are defined as current operating funds, special funds, interest and sinking funds, and funds of any kind belonging to or in the custody of the Greater Rockford Airport Authority. While the Public Funds Investment Act allows the investment of public funds in a wider range of possible securities, it is the policy of the Greater Rockford Airport Authority that its investments be limited to the allowed securities as identified hereof.

Note 3 – Cash, Cash Equivalents and Investments (continued)

Allowable securities are as follows:

- Bonds, notes, certificates of indebtedness, treasury bills, or other securities, which are guaranteed by the full faith and credit of the United States of America.
- Bonds, notes, debentures, or other similar obligations of the United States of America or its agencies.
- Any interest-bearing account, deposit (including certificates of deposit), or any other investment constituting direct obligations of any bank, collateralized pursuant to Section 6, and as defined by the Illinois Banking Act and only those insured by the Federal Deposit Insurance Corporation (FDIC).
- Any repurchase agreements not to exceed 330 days as provided for in 30 ILCS 235/2 (h) so long as such repurchase agreements comply with said statute and are supported by the full faith and credit of the United States of America.

The Authority does not have any investments exposed to credit risk.

Concentration of Credit Risk – Investments: Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. The Authority's investment policy allows for no more than 40% of the total investment portfolio, exclusive of U.S. Treasury securities held in safekeeping to be held at one financial institution. The Authority does not have any investments exposed to concentration of credit risk.

Note 4 – Property Taxes

Property taxes are recognized as a receivable at the time they are levied. The taxes receivable at April 30, 2018 represent the 2017 tax levy, for which the Authority was required to file its tax levy with the Winnebago County Clerk by the last Tuesday of December. These taxes were assessed and attached as an enforceable lien on the real property as of the preceding January 1.

Tax bills are normally mailed by May 1, and are due in two equal installments in June and September. These taxes are collected by the County Collector, who in turn remits to the Authority its respective share.

Property taxes levied in the current year are measurable but not available to finance current operations and, therefore, are recorded as deferred inflows of resources. Property tax revenues are recognized in the year following the levy.

No allowances for uncollectible is provided as historical collections have shown that over 99% of all funds are received.

Replacement Tax Allotments

On January 1, 1979, the Corporate Personal Property Tax was abolished and on August 11, 1979, a new tax called the Personal Property Replacement Tax (Replacement Tax) was created. The State law mandates that the Replacement Tax is to be first applied toward payment of the proportionate amount of debt service previously paid from personal property tax levies. Next, the revenues are to be applied to payment of the proportionate share of pension or retirement obligations until satisfied; any remaining monies are to be distributed to other funds, which were previously supported by personal property taxes. The Authority recognizes revenue from the Replacement Tax when it becomes measurable and available in accordance with accounting principles generally accepted in the United States of America. For fiscal years ended April 30, 2018 and 2017; $520,041 and $621,501, respectively have been recognized.

Note 5 – Restricted Assets

As of April 30, 2018 and April 30, 2017, restricted assets consist of amounts received from the City of Rockford and Winnebago County for future payments on debt services. Funds may only be used for debt service payments for the 2015 Series bonds. In addition, a portion of the restricted assets as of April 30, 2018 and April 30, 2017 consisted of unspent bond proceeds. As of April 30, 2018, the Authority has a restricted net pension asset.

Note 6 – Capital Assets

Changes in capital assets are summarized as follows for the year ended April 30, 2018:

	April 30, 2017	*Additions*	*Transfers*	*Disposals*	***April 30, 2018***
Capital assets not being depreciated:					
Land	$ 16,659,524	$ -	$ -	$ -	**$ 16,659,524**
Construction in progress - Grants	18,642,697	12,004,480	(8,782,754)	-	**21,864,423**
Construction in progress - GRAA	2,710,532	1,160,602	(2,608,058)	-	**1,263,076**
Total capital assets not being depreciated	38,012,753	13,165,082	(11,390,812)	-	**39,787,023**
Capital assets being depreciated:					
Buildings	65,607,834	8,639	-	-	**65,616,473**
Vehicles	653,763	-	-	-	**653,763**
Equipment	13,068,769	49,608	-	-	**13,118,377**
Infrastructure	162,231,899	-	11,390,812	(1,578)	**173,621,133**
Office equipment	477,266	-	-	-	**477,266**
Total capital assets being depreciated	242,039,530	58,247	11,390,812	(1,578)	**253,487,011**
Less accumulated depreciation:					
Buildings	19,113,872	2,749,392	-	-	**21,863,264**
Vehicles	569,256	32,855	-	-	**602,111**
Equipment	10,571,623	571,870	-	-	**11,143,493**
Infrastructure	113,198,085	8,616,741	-	-	**121,814,826**
Office equipment	163,560	38,384	-	-	**201,944**
Total accumulated depreciation	143,616,396	12,009,242	-	-	**155,625,638**
Total capital assets being depreciated, net	98,423,134	(11,950,995)	11,390,812	(1,578)	**97,861,373**
Total capital assets, net	$ 136,435,887	$ 1,214,086	$ -	$ (1,578)	**$ 137,648,396**

Changes in capital assets are summarized as follows for the year ended April 30, 2017:

	April 30, 2016	*Additions*	*Transfers*	*Disposals*	***April 30, 2017***
Capital assets not being depreciated:					
Land	$ 16,659,524	$ -	$ -	$ -	**$ 16,659,524**
Construction in progress - Grants	11,125,465	7,517,232	-	-	**18,642,697**
Construction in progress - GRAA	31,110,822	9,868,952	(38,269,242)	-	**2,710,532**
Total capital assets not being depreciated	58,895,811	17,386,184	(38,269,242)	-	**38,012,753**
Capital assets being depreciated					
Buildings	27,691,208	-	37,916,626	-	**65,607,834**
Vehicles	699,023	37,973	-	(83,233)	**653,763**
Equipment	13,341,604	6,970	-	(279,805)	**13,068,769**
Infrastructure	161,796,919	396,408	38,572	-	**162,231,899**
Office equipment	157,618	5,603	314,045	-	**477,266**
Total capital assets being depreciated	203,686,372	446,954	38,269,242	(363,038)	**242,039,530**
Less accumulated depreciation					
Buildings	17,295,859	1,818,013	-	-	**19,113,872**
Vehicles	605,204	47,285	-	(83,233)	**569,256**
Equipment	10,181,303	670,125	-	(279,805)	**10,571,623**
Infrastructure	104,634,943	8,563,142	-	-	**113,198,085**
Office equipment	137,051	26,509	-	-	**163,560**
Total accumulated depreciation	132,854,360	11,125,074	-	(363,038)	**143,616,396**
Total capital assets being depreciated, net	70,832,012	(10,678,120)	38,269,242	-	**98,423,134**
Total capital assets, net	$ 129,727,823	$ 6,708,064	$ -	$ -	**$ 136,435,887**

Depreciation expense may differ from the statements of revenue, expenses and changes in net position when compared to additions to accumulated depreciation because of salvage, cost of removal, or costs associated with the disposal of assets. Capital assets were transferred between Construction in Progress – GRAA to Construction in Progress – Grants during FY2018 to reflect the correct classification.

Note 7 – Long-Term Debt

Changes in long-term debt are summarized as follows for the year ended April 30, 2018:

	April 30, 2017	*Additions*	*Reductions*	***April 30, 2018***	*Amount Due in One Year*
General obligation alternate revenue bond 2008	$ 2,961,900	$ -	$ 262,700	**$ 2,699,200**	$ 556,901
Capital lease obligation	730,980	-	174,959	**556,021**	180,049
General obligation alternate revenue bond 2014	311,994	-	41,064	**270,930**	44,050
General obligation alternate revenue bond 2015 - Series A	7,923,890	-	312,709	**7,611,181**	323,092
General obligation alternate revenue bond 2015 - Series B	4,859,765	-	191,878	**4,667,887**	198,159
General obligation alternate revenue bond 2015 - Series C	3,887,812	-	192,387	**3,695,425**	119,595
General obligation alternate revenue bond 2017	4,719,533	-	158,597	**4,560,936**	165,159
Line of Credit - MRO *	16,762,190	-	16,762,190	**-**	-
Promissory Note - MRO *	-	16,762,190	117,975	**16,644,215**	361,008
Line of Credit - Parking Equipment	-	700,331	24,180	**676,151**	140,085
Other liabilities - Compensated absences	120,634	132,880	120,634	**132,880**	45,056
	$ 42,278,698	$ 17,595,401	$ 18,359,273	**$ 41,514,826**	$ 2,133,154

* The line of credit for the MRO project was converted to the promissory note – MRO in December 2017.

Changes in long-term debt are summarized as follows for the year ended April 30, 2017:

	April 30, 2016	*Additions*	*Reductions*	***April 30, 2017***	*Amount Due in One Year*
General obligation alternate revenue bond 2008	$ 3,210,500	$ -	$ 248,600	**$ 2,961,900**	$ 262,700
Capital lease obligation	900,991	-	170,011	**$ 730,980**	174,959
General obligation alternate revenue bond 2014	350,219	-	38,225	**311,994**	41,064
General obligation alternate revenue bond 2015 - Series A	8,000,000	-	76,110	**$ 7,923,890**	312,854
General obligation alternate revenue bond 2015 - Series B	5,000,000	-	140,235	**$ 4,859,765**	191,878
General obligation alternate revenue bond 2015 - Series C	4,000,000	-	112,188	**3,887,812**	153,502
General obligation alternate revenue bond 2017	-	4,750,000	30,467	**4,719,533**	158,606
Line of Credit	4,104,776	12,657,414	-	**$ 16,762,190**	16,762,190
Other liabilities - Compensated absences	119,089	120,634	119,089	**$ 120,634**	38,398
	$ 25,685,575	$ 17,528,048	$ 934,925	**$ 42,278,698**	$ 18,096,151

Note 7 – Long-Term Debt (continued)

Capital Lease

In 2014, the Authority entered into a tax-exempt lease purchase agreement for two Oshkosh H Series Snow Brooms. The amount of the capital lease is $1,223,800. The agreement was entered on July 26, 2013 with the first payment due September 26, 2014 and each year after for a period of seven years. The annual interest rate is 2.91%. The annual payment of principal and interest is $196,230. There is a buy-out option of $1 at the end of the lease term. The accumulated depreciation and depreciation expense for the year is $550,710 and $122,380, respectively. Principal and interest payments on the lease are due as follows:

Years	*Principal*	*Interest*	*Total*
FYE19	180,050	16,180	196,230
FYE20	185,289	10,941	196,230
FYE21	190,682	5,549	196,231
Total payments	556,021	32,670	588,691
Less current maturities	180,050	16,180	196,230
Long-term portion of the obligation	$ 375,971	$ 16,490	$ 392,461

Revenue Bonds

In 2008, the Authority issued $8.2 million of alternative revenue bonds. The 2008 Bonds shall mature on December 1 in each year with final payment due December 1, 2022. Interest payments are due semiannually on June 1 and December 1. Prior to December 2010, the Bonds shall bear interest at the fixed rate of 4.3% per annum. On and after December 1, 2010, the Bonds shall bear interest at a variable interest rate equal to the lesser to the 90-day LIBOR plus 150 basis points or 9% interest per annum.

On November 24, 2014, the Authority issued General Obligation Alternate Revenue Bonds, Series 2014, in the principal amount of $400,000, maturing in eight years and nine months. This issue was sold at 4.99% fixed. The bonds are non-taxable and secured by assignment of rents related to the lease agreement dated October 6, 2014 for property located at 40 Airport Drive.

On December 3, 2015, the Authority issued General Obligation Alternate Revenue Bonds, Series 2015A, in the principal amount of $8,000,000, in varying maturities for twenty years. This issue was sold at 3.19% fixed. An intergovernmental agreement was executed between the Authority and Winnebago County. The bonds are non-taxable and secured by landfill host fees revenue earned by the County.

On December 3, 2015, the Authority issued General Obligation Alternate Revenue Bonds, Series 2015B, in the principal amount of $5,000,000, in varying maturities for twenty years. This issue was sold at 3.19% fixed. An intergovernmental agreement was executed between the Authority and the City of Rockford. The bonds are non-taxable and secured by sales tax revenue collected by the City.

On December 3, 2015, the Authority issued General Obligation Alternate Revenue Bonds, Series 2015C, in the principal amount of $4,000,000, in varying maturities for twenty years. This issue was sold at 3.19% fixed. The bonds are non-taxable and secured by assignment of rents related to the lease agreement dated August 21, 2014 for property located at 6150 Cessna Drive.

On February 8, 2017, the Authority issued General Obligation Alternate Revenue Bonds, Series 2017, in the principal amount of $4,750,000 in varying maturities for twenty years. This issue was sold with a 10-year 4.00% fixed interest rate. The interest rate will change on the first day of year eleven to the 10-year treasury rate on that day plus 1.55% and will be fixed for the remaining ten years of the term. The bonds are non-taxable and secured by revenues derived from Passenger Facility Charges.

Note 7 – Long-Term Debt (continued)

Principal and interest payments on the bonds are due as follows:

Bonds - Total

Years	*Principal*	*Interest*	*Total*
FYE19	1,406,955	767,428	2,174,383
FYE20	1,510,443	746,344	2,256,787
FYE21	1,579,874	690,262	2,270,136
FYE22	1,915,269	627,288	2,542,557
FYE23	1,025,144	571,687	1,596,831
FYE24-FY28	5,375,795	2,324,678	7,700,475
FYE29-FY33	6,350,740	1,467,337	7,818,077
FYE34-FYE37	4,341,341	252,389	4,593,730
Total payments	23,505,561	7,447,413	30,952,974
Less current maturities	1,406,955	767,428	2,174,383
Long-term portion of the obligation	$ 22,098,606	$ 6,679,985	$ 28,778,591

The Authority has pledged the Airport Improvement Program (AIP) Federal Grant money it expects to receive in the future as a government revenue source to repay $8.2 million in general obligation alternate revenue bonds issued December 2008. Proceeds from the bonds provided financing to implement certain improvements to the Airport through construction of the Northwest Quadrant Air Cargo Apron and Access Taxiway. The bonds are payable from the revenues derived from the grants to be received by the Authority from the United States of America pursuant to the AIP administered by the Federal Aviation Administration and are payable through fiscal 2022. AIP grant revenue is pledged to produce 125% of the debt service requirements over the life of the bonds. Annual principal and interest payments range from $650,385 to $946,565 with interest due semi-annually and principal due annually. Interest costs incurred in 2018 were $83,527 with $0 interest capitalized. Interest required to be paid in 2017 was $69,985 with $0 interest capitalized. No AIP revenues were received for bond payments in FY2018.

The Authority has pledged future rents received as the revenue source to repay $400,000 in general obligation alternate bonds issued in November 2014. Annual principal and interest payments range from $17,464 - $60,230 with interest due semi-annually and principal due annually. Interest costs incurred in 2018 were $14,846 with $0 interest capitalized. Interest costs incurred in 2017 were $16,845 with $0 interest capitalized.

In December 2015, the Authority issued $17 million in general obligation alternate revenue bonds. Annual principal and interest payments are $1,189,503 with interest and principal payments due quarterly. Intergovernmental agreements with the City of Rockford and Winnebago County require the City and the County to make payments to the airport sufficient to pay the principal and interest on Revenue Bonds, Series 2015A and 2015B. Pledged revenues consist of future rents for the Authority, sales tax revenue for the City, and landfill host fees for the County. Interest costs in 2018 totaled $561,741 with $0 interest capitalized. Interest costs in 2017 totaled $544,865 with $90,577 interest capitalized. In FY2018, pledged revenues were received in the amounts required to meet debt obligations.

In February 2017, the Authority issued $4.75 million in general obligation alternate revenue bonds. Annual principal and interest payments are $347,100 with interest and principal payments due monthly. Interest costs incurred in 2018 were $188,503 with $188,503 interest capitalized. Interest required to be paid in 2017 was $27,383 with $27,383 interest capitalized. PFC revenues received in the amount of $347,100 covered debt obligation in FY2018.

Note 7 – Long-Term Debt (continued)

Other Debt Information

During FY2016, state and federal budget issues resulted in funding shortages in the construction of the MRO facility. The Authority opened a line of credit to continue construction of the facility. The initial line of credit totaled $8 million and was fully drawn down for construction-related expenses. This line of credit was paid off with bond proceeds when the Series 2015 bonds were issued in December 2015.

Bond proceeds were exhausted in March 2016. Federal and state funding was still on hold. Several local banks collaborated to authorize a second line of credit totaling $17 million. In December 2017, the line of credit was converted to a Promissory Note with a maturity date of December 10, 2022. Monthly payments consist of principal and interest in the amount of $96,229.72, based on a twenty-five (25) year amortization schedule, with the remaining principal and interest due on the new maturity date. The interest rate is a fixed rate of 4.75%. As of April 30, 2018, $16.6 million is outstanding on the note. It is expected that state and federal funds will be received prior to due date and will be utilized to pay off a substantial portion of the note. Principal and interest payments are adjusted annually.

On September 29, 2017, the Authority entered into a line of credit to purchase equipment for paid parking implementation. The interest rate is a fixed rate of 4.50%. Monthly principal and interest payments of $14,003.16 will be made until the note matures on January 1, 2023. As parking revenues increase, payments will be increased to reduce the debt earlier. As of April 30, 2018, $676,151 remained outstanding on the note.

Note 8 – Legal Debt Margin

Pursuant to the Airport Authorities Act, the Authority is given the right to issue tax secured bonds without the approval of voters within its boundaries for construction and development of an airport, provided that:

1. The total of the bonds previously issued or to be issued does not exceed three-quarters percent (0.75%) of the total assessed valuation of all taxable properties within the Authority's boundaries, and
2. The plans and specifications are submitted to the State of Illinois Department of Transportation, Division of Aeronautics for approval.

The Authority may issue additional bonds; however, voter approval is required. The total amount of the bonds may not exceed two and three tenths percent (2.3%) of the total assessed valuation. The 2.3% debt limit is calculated as of the time of issuance of the bonds and includes all Authority indebtedness. The Authority is also subject to a 2.875% debt limitation with respect to all outstanding indebtedness. This limit is calculated as of the date of issuance of any debt, except tax anticipation notes, tax anticipation warrants and revenue bonds.

The legal debt margins as of April 30, 2018 are summarized as follows:

	Without Voter Approval	*With Voter Approval*	*Total Debt Limitation*
Assessed valuation at April 30, 2017	$ 2,680,627,963	$ 2,680,627,963	$ 2,680,627,963
Debt limit percentages	0.75%	2.30%	2.875%
	20,104,710	61,654,443	77,068,054
Total debt applicable to debt limit	-	23,505,559	23,505,559
Total	-	23,505,559	23,505,559
FYE18 Legal debt margins	$ 20,104,710	$ 38,148,884	$ 53,562,495

Note 9 – Pension Plan

Plan Description. The Authority participates in a multi-employer defined benefit plan. All employees must be enrolled in IMRF as participating members. IMRF has a two-tier plan. Members who first participated in IMRF or an Illinois Reciprocal System prior to January 1, 2011 participate in Tier 1. All other members participate in Tier 2. For Tier 1 participants, pension benefits vest after 8 years of service. Participating members who retire at or after age 60 with 8 years of service are entitled to an annual retirement benefit, payable monthly for life in an amount equal to 1 2/3% of their final rate of earnings (average of the highest 48 consecutive months' earnings during the last 10 years) for credited service up to 15 years and 2% for each year thereafter.

For Tier 2 participants, pension benefits vest after 10 years of service. Participating members who retire at or after age 67 with 10 years of service are entitled to an annual retirement benefit, payable monthly for life in an amount equal to 1 2/3% of their final rate of earnings (average of the highest 96 consecutive months' earnings during the last 10 years, capped at $106,800) for credited service up to 15 years and 2% for each year thereafter. However, an employee's total pension cannot exceed 75% of their final rate of earnings. If an employee retires after 10 years of service between the ages of 62 and 67, and has less than 30 years of service credit, the pension will be reduced by 1/2% for each month that the employee is under the age of 67. If an employee retires after 10 years of service. between the ages of 62 and 67, and has between 30 and 35 years of service credit, the pension will be reduced by the lesser of 1/2% for each month that the employee is under the age of 67 or 1/2% for each month of service credit less than 35 years. IMRF also provides death and disability benefits. These benefit provisions and all other requirements are established by Illinois Compiled Statutes.

Plan membership. At December 31, 2017, the measurement date, membership in the plan was as follows:

Retirees and beneficiaries	54
Inactive, non-retired members	22
Active members	35
Total	111

Contributions. As set by statute, Authority employees participating in IMRF are required to contribute 4.50% of their annual covered salary. The statute requires the Authority to contribute the amount necessary, in addition to member contributions, to finance the retirement coverage of its own employees. The Authority's actuarially determined contribution rate for calendar year 2017 was 8.84% percent of annual covered payroll. The Authority also contributes for disability benefits, death benefits and supplemental retirement benefits, all of which are pooled at the IMRF level. Contribution rates for disability and death benefits are set by the IMRF Board of Trustees, while the supplemental retirement benefits rate is set by statute.

Net Pension Liability/(Asset). The net pension liability/(asset) was measured as of December 31, 2017, and the total pension liability/(asset) used to calculate the net pension liability/(asset) was determined by an actuarial valuation as of that date.

Summary of Significant Accounting Policies. For purposes of measuring the net pension liability/(asset), deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of IMRF and additions to/deductions from IMRF fiduciary net position have been determined on the same basis as they are reported by IMRF. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Note 9 – Pension Plan (continued)

Actuarial Assumptions. The assumptions used to measure the total pension liability at December 31, 2017 included an (a) 7.50% investment rate of return, (b) projected salary increases of 3.39 to 14.25%, including inflation, and (c) inflation of 2.50%. The retirement age is based on experience-based table of rates that are specific to the type of eligibility condition. The tables were last updated for the 2017 valuation pursuant to an experience study of the period 2014-2016. The actuarial cost method was entry age normal and the asset valuation method was market value.

Mortality. For non-disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2017 (base year 2015). The IMRF specific rates were developed from the RP-2014 Blue Collar Health Annuitant Mortality Table with adjustments to match current IMRF experience. For disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2017 (base year 2015). The IMRF specific rates were developed from the RP-2014 Disabled Retirees Mortality Table applying the same adjustment that were applied for non-disabled lives. For active members, an IMRF specific mortality table was used with fully generational projection scale MP-2017 (base year 2015). The IMRF specific rates were developed from the RP-2014 Employee Mortality Table with adjustments to match current IMRF experience.

Long-Term Expected Real Rate of Return. The long-term expected rate of return on pension plan investments was determined using an asset allocation study in which best-estimate ranges of expected future real rates of return (net of pension plan investment expense and inflation) were developed for each major asset class. These ranges were combined to produce long-term expected rate of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic and geometric real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Rate of Return
Domestic equity	37%	6.85%
International equity	18%	6.75%
Fixed income	28%	3.00%
Real Estate	9%	5.75%
Alternative investments	7%	2.65-7.35%
Cash equivalents	1%	2.25%

Discount rate. The discount rate used to measure the total pension liability for IMRF was 7.50%. The discount rate calculated using the December 31, 2017 measurement date was 7.50%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made at the current contribution rate and that Authority contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the fiduciary net position was projected not to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on investments of 7.50% was blended with the index rate of 3.78% for tax exempt municipal bonds to arrive at a discount rate of 7.50% used to determine the total pension liability. The year ending December 31, 2117 is the last year in the 2018 to 2117 projection period for which projected benefit payments are fully funded.

Note 9 – Pension Plan (continued)

Discount rate sensitivity. The following is a sensitivity analysis of the net pension liability/(asset) to changes in the discount rate. The table below presents the pension liability/(asset) of the Authority calculated using the discount rate of 7.50% as well as what the net pension liability/(asset) would be if it were to be calculated using a discount rate that is 1 percentage point lower or 1 percentage point higher than the current rate:

Authority:	1% Decrease	Current Discount Rate	1% Increase
Total pension liability	$ 17,515,426	$ 15,712,060	$ 14,217,695
Plan fiduciary net pension	16,274,703	16,274,703	16,274,703
Net pension liability/(asset)	$ 1,240,723	$ (562,643)	$ (2,057,008)

Changes in net pension liability/(asset). The Authority's changes in net pension liability for the calendar year ended December 31, 2017 was as follows:

	Increase (Decrease)		
Authority:	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability/(Asset)
Balances at December 31, 2017	$ 15,712,060	$ 16,274,703	$ (562,643)

Pension expense and deferred inflows of resources and deferred inflows of resources related to pensions. For the year ended December 31, 2017, the Authority recognized pension expense of $742,054. The Authority reported deferred outflows and inflows of resources related to pension:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	31,460	426,412
Changes of assumptions	2,244	358,204
Net difference between projected and actual investment earnings	461,565	1,341,680
Contributions subsequent to the measurement date	98,723	-
Total	$ 593,992	$ 2,126,296

The amount reported as deferred outflows resulting from contributions subsequent to the measurement date in the above table will be recognized as a reduction in the net pension liability/(asset) for the year ending April 30, 2019. The remaining amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

	Total
FY2018	$ (408,602)
FY2019	(390,573)
FY2020	(496,432)
FY2021	(335,420)
FY2022	-
Thereafter	-
	$ (1,631,027)

Note 10 – Property Leased to Others

The Authority is a lessor of land, buildings and office space both on and off airport property. Many of these leases provide for a periodic review and redetermination of the rental amounts. Minimum future rentals on non-cancellable operating leases to be received in each of the next five years and thereafter are as follows:

Minimum lease revenue		
FYE19	$	1,722,885
FYE20		1,720,022
FYE21		1,319,471
FYE22		1,058,444
FYE23		986,703
Thereafter		4,196,784
Total	$	11,004,309

Note 11 – Commitments and Contingencies

Landfill Closure Costs

The Authority operated two (2) landfill sites and both are closed. Landfill #1 was issued a Certification of Closure by the Illinois Environmental Protection Agency (Illinois EPA) on October 10, 2002. The 15-year post-closure care period for Landfill #1 began on December 1, 2001. A Supplemental Permit Application to provide an Affidavit for Certification of Post Closure Care was submitted to the Illinois EPA on July 5, 2018 for Landfill #1. The Illinois EPA has assigned Log No. 2018-322 to the application and has a current final decision date of September 4, 2018. Landfill #2 was issued a Certification of Closure by the Illinois EPA on September 26, 2017. The 21-year post-closure care period for Landfill #2 began on May 2, 2011.

State and Federal laws and regulations require the placement of a final cover and that the Authority perform certain maintenance and monitoring functions at the sites for a minimum of fifteen (15) years thereafter. The Authority has accrued the estimated cost of these future monitoring activities. The liability estimates are based upon engineering estimates and regulatory requirements at the respective dates. However, actual costs may be higher due to inflation, changes in technology, changes in regulations, or further interpretations and directives from regulatory agencies. It is unknown and unforeseen at this time if any funds will be paid in the next 12 months.

The Authority has created a trust to finance closure and post closure care costs. At April 30, 2018 and 2017, an investment of $1,167,444 and $1,154,767, respectively, is held for this purpose. Future annual contributions to this trust will be funded by excess funds, if any, after the year-end.

A schedule of changes in the liability for landfill closure and post closure costs is as follows:

	Balance Beginning of Year	Increases	Decreases	Balance End of Year
2018	$ 1,139,122	$ -	$ -	$ 1,139,122
2017	1,139,122	-	-	1,139,122
2016	1,139,122	-	-	1,139,122

Note 11 – Commitments and Contingencies (continued)

Storm Water Treatment Plan

In accordance with the requirements of the Illinois EPA, the Authority has developed a Storm Water Treatment Plan (the Plan). To complete the Plan, the Authority has projected the estimated capital costs to be approximately $1,500,000. UPS made monthly payments through July 1999 to fund the obligation. In accordance with the agreement with UPS, interest earned on unspent funds is to be used for the capital needs related to the Storm Water Treatment Plan or returned to UPS. Unspent funding and the related earnings totaling $1,445,439 and $1,429,743 are included with investments for long-term purposes and as a liability on the balance sheet at April 30, 2018 and 2017, respectively. UPS currently pays $12,500 per month for the current operations of the treatment facility.

A schedule of changes for the liability for the Storm Water Treatment Plan is as follows:

	Balance Beginning of Year	Increases	Decreases	Balance End of Year
2018	$ 1,429,743	$ 15,696	$ -	$ 1,445,439
2017	1,417,926	11,817	-	1,429,743
2016	1,414,461	3,465	-	1,417,926

Federal and State Assisted Programs

The Authority participates in several programs that are fully or partially funded by grants received from other governmental units. Expenditures financed by grants are subject to audit by the appropriate grantor government. If expenditures are disallowed due to noncompliance with grant program regulations, the Authority may be required to reimburse the grantor government. As of April 30, 2018, significant amounts of grant expenditures have not been audited but the Authority believes that disallowed expenditures, if any, based on subsequent audits, will not have a material effect on the overall financial position of the Authority. The Authority reports constructed and contributions of capital assets received from the federal or state governments as capital contributions.

Other Post-Employment Benefits

The Authority requires all retirees to subscribe to a Medicare plan upon eligibility. As of April 30, 2018, only one retiree is not eligible for Medicare. Due to the number of retirees eligible for Medicare, most of the Authority's exposure risk transferred to Medicare reducing the OPEB liability to an amount that is no longer material to the financial statements. The following information is from the most recent actuarial valuation, May 1, 2014. For fiscal year 2019, the Authority will determine whether or not this liability is material upon implementation of GASB No. 75.

Plan Description. The Authority maintains group health, dental and life insurance programs for all employees in a single employer defined benefit healthcare plan. Retired employees, at the discretion of the Authority's Board, are included under this program. Membership in the plan consists of 17 retirees and beneficiaries and 35 active plan members for a total of 52 members.

Funding Policy. The Authority has a pay-as-you-go funding policy which means that contributions are made to the plan only to fund the amount of benefits paid each year. There are therefore no plan assets at April 30, 2018 and a separate GAAP basis audited postemployment benefit plan report is not available. During the years ended April 30, 2018 and 2017, the Authority contributed $49,658 and $66,327, respectively, to the plan.

Note 11 – Commitments and Contingencies (continued)

Annual OPEB Cost and Net OPEB Asset. The Authority's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC) of the employer, an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed fifteen years. The following table shows the components of the Authority's OPEB cost for the year, the amount actually contributed to the plan, and the changes in the Authority's net OPEB asset:

	2017
Annual required contribution	$ (94,926)
Interest on net OPEB obligation	9,394
Adjustment to annual required contribution	(21,122)
Annual OPEB cost (expense)	(106,654)
Contributions made	106,005
Change in net OPEB asset	(649)
Net OPEB asset - beginning of year	234,841
NET OPEB asset - end of year	$ 234,192

The Authority's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for April 30, 2018, 2017 and the two preceding years are as follows:

Year Ended April 30,	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Asset
2018	$ 49,658	99.00%	$ 234,192
2017	106,654	99.00%	234,192
2016	102,772	104.00%	234,840
2015	99,411	96.98%	230,218

Funding Status and Funding Progress. The Authority funds the annual insurance premiums for retirees and their beneficiaries through budget appropriation each fiscal year. Based on prior year risk for self-insurance, the authority has accumulated a net OPEB asset balance totaling $234,192. The Authority intends to maintain this balance until all retirees are removed from all Authority benefits plans.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Actuarial Methods and Assumptions. Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the type of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and the plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

Note 11 – Commitments and Contingencies (continued)

In the May 1, 2014, actuarial valuation, the entry age normal cost method was selected to value liabilities. The amortization of unfunded liabilities as a level percentage of pay over 15 years was selected to comply with the requirements for an open group.

The actuarial assumptions include a 4% rate of return (net of administrative expenses) and future payroll increases of 4%. The inflation rate used was 3.0%. The health care trend rate assumed increases of 5% with the continued long-term trend table increasing to 7.9%. Mortality, turnover, disability, and retirement ages are the same rates utilized for the Illinois Municipal Retirement Fund (IMRF). The UAAL is being amortized using a level percentage of pay over 15 years.

Risk Financing

The Authority purchases commercial insurance coverage for the various risks the Authority may encounter in its operations. Such risks of loss relate to torts; theft of, damage to and destruction of assets; errors and omissions; and workers compensation. The Authority has had no settlements in the past five years exceeding the insurance coverage purchased.

The Authority established a partial self-insurance program beginning January 1, 2008 to cover the risks of health claims and has retained the services of an outside agency to administer its self-insurance claims. The Authority does not assume unlimited liability for health claims as it maintains stop-loss coverage which covers medical expenses when they are incurred for amounts over $3,500 annually for each participant.

The changes in claims and judgments are as follows:

	Balance Beginning of Year	Claims Incurred	Claims Paid	Balance End of Year
2018	$ 82,682	$ 106,328	$ (92,253)	$ 96,757
2017	80,789	80,372	(78,479)	82,682
2016	71,820	66,416	(57,447)	80,789
2015	51,202	65,200	(44,582)	71,820

Aircraft Rescue and Firefighting Services Contract

In February 2014 the Authority entered into an agreement with Pro-Tec Fire Services Ltd for contract Aircraft Rescue and Firefighting Services. The contract was renewed in FY2018 for a period of three years expiring February 26, 2020. The agreement calls for twelve equal monthly installments of $53,583 in 2018.

Significant Tenants

The Authority has one tenant that provides more than 10% of operating revenues. United Parcel Service (UPS) contributes lease revenues as well as service fee revenue to the airport totaling $2,490,375 in FY2018 equaling 34.92% of total operating revenue.

Construction Projects

The Authority has active construction projects as of April 30, 2018. Work that has been completed on these projects but not yet paid for (including contract retainages) is reflected as accounts payable and expenditures.

Note 12 – Subsequent Events

In conjunction with ongoing construction projects, the Authority has commitments for federal and state grant funding. Due to state budget constraints, funds are currently being held by the state for the projects. The Authority has initiated a promissory note as bridge funding until the state funds are released. The state FY2019 budget includes $14.7 million in appropriations to fund the project.

The Authority is currently negotiating a lease for an expansion of the existing cargo facility. On August 23, 2018, the Authority board has approved issuance of bonds in an amount not to exceed $12 million and public notice of the intent to issue bonds has been posted. Upon final lease agreement with the tenant, bonds will be issued to fund the construction of the expansion. Debt payments will be secured by landing fees for the term of the financing.

Note 13 – Pending Accounting Pronouncements

The Governmental Accounting Standards Board (GASB) has issued GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions; GASB Statement No. 83, Certain Asset Retirement Obligations; GASB Statement No. 84, Fiduciary Activities; GASB Statement No. 85, Omnibus 2017; GASB Statement No. 86, Certain Debt Extinguishment Issues; and GASB Statement No. 87, Leases; GASB Statement No. 88, Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements; and GASB Statement No. 89, Accounting for Interest Cost Incurred before the End of a Construction Period. Application of these standards may restate portions of these financial statements.

Required Supplementary Information

Greater Rockford Airport Authority

Schedule of Changes in the Net Pension Liability/(Asset) and Related Ratios

Illinois Municipal Retirement Fund

For the Year Ended April 30, 2018

Regular Plan	Calendar Year 2017	Calendar Year 2016	Calendar Year 2015
Total pension liability			
Service cost	$ 263,423	$ 269,855	$ 272,656
Interest	1,190,461	1,147,485	1,128,206
Differences between expected and actual experience	(550,713)	72,842	(209,310)
Changes of assumptions	(484,357)	(17,630)	16,911
Benefit payments, including refunds of employee contributions	(895,702)	(937,817)	(921,344)
Net change in total pension liability	$ (476,888)	$ 534,735	$ 287,119
Total pension liability - beginning	16,188,948	15,654,213	15,367,094
Total pension liability - ending	$ 15,712,060	$ 16,188,948	$ 15,654,213
Plan Fiduciary Net Position			
Contributions - Employer	$ 267,580	$ 265,201	$ 271,796
Contributions - Employees	132,366	115,528	147,352
Net investment income	2,745,178	987,700	73,427
Benefit payments, including refunds of employee contributions	(895,702)	(937,817)	(921,344)
Other changes	(927,285)	(48,693)	62,947
Net change in plan fiduciary net position	1,322,137	381,919	(365,822)
Total plan fiduciary net position - beginning	14,952,566	14,570,647	14,936,469
Total plan fiduciary net position - ending	$ 16,274,703	$ 14,952,566	$ 14,570,647
Net plan liability/(asset) - ending	$ (562,643)	$ 1,236,382	$ 1,083,566
Plan fiduciary net position as a percentage of the total pension liability	103.58%	92.36%	93.08%
Covered-employee payroll	$ 2,621,801	$ 2,567,293	$ 2,649,088
Net pension liability/(asset) as a percentage of covered-employee payroll	-21.46%	48.16%	40.90%

See Independent Auditors' Report and accompanying notes to required supplementary information

Note: The pension schedules are intednded to show information for ten years. Additional information will be shown as it becomes available.

Greater Rockford Airport Authority

Schedule of Employer Contributions

Illinois Municipal Retirement Fund

For the Year Ended April 30, 2018

Regular Plan	FY2018	FY2017	FY2016
Contractually determined contribution	$ 250,676	$ 250,643	$ 278,360
Actual contribution	250,676	250,643	278,360
Contribution deficiency (excess)	$ -	$ -	$ -
Covered-employee payroll	$ 2,763,493	$ 2,641,410	$ 2,590,713
Actual contribution as a percentage of covered-employee payroll	9.07%	9.49%	10.74%

Notes to Schedule:

Valuation Date: Actuarially determined contribution rates are calculated as of December 31 each year, which are 12 months prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine 2017 Contribution Rates

Acturial Cost Method:	Aggregate entry age normal
Amortization Method:	Level percentage of payroll, closed
Remaining Amortization Period:	26-year closed period
Asset Valuation Method:	5-year smoothed market; 20% corridor
Wage Growth:	3.50%
Price Inflation:	2.75% approximate; No explicit price inflation assumption is used in this valuation
Salary Increases:	3.75% to 14.5% including inflation
Investment Rate of Return:	7.50%
Retirement Age:	Experience-based table of rates that are specific to the type of eligibility condition; last updated for the 2014 valuation pursuant to an experience study of the period 2011 - 2013.
Mortality:	For non-disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2014(base year 2012). The IMRF specific rates were developed from the RP-2014 Blue Collar Health Annuitant Mortality Table with adjustments to match current IMRF experience. For disabled retirees, an IMRF specific mortality table was used for fully generational projection scale MP-2014(base year 2012). The IMRF specific rates were developed from the RP-2014 Disabled Retirees Mortality Table applying the same adjustment that were applied for non-disabled lives. For active members, an IMRF specific mortality table was used with fully generational projection scale MP-2014(base year 2012). The IMRF specific rates were developed from the RP-2014 Employee Mortality Table with adjustments to match current IMRF experience.

Other Information:

Notes: There were no benefit changes during the year.

Greater Rockford Airport Authority

Schedule of Funding Progress, Other Post Employment Benefits

April 30, 2018

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded (UAAL) (a-b)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((a-b)/c)
5/1/2014	$ -	975,784	(975,784)	0.00%	2,357,203	41.40%
4/30/2012	-	1,078,142	(1,078,142)	0.00%	2,469,730	43.65%
12/31/2008	-	1,366,881	(1,366,881)	0.00%	2,150,820	63.55%

Statistical Section

(Unaudited)

CONTENTS

Statistical Section
The Statistical Section presents comparative data (when available) and differs from financial statements because they usually cover more than one fiscal year and may present non-accounting data.

Financial Trends and Revenue Capacity
These schedules contain trend information to help the reader understand how the Authority's financial performance and well-being have changed over time. Also contained in these schedules is information to help the reader understand the Authority's most significant revenue sources.

Debt Capacity
This schedule presents information to help the reader assess the affordability of the Authority's current levels of outstanding debt and the ability of the Authority to issue additional debt in the future.

Operating Information
These schedules contain information to help the reader understand and to provide contact for the Authority's operations and how this relates to the financial position.

Economic and Demographic Information
These schedules offer demographic information and economic indicators to help the reader understand the environment within which the Authority's financial activities take place.

Greater Rockford Airport Authority

Schedule of Revenue, Expenses, and Changes in Net Position

Years Ended April 30, 2009 Through 2018

	FYE18	*FYE17*	*FYE16*	*FYE15*
Operating revenues				
Airport fees	$ 4,331,016	$ 2,571,899	$ 2,121,537	$ 2,079,168
Lease revenue	1,913,107	1,620,438	1,936,549	1,785,244
Charge for services, airshow and other revenue	887,164	627,136	1,080,769	1,094,545
Total operating revenues	7,131,287	4,819,473	5,138,855	4,958,957
Other revenues				
Taxes - property and corporate	3,397,623	3,385,292	3,469,200	3,490,444
Annexation agreement	-	-	-	-
Interest income	24,694	14,532	3,335	5,300
Intergovernmental revenue	563,609	525,365	-	-
Passenger facility charges	484,770	497,802	495,649	466,839
Other income	86,279	276,832	302,444	192,934
Total other revenues	4,556,975	4,699,823	4,270,628	4,155,517
Total revenues	11,688,262	9,519,296	9,409,483	9,114,474
Operating expenses				
Personnel and benefits	4,495,847	3,957,557	4,026,916	3,900,047
Contractual services	2,886,151	2,570,490	3,402,197	2,976,222
Commodities	1,046,229	692,246	678,855	947,332
Other	421,174	377,857	418,571	483,742
Depreciation	12,009,242	11,114,108	10,484,932	10,261,167
Total operating expenses	20,858,643	18,712,258	19,011,471	18,568,510
Other expenses				
Interest expense	1,535,629	974,449	111,194	103,512
Intergovernmental contribution	2,199,824	-	-	-
Loss on asset disposal	-	10,966	503,044	-
Bond issuance expense	-	11,875	224,100	-
Other Expense	58,231	-	-	-
Total nonoperating expenses	3,793,684	997,290	838,338	103,512
Total expenses	24,652,327	19,709,548	19,849,809	18,672,022
Loss before capital contribution	(12,964,065)	(10,190,252)	(10,440,326)	(9,557,548)
Capital contributions	10,188,537	7,743,851	17,542,390	11,509,023
Change in net position	$ (2,775,528)	$ (2,446,401)	$ 7,102,064	$ 1,951,475
Net position year end composed of:				
Net investment in capital assets	$ 96,396,493	$ 95,357,086	$ 104,161,337	$ 104,978,065
Restricted	562,643	-	-	932,238
Unrestricted	12,000,552	16,378,130	10,020,280	1,328,079
Total net position	$ 108,959,688	$ 111,735,216	$ 114,181,617	$ 107,238,382

Source: The Authority Finance Department

FYE14	FYE13	FYE12	FYE11	FYE10	FYE09
$ 2,034,860	$ 2,075,411	$ 2,150,157	$ 2,307,163	$ 2,323,416	$ 2,942,200
1,777,845	1,613,546	1,592,487	1,558,402	1,547,796	1,468,388
670,126	1,217,751	1,210,682	1,374,955	1,755,533	1,059,609
4,482,831	4,906,708	4,953,326	5,240,520	5,626,745	5,470,197
3,719,117	3,643,500	3,871,216	3,859,794	3,760,831	3,696,346
-	-	-	-	134,906	134,025
16,182	19,318	33,880	89,321	127,897	226,716
-	-	-	-	-	-
512,191	474,257	522,905	356,332	341,985	441,892
136,887	2,937	145,279	71,400	28,200	542,201
4,384,377	4,140,012	4,573,280	4,376,847	4,393,819	5,041,180
8,867,208	9,046,720	9,526,606	9,617,367	10,020,564	10,511,377
3,952,436	3,829,976	3,606,203	3,871,753	3,545,038	3,335,436
2,988,291	3,780,312	4,349,185	3,662,078	3,623,679	4,530,789
1,148,389	1,196,300	935,766	1,172,744	1,010,928	1,395,928
335,495	(13,424)	502,226	404,966	381,339	282,123
9,748,753	9,635,964	8,458,741	7,138,326	6,964,973	6,908,482
18,173,364	18,429,128	17,852,121	16,249,867	15,525,957	16,452,758
90,201	75,831	144,047	222,750	204,207	2,829
-	-	-	-	-	-
-	-	-	-	-	-
-	325,000	-	-	-	-
-	-	-	-	-	-
90,201	400,831	144,047	222,750	204,207	2,829
18,263,565	18,829,959	17,996,168	16,472,617	15,730,164	16,455,587
(9,396,357)	(9,783,239)	(8,469,562)	(6,855,250)	(5,709,600)	(5,944,210)
2,996,611	12,597,496	6,340,076	7,726,186	7,467,541	3,656,311
$ (6,399,746)	$ 2,814,257	$ (2,129,486)	$ 870,936	$ 1,757,941	$ (2,287,899)
$ 102,196,797	$ 107,937,425	$ 103,205,716	$ 100,391,965	$ 99,372,787	$ 96,518,262
-	-	-	-	-	-
3,090,110	3,749,228	5,666,680	10,609,917	10,758,159	11,854,743
$ 105,286,907	$ 111,686,653	$ 108,872,396	$ 111,001,882	$ 110,130,946	$ 108,373,005

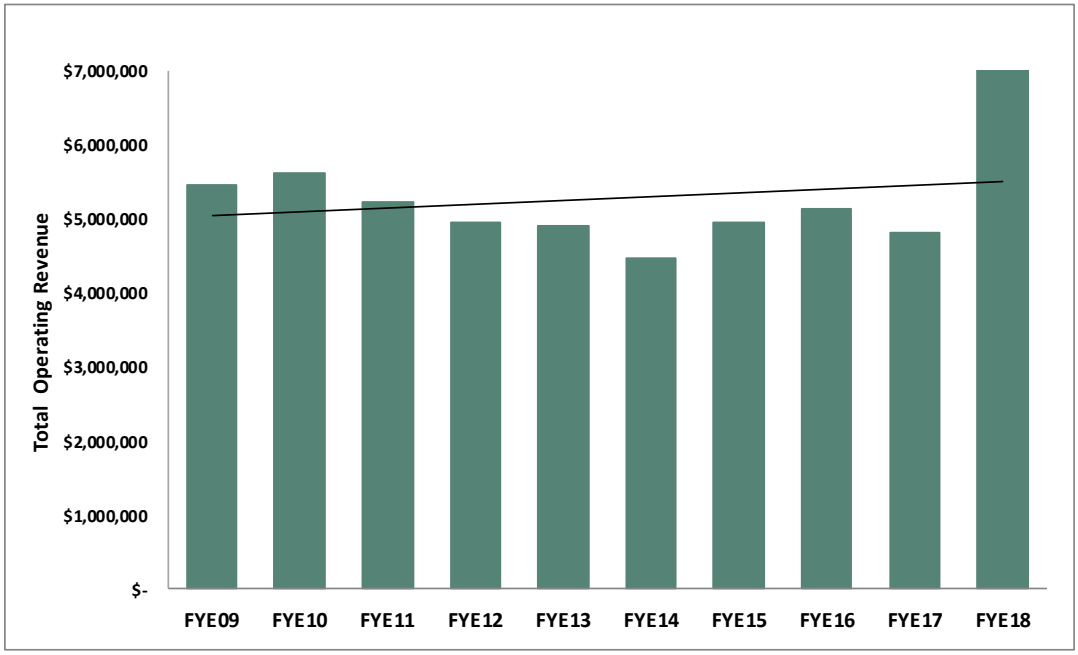
Greater Rockford Airport Authority

Schedule of Revenue by Sources

Years Ended April 30, 2009 Through 2018

	Airport Fees			*Lease Revenue*						
	Airside		*Landside*	*On Airport*			*Off Airport*			
	Fuel Flowage Fees	*Landing Fees*	*Rental Car Commission*	*Building*	*Land*	*Terminal*	*Building*	*Land*	*Other*	*Total Operating Income*
FYE09	222,524	2,549,150	170,526	582,604	367,523	49,279	150,744	318,238	1,059,609	5,470,197
FYE10	152,393	2,042,878	128,145	595,061	442,006	46,802	145,570	318,357	1,755,533	5,626,745
FYE11	171,105	1,970,044	166,014	512,448	503,965	49,185	163,545	329,260	1,374,954	5,240,521
FYE12	81,605	1,886,284	182,268	590,802	427,183	75,750	156,095	342,656	1,210,683	4,953,327
FYE13	63,652	1,820,766	190,993	652,012	385,784	58,355	153,572	363,823	1,217,751	4,906,709
FYE14	39,680	1,807,066	188,114	774,906	374,624	66,320	155,374	406,621	670,126	4,482,832
FYE15	50,088	1,842,680	186,400	759,077	348,650	57,145	163,704	456,668	1,094,544	4,958,956
FYE16	43,988	1,872,817	204,732	850,454	365,012	66,636	168,440	459,623	1,107,152	5,138,854
FYE17	36,170	2,341,279	194,450	543,599	373,220	71,644	132,470	454,767	671,874	4,819,473
FYE18	36,241	3,577,044	203,659	844,244	386,352	70,848	120,012	491,652	887,163	7,131,287

Source: The Authority Finance Department.



Greater Rockford Airport Authority

Schedule of Certain Expenses by Function and Department

Years Ended April 30, 2009 Through 2018

	FYE18	*%*	*FYE17*	*%*	*FYE16*	*%*	*FYE15*	*%*	*FYE14*	*%*
Finance & Administration	$ 2,307,294	26.1%	$ 1,905,796	25.1%	$ 1,736,000	20.4%	$ 1,761,923	21.2%	$ 1,742,428	20.7%
Facilities & Maintenance	4,042,352	45.7%	3,035,463	40.0%	2,861,555	33.6%	3,216,946	38.7%	3,445,157	40.9%
Operations	1,528,735	17.3%	1,408,065	18.5%	1,341,597	15.7%	1,262,810	15.2%	1,804,597	21.4%
Marketing	148,464	1.7%	183,262	2.4%	370,267	4.3%	307,115	3.7%	319,744	3.8%
Terminal Services	430,287	4.9%	584,137	7.7%	596,200	7.0%	639,049	7.7%	568,735	6.8%
AirFest	-	0.0%	-	0.0%	657,142	7.7%	600,477	7.2%	9,799	0.1%
Business Development	392,268	4.4%	481,426	6.3%	963,778	11.3%	224,822	2.7%	201,643	2.4%
Passenger Development	-	0.0%	-	0.0%	-	0.0%	294,203	3.5%	332,508	3.9%
Total	$ 8,849,401		$ 7,598,149		$ 8,526,539		$ 8,307,343		$ 8,424,611	

	FYE13	*%*	*FYE12*	*%*	*FYE11*	*%*	*FYE10*	*%*	*FYE09*	*%*
Finance & Administration	$ 1,539,630	17.5%	$ 1,819,927	19.4%	$ 1,945,085	21.3%	$ 1,920,384	22.4%	$ 1,881,679	19.9%
Facilities & Maintenance	2,964,152	33.7%	4,730,042	50.4%	4,711,235	51.7%	4,249,149	49.6%	4,368,573	46.2%
Operations	1,793,241	20.4%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Marketing	511,046	5.8%	1,333,872	14.2%	807,896	8.9%	821,391	9.6%	1,718,132	18.2%
Terminal Services	565,100	6.4%	770,415	8.2%	915,941	10.1%	891,356	10.4%	721,373	7.6%
AirFest	767,358	8.7%	739,124	7.9%	731,384	8.0%	678,704	7.9%	763,495	8.1%
Business Development	205,031	2.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Passenger Development	447,606	5.1%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Total	$ 8,793,164		$ 9,393,380		$ 9,111,541		$ 8,560,984		$ 9,453,252	

Source: The Authority Finance Department.

Greater Rockford Airport Authority

Schedule of Major Tenants

Years Ended April 30, 2018 and 2009

	FYE18		*FYE09*	
	Revenue	*% Total Operating Revenue*	*Revenue*	*% Total Operating Revenue*
United Parcel Service	$ 2,490,375	34.92%	$ 2,208,812	40.38%
ATI	584,788	8.20%	360,236	6.59%
LGSTX	437,230	6.13%		
Emery Air Charter	394,958	5.54%	316,636	5.79%
Allegiant Air	264,110	3.70%	157,529	2.88%
ABX Air, Inc	218,877	3.07%	132,784	2.43%
Rock Road	112,067	1.57%	72,239	1.32%
Atlas Air	99,192	1.39%		
Rockford, Sand & Gravel	90,000	1.26%	90,000	1.65%
OSF Aviation	55,058	0.77%		
Heritage Aero	55,013	0.77%		
Pride Aircraft			83,538	1.53%
Rubloff Aviation, LLC			218,196	3.99%
Kaney Aviation			47,274	0.86%
Total	$ 4,801,668	67.33%	$ 3,687,244	67.41%

Source: The Authority Finance Department

Greater Rockford Airport Authority

Schedule of Outstanding Debt

Years Ended April 30, 2009 Through 2018

	Outstanding Debt					*Percentage of Personal Income*	*Total Debt Per Capita*
	G.O. Bonds	*Capital Leases*	*Lines of Credit*	*Prom. Note*	*Total*		
FYE09	8,200,000	-	-	-	8,200,000	0.86	27.74
FYE10	5,174,000	-	-	-	5,174,000	0.53	17.53
FYE11	4,907,100	-	-	-	4,907,100	0.49	16.69
FYE12	4,158,750	-	-	-	4,158,750	0.39	14.24
FYE13	3,925,000	-	-	-	3,925,000	0.36	13.50
FYE14	3,691,250	-	-	-	3,691,250	0.34	12.79
FYE15	3,843,313	1,066,195	-	-	4,909,508	0.36	14.41
FYE16	20,560,719	900,991	4,104,776	-	21,461,710	1.57	63.19
FYE17	24,664,894	730,980	16,762,190	-	25,395,874	***	***
FYE18	23,505,559	556,021	676,151	16,644,215	41,381,946	***	***

Source: The Authority Finance Department

*** Population and personal income not available.

Greater Rockford Airport Authority

Schedule of Property Tax Levies and Collections

Calendar Years Ended December 31, 2008 Through 2017

	Tax Levy Year (Calendar Year)			
	2017	*2016*	*2015*	*2014*
Assessed valuations (in thousands):	$ 2,680,628	$ 2,624,282	$ 2,593,502	$ 2,648,100
Rate per $100 of assessed valuation:				
General - corporate	0.0750	0.0750	0.0750	0.0750
General - other	0.0352	0.0353	0.0323	0.0313
Bond retirement and interest		-	-	-
Total	0.1102	0.1103	0.1073	0.1063
Tax Levy:				
General purposes	2,954,052	2,894,611	2,782,827	2,814,930
Bond retirement and interest	-	-	-	-
Total tax levy	2,954,052	2,894,611	2,782,827	2,814,930
Collections: (See Notes (1) and (2))				
General purposes	-	2,877,582	2,763,791	2,787,502
Bond retirement and interest	-	-	-	-
Total collected	$ -	$ 2,877,582	$ 2,763,791	$ 2,787,502
Percent of tax levy extension collected	-	99.4%	99.3%	99.0%

Notes: (1) Current collections as shown above represent those collections made by Winnebago County on the current levy and all delinquent property taxes collected that are distributed to the Authority. Delinquent property taxes collected by the County Treasurer are distributed to the taxing units by use of the current tax rate and cannot be applied to specific years.

(2) The 2017 levy will be collected in the fiscal year ending April 30, 2018.

Tax Levy Year (Calendar Year)					
2013	*2012*	*2011*	*2010*	*2009*	*2008*
$ 2,806,901	$ 3,064,894	$ 3,350,384	$ 3,525,363	$ 3,722,982	$ 3,722,189
0.0750	0.0750	0.0750	0.0750	0.0750	0.0750
0.0293	0.0274	0.0187	0.0204	0.0151	0.0140
-	-	-	-	-	-
0.1043	0.1024	0.0937	0.0954	0.0901	0.0890
2,927,598	3,138,452	3,139,310	3,363,160	3,288,969	3,251,194
-	-	-	-	-	-
2,927,598	3,138,452	3,139,310	3,363,160	3,288,969	3,251,194
2,909,105	3,123,289	3,122,854	3,346,076	3,277,669	3,236,459
-	-	-	-	-	-
$ 2,909,105	$ 3,123,289	$ 3,122,854	$ 3,346,076	$ 3,277,669	$ 3,236,459
99.4%	99.5%	99.5%	99.5%	99.7%	99.5%

Greater Rockford Airport Authority

Schedule Assessed Values, Levies and Rates

Calendar Years Ended December 31, 2008 Through 2017

Levy Year	*Assessed Valuations (in thousands)*	*Tax Levy*			*Tax Rates*		*GRAA % County*
		Operating	*Debt*	*Total*	*GRAA*	*County*	
2008	3,722,189	3,251,194	-	3,251,194	0.0890	10.4536	0.85%
2009	3,722,982	3,288,969	-	3,288,969	0.0901	10.6380	0.85%
2010	3,525,363	3,363,160	-	3,363,160	0.0954	11.3239	0.84%
2011	3,350,384	3,139,310	-	3,139,310	0.0937	12.1825	0.77%
2012	3,064,894	3,138,452	-	3,138,452	0.1024	10.2183	1.00%
2013	2,806,901	2,927,598	-	2,927,598	0.1043	10.7573	0.97%
2014	2,648,100	2,814,930	-	2,814,930	0.1063	11.1185	0.96%
2015	2,593,502	2,782,827	-	2,782,827	0.1073	11.4860	0.93%
2016	2,624,282	2,894,611	-	2,894,611	0.1103	11.4189	0.97%
2017	2,680,628	2,954,052	-	2,954,052	0.1102	10.7426	1.03%

Source: The Authority Finance Department

Greater Rockford Airport Authority

Schedule of Principal Property Taxpayers in Winnebago County

Calendar Years Ended December 31, 2017 and 2008

Taxpayer	*Type of Business*	*2017 Assessed Valuation*	*Percentage of Total Assessed Valuation*	*2008 Assessed Valuation*	*Percentage of Total Assessed Valuation*
CBL/Cherryvale	Retail	$ 13,179,605		$ 15,172,154	0.31%
Lowes Home Center Inc	Retail	11,555,048	0.31%	14,776,374	0.31%
Greater Rockford Airport	Airport	10,926,443	0.30%	12,881,837	0.27%
Woodward, Inc.	Aerospace	9,804,556	0.27%		
Meier Stores Limited Partnership	Retail	8,235,649	0.22%		
Beloit Memorial Hospital	Medical Facility	7,999,200	0.22%		
Simon Property/Forest Plaza LLC	Retail/Real Estate Holdings	6,772,912	0.18%	5,079,555	0.11%
National Retail Properties	Retail	5,196,512	0.14%		
Lubrizol Holding	Retail/Real Estate Holdings	5,076,903	0.14%		
Edward Rose Associates, Inc	Real Estate Holdings	4,353,986	0.12%	4,663,783	0.10%
Walmart Real Estate Trust	Retail	4,216,647	0.11%		
Wesley Willows	Retirement/Real Estate	4,132,046	0.11%		
Jeffrey Petry	Real Estate Holdings	4,070,828	0.11%		
Kelley Williamson	Retail/Real Estate Holdings	3,984,698	0.11%		
Two Star Property Co.	Retail/Real Estate Holdings			6,119,493	0.13%
Total		$ 96,503,992	2.61%	$ 43,521,042	0.90%
		Total Assessed Valuation - $3,690,414,818		Total Assessed Valuation - $4,829,007,971	

Source: Winnebago County Clerk

Greater Rockford Airport Authority
Chicago Rockford International Airport Information
Year Ended April 30, 2018

Location:	4 miles south of downtown Rockford, IL.			
Area:	3,000 acres			
Elevation:	742 ft.			
Airport Code:	RFD			
Runways:	1/19	North/South	8,199x150 ft. ILS/GPS	
	7/25	East/West	10,004x150 ft. ILS/GPS	
Terminal:	Airlines			2,211 sq. ft.
	Tenants			4,443 sq. ft.
	Public/Common			30,433 sq. ft.
	Mechanical			7,714 sq. ft.
			Total	44,801 sq. ft.
	Number of Passenger Gates			5
	Number of Loading Bridges			5
	Number of Concessionaires in terminal			1
	Number of rental car agencies in terminal			3
Apron:	Commercial Airlines			
	Cargo Airlines			
	FBO			
Parking:	Spaces assigned:	Short-Term		1,750
		Rental Cars		190
		Employees		54
Cargo:	UPS Buildings			670,000 sq. ft.
	International Cargo Facility			70,000 sq. ft.
	Airside Crossdock Buildings			48,600 sq. ft.
International:	Customs/Immigration Federal Inspection Service Facility			
Tower:	TRSA 24/7-365			
FBOs:	Emery Air, Inc., North American/Pride			

Greater Rockford Airport Authority

Schedule of Staffing

Years Ended April 30, 2009 Through 2018

	2018	*2017*	*2016*	*2015*	*2014*
Board of Commissioners	7	7	7	7	7
Administration/Finance	9	8	8	8	8
Marketing	-	-	-	-	-
Facilties/Maintenance	17	17	16	16	16
Operations	8	8	8	8	7
Terminal Services	-	-	3	3	4
AirFest	-	-	1	1	-
Cargo Development	-	2	3	3	1
Passenger Development	-	-	-	-	2
	41	42	46	46	45

	2013	*2012*	*2011*	*2010*	*2009*
Board of Commissioners	7	7	7	7	7
Administration/Finance	8	10	11	11	11
Marketing	1	1	2	-	-
Facilties/Maintenance	17	21	21	21	19
Operations	8	-	-	-	-
Terminal Services	3	6	6	6	6
AirFest	-	-	-	1	1
Cargo Development	1	-	-	-	-
Passenger Development	2	-	-	-	-
	47	45	47	46	44

Source: The Authority Finance Department

Greater Rockford Airport Authority

Schedule of Air Commerce

Years Ended April 30, 2009 Through 2018

	FYE18	*% of Change from Prior year*	*FYE17*	*FYE16*	*FYE15*
Passenger Enplanements					
Scheduled	110,874		109,223	107,139	100,334
Charter	4,007		3,687	4,140	3,043
Total	114,881	3.24%	112,910	111,279	103,377
Cargo					
Enplaned	302,530,574	94.41%	186,182,879	155,612,074	141,181,977
Deplaned	223,733,967	104.21%	134,230,657	109,563,405	110,902,191
Total	526,264,541	98.46%	320,413,536	265,175,479	252,084,168
Cargo Aircraft Landed Weight	1,668,351,840	106.83%	1,028,789,640	806,624,170	788,127,660
Fuel Flowage	17,957,741	63.73%	13,104,477	10,967,938	9,799,912
Aircraft Operations	40,076	10.85%	35,246	36,154	34,816

Source: The Authority Finance Department

FYE14	*FYE13*	*FYE12*	*FYE11*	*FYE10*	*FYE09*
106,240	99,448	98,343	88,814	85,014	74,024
2,846	4,941	7,604	14,377	15,908	14,718
109,086	104,389	105,947	103,191	100,922	88,742
136,392,407	148,693,661	161,346,553	148,964,090	163,889,607	209,461,204
110,561,901	121,188,890	129,877,286	110,148,207	135,751,221	179,066,129
246,954,308	269,882,551	291,223,839	259,112,297	299,640,828	388,527,333
779,424,820	806,893,740	884,405,380	902,395,080	1,021,396,570	1,327,827,612
9,744,711	12,917,749	15,223,883	17,242,721	17,502,695	14,755,983
38,163	39,981	47,241	44,449	48,301	58,484

Greater Rockford Airport Authority

Schedule of Rates and Charges

Years Ended April 30, 2009 Through 2018

	2018	*2017*	*2016*	*2015*	*2014*
Fuel					
Class A	$ 0.06	$ 0.06	$ 0.06	$ 0.06	$ 0.09
Class B	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.11
Class C	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.11
Landing Fee					
Per 1,000 lbs					
Signatory					
Over 120,000,000 lbs - Annual	$ 1.934	$ 1.934	$ 1.934	$ 1.934	$ 1.934
Under 120,000,000 lbs - Annual	$ 1.964	$ 1.964	$ 1.964	$ 1.964	$ 1.964
Non-signatory	$ 2.455	$ 2.455	$ 2.455	$ 2.455	$ 2.455
Terminal Usage					
Signatory & Charter Flights	$ 65.00	$ 65.00	$ 65.00	$ 65.00	$ 65.00
Non-signatory & Charter Flights	$ 130.00	$ 130.00	$ 130.00	$ 130.00	$ 130.00
Ticket Counter/Computer Use fee per enplanement	$ 0.20	$ 0.20	$ 0.20	$ 0.20	$ 0.20
International Rubbish Fee					
4x4 hopper (200 gallons)	$ 410.00	$ 410.00	$ 410.00	$ 410.00	$ 410.00
black cart (60 gallons)	$ 105.00	$ 105.00	$ 105.00	$ 105.00	$ 105.00
gray cart (40 gallons)	$ 85.00	$ 85.00	$ 85.00	$ 85.00	$ 85.00

	2013	*2012*	*2011*	*2010*	*2009*
Fuel					
Class A	$ 0.06	$ 0.06	$ 0.06	$ 0.06	$ 0.06
Class B	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08
Class C	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08
Landing Fee					
Per 1,000 lbs					
Signatory					
Over 120,000,000 lbs - Annual	$ 1.842	$ 1.842	$ 1.842	$ 1.671	$ 1.641
Under 120,000,000 lbs - Annual	$ 1.964	$ 1.964	$ 1.964	$ 1.964	$ 1.964
Non-signatory					
Terminal Usage					
Signatory & Charter Flights	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00
Non-signatory & Charter Flights	$ 110.00	$ 110.00	$ 110.00	$ 110.00	$ 110.00
Ticket Counter/Computer Use fee per enplanement	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10
International Rubbish Fee					
4x4 hopper (200 gallons)	$ 305.00	$ 305.00	$ 305.00	$ 305.00	$ 250.00
black cart (60 gallons)	$ 105.00	$ 105.00	$ 105.00	$ 105.00	$ 105.00
gray cart (40 gallons)	$ 85.00	$ 85.00	$ 85.00	$ 85.00	$ 85.00

Source: The Authority Finance Department

Greater Rockford Airport Authority

Schedule of Largest Employers in the Greater Rockford Area
Years Ended April 30, 2018 and 2009

Employer	*Product/Service*	*2017*	*Percentage of MSA Employment*	*2009*	*Percentage of MSA Employment*
Fiat Chrysler Automobiles	Automobiles	5,152	3.24%	2,500	1.62%
Mercyhealth	Health Care	4,000	2.52%	3,735	2.42%
Swedish American Health System	Health Care	3,359	2.11%	2,625	1.70%
OSF Health Care	Health Care	2,800	1.76%	2,094	1.36%
UPS	Parcel Sorting Hub	2,379	1.50%	1,600	1.04%
UTC Aerospace Systems	Aerospace Components	2,200	1.38%	2,200	1.42%
Woodward Governor Co.	Aerospace, governors, equipment	1,900	1.20%	1,071	0.69%
Packaging Coordinators Inc	Pharmaceutical packaging	1,800	1.13%	1,200	0.00%
Walmart	Retail	1,471	0.93%		
Lowe's	Distribution center, retail	900	0.57%		
Mondelez International	Chewing Gum	850	0.54%		
Total of 10 largest employers		26,811	16.88%	17,025	10.24%

Source: Rockford Area Economic Development Council and Bureau of Economic Analysis, updated May 2018

Note: Schedule does not include government employees in the Greater Rockford Area.

Greater Rockford Airport Authority

Schedule of Demographic Indicators for Rockford MSA

Years Ended December 31, 2008 through 2017

December 31,	*(1) Population of Rockford MSA*	*(1) Personal Income (thousands of dollars)*	*(1) Per Capita Personal Income*	*(2) Unemployment Rate*
2008	349,937	11,886,773	33,968	13.0%
2009	349,766	11,539,982	32,993	16.2%
2010	349,224	11,740,547	33,619	11.8%
2011	347,864	12,197,793	35,065	10.7%
2012	345,809	12,523,077	36,214	9.8%
2013	344,746	12,691,589	36,814	9.1%
2014	342,367	13,023,282	38,039	5.9%
2015	340,663	13,515,620	39,674	7.1%
2016	339,650	13,672,271	40,254	6.9%
2017	338,291	*	*	6.5%

(1) Source: Bureau of Economic Analysis, Regional Economic Information System, July 2018
Annual Estimates of Recent Population 2016-2017

(2) Illinois Department of Employment Security, Economic Information and Analysis, April 2018

* Information not yet available

Greater Rockford Airport Authority
60 Airport Drive
Rockford, Illinois 61109-2902
Phone: 815-969-4000. Fax: 815-969-4001
www.FlyRFD.com

Appendix C: Correspondence with the CAA regarding timing of EASA certification process

From: Bromley-Fox Kate <[redacted]
Sent: 29 April 2019 16:08
To: Jamie
Subject: RE: EASA Certification

Good afternoon Jamie

Thank you for your email.

I have spoken with the Manager, Aerodromes and ATM and can confirm that the CAA would adhere to established policy/practice as you have described below.

With best regards,
Kate

Kate Bromley-Fox
Principal Aerodrome Inspector (Operations)
Aerodromes
Civil Aviation Authority

[redacted]

Civil Aviation Authority

Follow us on Twitter: @UK_CAA

Please consider the environment. Think before printing this email.

From: Jamie [redacted]
Sent: 25 April 2019 16:58
To: Bromley-Fox [redacted]
Subject: RE: EASA Certification

Dear Kate,

Many thanks for your time earlier.

As we discussed, Stone Hill Park Ltd ("SHP") is the landowner of the site of the former Manston Airport in Kent. By way of background, SHP acquired the site after the airport closed in 2014 (following c15 years of commercial failure for successive operators) and is now pursuing plans to transform the site into a new settlement comprising housing, leisure facilities and a heritage aviation quarter, incorporating a retained 1,200m runway.

Our progress has been hindered by attempts by a third party, RiverOak Strategic Partners Ltd ("RSP"), to compulsorily acquire the land as part of a Development Consent Order ("DCO") it is promoting to reopen the site as a commercial cargo airport. Notwithstanding the lack of any evidence to support RSP's plans, the DCO application is in the middle of a 6 month examination phase, which involves the testing and assessment of the merits of the application. We would further note that RSP is owned 90% by an offshore Belize based entity, MIO Investments Ltd, that has anonymous directors and shareholders.

We have long been concerned that discussions between RSP and CAA regarding EASA licence certification requirements have not been presented by RSP in an entirely accurate and complete fashion to the government appointed Examining Authority.

[redacted]

Based on the guidance on the CAA website, it appears clear to us that the CAA will only progress discussions on a licence/certificate if it is satisfied that an Applicant is able to prove that it has control over or access to the land it wants to be licensed/certified as an aerodrome. The guidance further notes that *"the applicant must either be the landowner or have the permission of the landowner to use the site as an aerodrome, with rights to control the aerodrome under the terms of a lease or other operating agreement."*

RSP is neither the owner of the land to which its "project" relates nor does it have permission of the landowner to use the site as an aerodrome. The grant of a DCO, including powers of compulsory acquisition over SHP's land, would not change that situation. It would only be by actually using powers to compulsorily acquire the land that RSP could gain *"control over or access to the land"* in the manner set out in the guidance. This would require a value to be set by the Lands Tribunal, and there would be no certainty that RSP could afford to, or choose to, meet the costs required to acquire the land.

This brings us on to the representations that RSP has made to the examination about the timing of the commencement of the EASA certification process (we note the Statement of Common Ground between the CAA and RSP (copy attached) is silent on this). In its latest Written Summary of Oral Submissions put at a hearing on Need and Operations (https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR020002/TR020002-003786-Need%20and%20Operation%20Hearing%20Summary%20and%20Appendices.pdf), RSP states the following;

> ***"8 Agenda Item 10 - Operations – Aerodrome Certificate***
>
> *8.1 The Applicant explained that they anticipate it would take 2 years for the certification process to be completed. The Applicant stated that it would be an iterative process, and although the formal process had not started, a team was ready to begin immediately. The Applicant explained that the CAA would not allow the Applicant to enter the formal process until the DCO is granted, as the CAA require certainty before commencing the certification process. The same procedure will be followed by Heathrow."*

As we discussed on our call, even if the Secretary of State made the decision to grant the DCO with powers of compulsory acquisition (for the avoidance of doubt we consider there is no credible evidence to support this), RSP would not be in control of the land at that point and there would be no certainty that it would ever be in control of the land. Even if it was successful, it would likely take c. 18 months following an initial decision by the Secretary of State before RSP could be in control of the land – this would cover the period required to get past (or not as the case would likely be) any judicial review proceedings and associated appeals, and a further period beyond that to complete the compulsory acquisition process. Please also be aware that RSP is seeking the right to acquire the land at any time in a 5 year period, which could delay this further.

Therefore, to ensure that the CAA's position is not being misrepresented, we would appreciate if the CAA could confirm whether it has departed from its published guidance and would intend to begin the certification process ahead of RSP being either (i) the landowner (having completed the acquisition of the aerodrome site using powers of compulsory acquisition) or (ii) have the express permission of the landowner. If a decision has been made to depart from the guidance, as the landowner with a vested interest in the site we would be grateful if you could provide the justification for doing so and an explanation of the basis on which the certification process would be progressed.

I apologise for the lengthy nature of this email. Should you require any further information or clarification, please do not hesitate to contact me.

Best regards

Jamie

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS MADE AT THE COMPULSORY ACQUISITION HEARING HELD ON 4 JUNE 2019

1. BACKGROUND

1.1. The Compulsory Acquisition Hearing 2 (the "Hearing") was held from 10.00 on 4 June 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2. The Hearing took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") (the "Agenda").

1.3. This note covers the principal issues raised by Stone Hill Park Limited ("SHP") at the Hearing and includes an elaboration on some issues. Those matters either relate to matters raised by the Applicant at the Hearing or provide information that SHP would have provided in response to the Agenda if time permitted. This approach was agreed with the ExA at the Hearing.

1.4. Present from SHP were James Strachan QC, Jamie Macnamara and Iain Mackintosh from SHP, Louise Congdon from York Aviation and John Rhodes from Quod.

1.5. The following documents are appended to this written summary;

1.5.1. Appendix 1: Note dealing with matters of procedural fairness and providing summary of SHP's submissions on Agenda Item 4 – Revised Funding Statement (which includes reference to Agenda Item 7 – The Availability of Funds and Potential Shortfalls);

1.5.2. Appendix 2: York Aviation Note of Oral Evidence focusing on issues of viability of the development and justification for the land area proposed for the development.

2. INTRODUCTION

2.1. This second Hearing was made necessary by the failure of the Applicant to provide sufficient information in support of its case for compulsory acquisition at the first CA Hearing on 20 March 2019.

2.2. SHP, of course, has a fundamental right to a Compulsory Acquisition Hearing, particularly as its land forms 92% of the Order land. At Deadline 5, SHP submitted a written summary of its submissions at the first CA Hearing held on 20 March 2019 [REP5-029]. That written summary explained SHP's concern that it had not been given the opportunity to make representations or to test documents which actually meet the requirements of the Planning Act 2008 and the CLG guidance on compulsory acquisition. It is deeply regrettable that SHP finds itself in exactly the same position following the second Compulsory Acquisition Hearing. Indeed, SHP can almost replicate the submissions made following the first hearing which included:

2.2.1. the Applicant is under an obligation to produce a Statement explaining how the proposals will be funded. The Statement is required to provide as much information as possible about the resource implications of both acquiring the land and implementing the project for which the land is required. For all the reasons explored at the Hearing, RSP's Funding Statement (24 May 2019) [REP7a-007] fundamentally fails this requirement and is not materially different from the Funding Statement to which the Examining Authority advised the applicant it could attach no weight following the first CA Hearing. Indeed, SHP's Comments on the Applicant's Oral Representations to the CA Hearing [REP6-052], SHP's Comments on the Applicant's answers to Second Written questions [REP7-014] and SHP's Comments on the Applicant's answers to Third Written questions [REP8-reference to be allocated] set out the issues with the Applicant's revised Funding Statement and related information.

2.2.2. the Applicant has still been unable to provide the Examination with a clear explanation of the distinction between the NSIP development and the claimed Associated Development. Neither has the Applicant been able to provide any meaningful detail about the proposed Associated Development, how it complies with relevant Guidance, the need for it or any evidence which could come close to justifying the compulsory acquisition of SHP's land;

2.2.3. having failed to provide any evidence to demonstrate the viability and deliverability of its proposed development, the Applicant attempted to give oral evidence at the Hearing to explain and justify its Business Plan. That approach, of course, is entirely unacceptable. If the Applicant is going to assert the soundness of its Business Plan, it needs to submit that Plan in good time for it to be understood and then tested at examination. A case for compulsory acquisition cannot possibly be justified by ad hoc, oral assertions. Even the brief cross examination permitted of the Applicant's witness exposed such serious errors in the "Business Model", submitted by the Applicant in lieu of a proper Business Plan and viability assessment, that the Applicant undertook (again) to provide further information to the Examination. That information, of course, should have been available at CA Hearing 1, let alone CA Hearing 2.

2.3. SHP has no desire to undergo a third Compulsory Acquisition Hearing but SHP's fundamental rights as an "affected person" will not be satisfied without the opportunity to test and make full representations on the Applicant's Compulsory Acquisition case, if that case is ever made.

2.4. Against that background, SHP has structured this document by reference to the Applicant's claimed "compelling need in the public interest" which RSP confirmed at the Hearing remained unaltered from that set out in its Statement of Reasons [APP-012] and which is advanced under the following 4 headings (in summary):

- urgent need for additional capacity in the south-east;
- substantial socio-economic benefits;
- the only viable use for the airport land; and
- safeguarding a significant national asset.

2.5. In addition, there are some important other Compulsory Acquisition issues that arose from the agenda and SHP's submissions and these matters are summarised in Section 7 of this note.

2.6. In view of the inadequacy of the information advanced by RSP, these submissions are relatively short and SHP awaits the opportunity to test the further information which RSP has undertaken to provide to the Examination.

2.7. SHP considers the Examining Authority will be familiar with SHP's written summary of oral representations to the first CA Hearing [REP5-031] and does not seek to repeat those submissions in this summary note.

3. URGENT NEED IN THE SOUTH EAST

3.1. The Examining Authority will be familiar in principle with SHP's case in this respect, not least from SHP's Written Representations submitted on 15 February 2019 [REP3-025], which included detailed appendices prepared by York Aviation (Appendix 4) and Altitude Aviation (Appendix 5). In addition, SHP has made the following relevant submissions, the terms of which are not repeated here.

3.1.1. SHP's Comments on the Applicant's answers to First Written questions on Need [REP4-067], incorporating a separate York Aviation Report [REP4-065];

3.1.2. SHP's Written Summary of Oral Representation – CA Hearing, which appended notes from each of York Aviation and Altitude Aviation Advisory [REP5-031];

3.1.3. SHP's Written Summary of Oral Representation – Need and Operations Hearing, which appended notes from each of York Aviation and Altitude Aviation Advisory [REP5-029];

3.1.4. SHP Comments on the Applicant's Oral Representations to the Need & Operations Hearing [REP6-055]

3.1.5. SHP Comments on the Applicant's Oral Representations to the CA Hearing [REP6-052]

3.1.6. SHP's Comments on the Applicant's answers to Second Written questions on Need, incorporating a separate York Aviation Report [REP7-014]

3.1.7. SHP's Comments on the Applicant's answers to Third Written questions on Need incorporating a separate York Aviation Report [REP8-reference to be allocated].

3.2. Of fundamental concern is that the Applicant's case is built upon the forecasts in the Azimuth Report [APP-085] but those forecasts are deeply flawed. Indeed, they are not actually forecasts in the traditional sense. At paragraph 1.1.2 of Volume III, Azimuth explain that they take "*a different approach"* by using a "*qualitative method*" based on their literature review, which SHP presume means the review set out in Azimuth Volume II. Paragraph 1.1.2 of Volume III explains:

> "*The approach identifies potential users of Manston Airport and builds a forecast from this intelligence,"*

3.3. SHP has characterised this as a "wish list" and provided evidence not only of the inconsistency between the forecast and RSP's Environmental Statement but also between the forecast and the case which has now evolved from RSP through the examinations based on an alleged but undisclosed E-commerce model. It is particularly notable that a forecast based on potential users of Manston Airport is not supported by any evidence that any airlines would actually use Manston Airport. There is no evidence of demand or confirmation of interest and in SHP's view, no likelihood of operators being attracted. Manston Airport occupies a remote location which is demonstrably un-attractive to the distribution industry and seriously handicapped in its location by reference to its principal competitors. Its long history of failure is testament to this.

3.4. There are, in fact, no quantitative components of the forecasts which can be interrogated. It is remarkable, for instance, that RSP is unable to demonstrate how the Azimuth forecasts, as relied on by the ES, took into account the freight capacity of the third runway at Heathrow Airport. The Government's policy support for the third runway represents support for the largest increase in freight capacity in the south-east for more than 50 years. York Aviation have estimated that the doubling of freight capacity at Heathrow would allow for at 31 years of extrapolated growth of future air cargo[1].

3.5. The only apparent quantitative contribution to RSP's "forecasts" is a reliance on the 14,000 cargo movements referred to in the York Aviation report for TfL in 2013 based on the circumstance of no additional capacity being provided at any London airport, let alone Heathrow – this provided the original "justification" for the reasonableness of RSP's 17,170 cargo movements at Manston. At the Examination, RSP were reduced to asserting that "of course" they knew all about the third runway and will have taken its prospect into account but RSP could not explain how or where that assertion could be seen or tested.

3.6. RSP's case now appears to be reliant upon casting doubt upon the ability of the third runway at Heathrow to meet air freight needs in the south-east. In particular, RSP's answers to questions ND3.10 and ND3.21 attempt to cast doubt on either Heathrow's commitment to bring forward additional freight capacity or the ability of Heathrow to do so because of alleged constraints. In response, SHP advised that Heathrow's preferred masterplan will be published for public consultation on 18 June 2019 and is anticipated to demonstrate Heathrow's commitment to double freight capacity to 3 million tonnes and to explaining how this is to be achieved through an intensification of cargo facilities at the airport. This, of course, is consistent with Heathrow's previously announced Cargo Blueprint.

3.7. In response to question ND 3.12, RSP suggested that there were un-served markets in South America, China, East Asia, India and Pakistan but failed to recognise the obvious point that the third runway at Heathrow has been selected by the Government particularly because of its exceptional ability to enhance international connectivity, including for freight (Airport's NPS paragraph 3.18) by providing additional services to precisely such destinations.

3.8. In the absence of any demonstrated quantitative shortfall, RSP's case at the Hearing relied heavily upon its interpretation of national planning policy. A close reading of the Airport's NPS, however, identifies:

[1] SHP written representations, appendix 3, paragraph 2.14

a) under the heading "*International Connectivity and Strategic Benefits, including freight*" paragraph 3.18 of the Airport's NPS explains that "*Heathrow is best placed to address this need"* and explains the importance of Heathrow's ability to generate connections to fast growing economies;

b) at paragraphs 3.24 and 3.73, the NPS confirms that its support for a third runway at Heathrow includes particularly that Heathrow would provide the greatest support for freight. RSP sought to argue that the statements were made only to express a relative preference for Heathrow compared with Gatwick. A fair reading of the NPS, however, would confirm that the Government identified particular, absolute advantages in Heathrow's ability to deliver substantial increased freight capacity and connections to growing markets in order to "*address this need*"; and

c) at paragraph 3.73 of the Airports NPS the Government confirms that it has attached particular weight to freight in its decision to support the expansion of Heathrow.

3.9. RSP assert that the emerging green paper shows continued support for air freight but both the NPS and the green paper make clear that the NPS establishes only the need for the third runway at Heathrow and it is for other promoters to make their own specific need case, including in the circumstance where the Government is generally supportive of existing airports making best use of their available runway capacity.

3.10. RSP also suggest that the Airports Commission did not seriously consider the need for freight. However, examination of the Airports Commission final report 2015 identifies:

a) 114 references to freight;

b) the Airports Commission summarised case for Heathrow in the Executive Summary (page 24) makes multiple references to the freight credentials of the third runway; and

c) at paragraph 6.19, the Airports Commission make clear that their work has paid particular attention to the need for freight capacity.

3.11. The Applicant's case on need is simply not made out and not credible.

4. SUBSTANTIAL BENEFITS

4.1. There are 2 particular aspects to this heading of RSP's case:

- whether in fact the application proposals (if developed) would bring substantial benefits; and
- whether it is necessary for RSP to demonstrate that those benefits would materialise.

4.2. The first issue was explored in the Issue Specific Hearing on Socio-Economic issues on 5 June 2019. In parallel with this submission, RSP has submitted a note of its oral evidence at that Hearing [REP8-reference to be allocated], which demonstrates in summary that the asserted benefits are based on flawed assumptions and calculations and are, hence, grossly exaggerated.

4.3. This note addresses the second point, namely the extent to which there is an obligation on RSP to demonstrate that the benefits would materialise. This part of the agenda was "skipped over" at the Hearing in the interests of time but only with the specific recognition

from the Examining Authority that SHP and others could submit in writing the matters which they would have raised.

4.4. In this context, it was notable that Michael Humphries QC on behalf of RSP referred specifically to paragraph 18 of the CLG Guidance on compulsory acquisition to claim that the Applicant "*should be able to demonstrate that adequate funding is likely to be available to enable the compulsory acquisition"*, as if that was the only paragraph in the Guidance and the only obligation on the Applicant.

4.5. Again, SHP's position was set out in its Written Representations in Section 8 [REP3-025]. Those representations drew attention to the following additional requirements of the CLG Guidance:

- paragraph 13 of the Guidance makes clear that the Secretary of State will need to be persuaded that there is compelling evidence that the public benefits that would be derived from the compulsory acquisition **will** outweigh the private loss. That guidance is given twice in paragraph 13 and again in paragraph 14;
- paragraph 17 requires as much information as possible about the resource implications of both acquiring **and implementing** the project;
- paragraph 17 then makes clear that the financial viability of the proposal underlying the compulsory acquisition either needs to be demonstrated or the applicant should provide an indication of how any potential short falls (in viability) are intended to be met. That guidance is not concerned simply with funding compulsory acquisition but with the viability of implementing the project; and
- paragraph 19 requires any potential risks or impediments to **implementation** (not acquisition) of the scheme to be identified and properly managed.

4.6. A lack of viability or funds would be a fundamental impediment.

4.7. Paragraph 18, therefore, sets out only one of the requirements and it is un-surprising that the Guidance requires evidence of the viability and deliverability of the benefits which are claimed in order to outweigh the private loss that would result from the compulsory acquisition. There can scarcely be a compelling need in the public interest to acquire land for a development which is not viable and has no prospect of proceeding. Appendix 1 explains SHP's position on these matters in more detail.

4.8. Having reluctantly but finally agreed to provide some additional information on its Business Plan to the Examination, RSP appear to have acknowledged the consequences of the Guidance.

4.9. As part of its testing of the Plan, SHP would wish to examine how it can be the case that the cost of making the airport fit for use can apparently increase by £86m with no apparent impact on the project's viability. SHP would also wish to examine further the resource implications of the Applicant's project, which were not adequately tested at the Hearing e.g. what costs (which would be substantial) has the Applicant has included for off-site works (including highways) and all s.106 obligations, adequacy of the sum stated in Article 9 etc.

4.10. SHP reserves its position pending receipt of the promised information but SHP's evidence at the Examination explained the context in which it was necessary to test any business plan. Attached at **Appendix 2** is a Note of Oral Evidence prepared by York Aviation that

comments on the business case information so far available to the Examination from the Applicant. This note formed the basis of SHP's questioning of Mr. Wilson. It identifies that the evidence submitted so far shows a requirement for RSP to achieve a rate of revenue per workload unit over double that achieved at Stansted and four times that achieved at East Midlands.

4.11. When questioned, it was notable that Mr. Wilson:

- confirmed that he had just taken the Azimuth forecasts and put revenues and costs against them;
- claimed that he had looked at comparable airports for assessing costs but was unable to name any that he had examined – Mr Wilson then further confirmed that he was not aware that there were any comparable airports;
- could not explain why his revenue figures were a multiple of those achieved at East Midlands or Stansted;
- would not answer questions about the forecasts, stating that was not his role and that questions should be directed at the author of the Azimuth Report – clearly there was not an opportunity to do that as the author was not in attendance at the Hearing, despite Compelling Case in the Public Interest being an Agenda Item;
- confirmed that the revenue forecasts were based on the forecasts set out in the Azimuth Report (i.e. integrator movements being 100% outbound / 20% return), which is incompatible with the import based E-Commerce Integrator model now advanced by the Applicant; and
- confirmed that he had no involvement in any business model that assessed viability of the proposed project and that he was not aware of any such model or information being before the examination.

4.12. In response to the Examining Authority's question ND 3.1, RSP advised that "*the forecast assumed that costs of operating from the airport would be in line with other cargo airports".* This fundamental assertion does not appear to be accurate.

4.13. The consequences do not need to be laboured, they are obvious:

- either RSP is able to explain how it will be able to achieve revenue far higher than better located airports in order to attempt to demonstrate the viability and deliverability of its proposals – but in doing so must inevitably undermine its own forecasts which the Examination has been told are based on an assumption that costs would be comparable with other airports; or
- RSP will assert that its costs will indeed be comparable with other airports, in which case its proposals will not be viable (based on RSP's own evidence).

5. THE ONLY VIABLE USE

5.1. It is almost ironic that this is RSP's third claimed part of its "*compelling case*". In order to make good that case, of course, it is beholden on RSP to demonstrate the viability and deliverability of its proposals. Unless it can do so, this element of its case (and its case as a whole) simply falls away.

5.2. As part of its case, RSP criticised SHP's proposals for the development of a new community including 3,700 homes at the airfield and, in particular, criticise SHP for not bringing viability evidence of its own to the Examination.

5.3. SHP has produced evidence of its own deliverability and credentials in its Written Representations [REP3-025] but, in any event, the simple response to RSP's criticism is:

- this is an examination of RSP's proposals. SHP's proposals fall to be examined by the planning authority as a planning application;
- SHP has submitted a full viability appraisal to its determining authority (Thanet District Council) so that that appraisal can be independently reviewed before a decision is taken. RSP cannot say the same for its own application.

5.4. RSP also criticise SHP for not forcing the determination of its application with Thanet District Council. It is well known, however, that (contrary to officer advice) members of Thanet District Council declined to allocate Manston Airport for residential led mixed use development in the Local Plan and those members will not be prepared to (favourably) determine the SHP application whilst these DCO proceedings are still 'live'.

5.5. In the absence of RSP's DCO application, SHP's application would be progressing with every expectation of achieving officer recommendation for approval. As SHP has explained in its Written Representations (see Appendix 3) [REP3-025] there is a pressing need for housing in the district, Manston Airport is the most sustainable location to meet that need and, in the absence of an ability to allocate Manston, the District Council has been forced to allocate green-field land in less sustainable locations. After years of under-delivery, there is an urgent need for housing – so much so that the Secretary of State has directed that the Local Plan is immediately reviewed to attempt to meet that need.

5.6. The SHP proposals would bring substantial residential and employment benefits and would safeguard a 1,200m heritage runway so that aviation could continue to be an active part of life at Manston Airport.

6. SAFEGUARDING A NATIONAL ASSET

6.1. Whilst the SHP proposals would embrace and bring forward a secure future for aviation at Manston (based on a realistic scale of activity), the RSP application offers no such realistic prospect.

6.2. SHP has long been concerned that RSP proposals are not "real" and the unravelling nature of RSP's application has only confirmed those concerns.

6.3. As explained above, the evidence provides no basis for assuming that RSP's proposals would be constructed or operated. The Applicant has no track record in developing or operating a cargo airport and has failed to demonstrate that it has the funds even to acquire let alone construct and operate an airport. DCO consent would provide no certainty of any outcome other than the transfer of the land from a willing developer (SHP) to an un-known party with no track record and un-identified investors (RSP).

7. OTHER COMPULSORY ACQUISITION ISSUES

7.1. SHP's evidence on other compulsory acquisition issues was given in part at the Hearing and in part at the DCO Hearing, for which SHP has provided a separate written summary [REP8-reference to be allocated].

7.2. That written summary explains SHP's concern that RSP has been unable to properly identify the distinction between its NSIP proposals and associated development or explain how the majority of the claimed associated development is in fact associated with the principal development, or meets the other relevant tests under the DCLG Guidance.

7.3. SHP's case in relation to the claimed associated development is first set out in sections 5 and 6 of Appendix 1 (NSIP Rebuttal) to SHP's Written Representations [REP3-025]. SHP's case has been supplemented by submissions that responded to the Applicant's limited additional submissions, particularly in respect of the purported associated development on the Northern Grass.

7.4. RSP's Planning Statement describes its proposals for the Northern Grass Area as a 105,000 sqm "business park". That description was refined into an "airport related business park" in the Updated NSIP Justification dated 18 January 2019 in which Appendix 4 promised further evidence at Deadline 3. That further evidence has not so far been produced.

7.5. It is the case, therefore, that RSP has not provided the examination with:

- any independent evidence of demand for the claimed associated development; or
- any rigorous estimation of the required scale or land requirements of the associated development;
- any clear or consistent breakdown of the likely uses to which the Northern Grass Area would be put; or
- any information that would allow the Examining Authority to adequately test whether the criteria (e.g. there is no information that would allow an assessment of the cross-subsidy test) in the relevant DCLG Guidance have been satisfied, and interested parties a fair chance to put their case.

7.6. The clearly excessive scale of car parking proposed (as part of Work No.21) emerged at the Traffic ISH on 6 June 2019 is another example of the excessive scale of the Applicant's proposals. Compulsory acquisition cannot be justified on that basis.

7.7. RSP responded to the Examining Authority's questions OP 2.5, OP 2.9 and OP 3.9 with an illustrative list of facilities accompanied by a recognition that "no marketing" had taken place. The Examining Authority is clearly alive to the inadequacy of the information, as its questions demonstrate, including OP 3.9 which probes the floorspace estimates and alleged associated nature of the listed uses. In practice, virtually none of the uses listed are actually associated with the principal development. None are justified by any evidence of need or demand and the basis for the compulsory acquisition of SHP's land is completely inadequate. It is not sufficient for RSP to suggest that the land falls within the natural curtilage of the airport, so RSP should have that land too. The SHP land extends to 742 acres – a compelling case has to be made for every one of them.

7.8. In response to question CA 3.22, RSP sought to justify its assertion that, if development did not take place on the Northern Grass Area, it was likely to be spread further afield with

adverse consequences for sustainability. There are, of course, serious problems with that argument for RSP, not least:

- a recognition that any alleged uses could in fact be spread more widely and do not need to be allocated on the Northern Grass Area;
- the evidence before the examination from the district council that there is a surplus of employment land available in the local area on which any demand which did emerge could be satisfied; and
- the lack of any justification for the land uses proposed or any evidence that their location elsewhere would generate adverse consequences.

7.9. It is almost as if RSP do not understand the burden on an applicant to demonstrate a **compelling** case to take someone else's land. No compulsory acquisition has ever been consented as far as SHP is aware on the basis of so little evidence. The "Land Requirement" has been examined primarily through written questions (and comments thereon) and submissions from SHP as part of its written summary of oral representations to the first CA Hearing [REP5-031]. Additional evidence is included in paragraphs 21-31 of the York Aviation note attached as Appendix 2.

7.10. Another aspect of RSP's case at the examination was the assertion of Michael Humphries QC that "*no harm*" would arise in practice from confirmation of compulsory acquisition powers because RSP would be obliged to exercise the compulsory acquisition powers within 12 months (since watered down at the DCO Hearing) and, in any event, SHP would be compensated. Again, such a case fails to recognise the fundamental nature of the tests involved in compulsory acquisition. If compensation was a sufficient remedy, this examination would not be necessary and there would be no obligation on RSP to demonstrate a compelling case.

7.11. In fact, as a legislation recognises, real harm arises from the enforced loss of land. That harm is demonstrable in this case. SHP has already been severely prejudiced by these unwelcome DCO proposals. It is clear that without this hostile DCO, SHP's land would be allocated for residential development, its application would have progressed and been very likely approved and very substantial public benefit could be realised from its proposed development.

7.12. Compulsory acquisition cannot be undertaken lightly and SHP is particularly concerned to find itself "victim" to a compulsory acquisition proposal from investors that will not identify themselves but who are directly associated with a party which Thanet District Council closely investigated and found to be un-fit as an indemnity partner for compulsory purchase.

7.13. Other Matters

7.13.1. Potential Risks or Impediments: SHP has set out the material nature of these risks and impediments in its previous submissions. For example, SHP had set out its comments, which were broadly consistent with those of the DIO, on the HRDF Beacon in its answer to third written question CA.3.6 [REP7a-044].

7.13.2. Reasonable Alternatives: it is noted that the Applicant has failed to provide any evidence that it has explored all reasonable alternatives to compulsory acquisition of land owned by SHP and other parties. SHP has set out the

position in previous submissions and as part of it comments on the Applicant's answers to third written questions [REP8-reference to be allocated]. SHP would also wish to raise a concern with the Examining Authority regarding attempts by the Applicant to acquire the small fragmented land interests held by parties that own land above the Pegwell Bay pipeline. SHP would respectfully suggest that the Examining Authority seek copies of correspondence sent by the Applicant to these landowners (with names and addresses redacted as appropriate) to address concerns that the Applicant has not acted reasonably.

APPENDIX 1: NOTE DEALING WITH MATTERS OF PROCEDURAL FAIRNESS AND AGENDA ITEM 4 – REVISED FUNDING STATEMENT

1. The purpose of this note is to set out SHP's concerns regarding matters of procedural fairness and provide a summary of SHP's submissions on Agenda Item 4 – Revised Funding Statement. This also necessarily touched on matters under Agenda Item 7 – The Availability of Funds and Potential Shortfalls.

2. GENERAL MATTERS / PROCEDURAL FAIRNESS

2.1. So far as SHP is concerned, the need for the second CA Hearing ("Hearing 2") arose directly in consequence of the Applicant's failure to provide relevant information in respect of its application and, in particular, its case for compulsory acquisition in advance of the first Compulsory Acquisition Hearing ("Hearing 1") or at that Hearing itself, and on the basis that further information was going to be provided. In the event, Hearing 2 took much of the same frustrating, unacceptable and procedurally unfair course as occurred at Hearing 1, with the Applicant having failed to provide necessary information before Hearing 2 and then, at Hearing 2 itself, suggesting that it would provide more information relevant to compulsory acquisition after Hearing 2 itself. SHP through its Counsel made the point on several occasions that this procedure was inherently unfair and prejudicial to SHP. The point of a right to hearing in response to proposed Compulsory Acquisition of SHP's land is for the Examining Authority and for Interested Parties (including SHP in particular which owns the vast majority of the land which the Applicant is seeking compulsorily to acquire) to examine test the Applicant's case properly. It is impossible to be able to do this in a fair and proper manner if the relevant material has not been provided in advance of such a hearing or, indeed, at the hearing itself.

2.2. For the avoidance of doubt, having reviewed all of the information provided by the Applicant in advance of Hearing 1 and 2 and at those Hearings, as compared with the information which is said to be coming in due course, SHP emphatically submits that it has not had a proper opportunity to understand and test the Applicant's purported justification and any claimed supporting evidence for compulsory acquisition and has been materially prejudiced in responding to the Applicant's case and continues to be materially prejudiced. This is a consequence of the Applicant's failure to provide proper justification and supporting evidence in support of the Application and in advance of the Hearings and SHP reserves its rights entirely both as to the procedural and substantive consequences and prejudice this has caused. Whilst the Applicant during the course of Hearing 2 sought to suggest that it is a normal part of the DCO process for material to be provided during the course of the examination by way of written submission after hearings, SHP submits that this is not a proper or procedurally fair answer to the basic problem that the Applicant has created and SHP is unaware of any case where a DCO applicant that is seeking compulsory acquisition has been entitled to provide the sort of missing information and justification after compulsory acquisition hearings in the way that is now being proposed. SHP considers that it is impossible for the Examining Authority to be satisfied that there is in fact a proper justification for compulsory acquisition of SHP's land and interests based on the material provided to date and, in so far as claimed further supporting justification is submitted, SHP will have had no opportunity to test that material at a hearing of the type to which SHP is entitled in principle under the statutory provisions.

2.3. SHP is also fully cognisant of section 94(7) of the Planning Act 2008 which sets out the principle that any oral questioning of any person making representations at a hearing should be undertaken by the Examining Authority except where the Examining Authority thinks that oral questioning by another person is necessary in order to ensure (a) adequate testing of any representations; or (b) that a person has a fair chance to put the person's case.

2.4. Whilst SHP is grateful in principle to the Examining Authority for permitting SHP to carry out some direct questioning at Hearing 1 and 2, for the reasons set out at both those hearings, it considers that it was not given sufficient time to put all of the necessary questions it wished to the Applicant to test the representations that have been made, or to give SHP a fair chance to put its case. Amongst other things: (a) by virtue of the fact that the Applicant has simply not provided all of the information in support of its claimed justification (such as a purported business case), the Examining Authority itself was simply unable to test the Applicant's representations at the two Hearings by reason of the Applicant's failures, let alone to be able to ask all the questions on SHP's behalf to test the case; and (b) the respective time periods of 15 minutes and 35 minutes at Hearing 1 and 2 allowed for direct questioning was too short to enable SHP to ask all of its necessary and relevant questions to put its case. SHP does not rehearse all of those points again in this summary, but refers back to the points it has previously made on this topic in relation to Hearing 1 and at Hearing 2 itself, including the identification of the topics on which it would have asked questions if it had had time to do so.

3. AGENDA ITEM 4 - REVISED FUNDING STATEMENT

3.1. The Examining Authority elided some of the examination on this Agenda Item with questions under Agenda Item 7 on The Availability of Funds and Potential Shortfalls.

3.2. Following the exchanges between the Examining Authority and the Applicant on some of these topics, by way of summary only SHP made the following points:

3.3. First, in response to questions (both written and oral) from the Examining Authority regarding funding, the Applicant has variously sought to contend (amongst other things) that (a) the Examining Authority and others are not entitled to look at funding in the way that it has in a "land use" context; (b) there is an important difference between funding of the compulsory acquisition and the funding of the scheme generally and it is not necessary to demonstrate the latter – the Applicant contended that requirements in respect of funding only related to the funding of the cost of compulsory acquisition and Parliament had made this clear because there was no funding statement required for DCOs which did not involve compulsory acquisition; (c) funding or its sources will be scrutinised by the HMRC; and d) in any event, any concerns about compulsory acquisition funding are addressed by Article 9 of the dCO which is a "game changer".

3.4. In summary, SHP submitted that the Applicant was wrong in fundamental respects and that its answers to the above effect were unsatisfactory/wrong and the required scrutiny of the request for compulsory acquisition would not be undertaken if this approach were adopted. Amongst other things, SHP pointed out:

3.5. The basic premise underlying the Applicant's response and attitude to the Funding Statement (as shown in its answers to F3.1) regarding Parliament's attitude was misconceived. Regulation 5(2)(h) of The Infrastructure Planning (Applications: Prescribed

Forms and Procedure) Regulations 2009 includes a statutory requirement that where a proposed order would authorise the compulsory acquisition of land or an interest in land or right over land, a statement of reasons and a statement to indicate how an order that contains the authorisation of compulsory acquisition is proposed to be funded. The Funding Statement is therefore a statutory requirement and, what is more, it is a statutory requirement that the statement indicate how the order is proposed to be funded, not simply the compulsory acquisition element of the order. The Applicant's starting point is wrong. The Applicant is therefore wrong to contend that Parliament has demonstrated that it is only interested in the funding element in relation to the compulsory acquisition part. Moreover, the Applicant has clearly misunderstood the significance of compulsory acquisition and Parliament's requirements in respect of it. The Applicant's submissions (see e.g. answers to F3.1 and its oral answers) claim that because no Funding Statement is required for a DCO where no compulsory acquisition is proposed, the Funding Statement must necessarily only be concerned with the funding of the compulsory acquisition element. This is not only contrary to what is stated in the Regulations, but also contrary to the basic tenets of the law that relate to compulsory acquisition. In a DCO without compulsory acquisition, Parliament has not prescribed provision of information in the form of a Funding Statement for the DCO but that is because in such circumstances, the Applicant is proposing bringing forward a project without depriving anyone compulsorily of their land to do so. The Applicant will either have the necessary land itself, or have the agreements in place to bring forward the land or will rely upon reaching agreements to bring forward the land. By contrast, where the Applicant is seeking to deprive someone else of their land as part of the promotion of a DCO project, the statute (see s.122(3) of the Planning Act 2008), the common law (see e.g. the many cases on compulsory acquisition principles and now the Human Rights Act 1998 (including Article 1 of the First Protocol in the Schedule to the Human Rights Act) require an applicant to prove a compelling case in the public interest for such compulsory acquisition.

3.6. As the compulsory acquisition is only being proposed because of the project itself, this means that it is essential for an applicant to demonstrate a compelling case in the public interest for the project itself. The Applicant has seriously misunderstood this in its attitude to the provision of funding information and in answers to the Examining Authority and in suggesting that this is outside the remit of a "land use" exercise. It is contending that it is sufficient to show the likelihood of funding being available to afford the compulsory acquisition only and that is all the Funding Statement is really concerned with. That is obviously not right. Where a landowner is having its land forcibly removed, the applicant's funding statement is concerned not just with the funding of the land compensation for that land, but also with the funding of the project as a whole. It is not right to suggest that an applicant seeking compulsory acquisition merely needs to be able to show that it is likely to be able to pay the compensation price for the land (although the Applicant has not even done that). The necessary payment of compensation in any compulsory acquisition case is a given, but it certainly does not equate to demonstration of a compelling case in the public interest at all. The need for demonstration of a compelling case in the public interest and the need to avoid violation of the human rights at stake (in this case the basic right to peaceful enjoyment of property under Article 1 of the First Protocol) demonstrate why the Applicant is so wrong to try and characterise this process as merely one concerned with "land use" (i.e. merely akin to a planning consent process). The Applicant has misunderstood what it is in fact seeking under the DCO.

3.7. It is absurd to suggest that an applicant for compulsory acquisition can fulfil its obligations in relation to the compelling case in the public interest merely by stating I can afford to buy

your land if in fact it will not be able to proceed with the project for which the land is being acquired. The provision of a Funding Statement in respect of the Order as a whole where compulsory acquisition is proposed is because funding is directly relevant to the basic question as to whether there is a compelling case in the public interest to deprive someone of their land. Regrettably, the Applicant has misdirected itself and is misdirecting the Examining Authority in suggesting that the Funding Statement need only be concerned with the cost of compulsory acquisition. The Examining Authority has correctly requested relevant information about the funding of the project as a whole, including basic information as to the Applicant's business case and the viability of the project as a whole. That information simply does not exist. As a result of direct questioning (see below), the Applicant confirmed that there is no business case before the examination. As to viability, there is no evidence or information from the Applicant to demonstrate that the project is or even could be viable. By contrast, there is a significant body of information from SHP's aviation experts using the Applicant's own information to demonstrate that the whole project is completely unviable. Indeed, the assumptions the project is based upon regarding purported "forecasts", assumed returns and consequential charges, contradict the Applicant's case that the airport would offer a cost neutral service as compared with other airports and demonstrates that the airport would in fact be one of the most expensive airports ever and simply off the scale in terms of expense as compared with cargo airports. It is therefore little wonder that the Applicant has sought to divert the Examining Authority from any questions about the funding of the project as a whole, refused to divulge any business case and refused to address viability - it is unable to do so. But it is fundamentally wrong to try and suggest that this falls outside the remit of the DCO examination and, in particular, the basic issue of compulsory acquisition with which this Hearing was concerned.

3.8. The Applicant has also mischaracterised both the nature of the Examining Authority's questions and SHP's position on the funding of the project as a whole by making submissions to the effect that it is not normally the case for a DCO applicant to have to demonstrate that it already has all funds for the DCO project (e.g. £306 million secured and available such as in a bank account). This sort of submission avoids addressing the questions that have been asked and wilfully misinterprets the questions and representations made. Neither SHP, nor the Examining Authority (as SHP understands the Examining Authority's questions) have contended that the only way the Applicant can justify compulsory acquisition is show that it has £306 million available now in a bank for the project as a whole. This is just setting up a straw man argument to knock it down, whilst avoiding the real issues. What the Applicant does have to do, however, is demonstrate a compelling case in the public interest for the making of the DCO with compulsory acquisition of the entirety of SHP's interests covered by the proposed DCO. The Applicant is, of course, nothing like more "normal" DCO applicants. It is a shell company, with no material assets, no apparent experience, no rights to call on money and where it is owned by a series of other companies, ultimately controlled by a Belizean company which is similarly shrouded in mystery. What the documents do disclose, however, is that none of these companies have any material assets or rights to assets. As the SHP pointed out, one way of testing that proposition is to ask who would be liable now and have the ability to pay a costs award (for example). The Applicant was not able to answer this.

3.9. The Applicant's new reliance upon Article 9 of the dDCO and characterisation of it as a "game-changer" repeat and reaffirm this basic misunderstanding, but also incorporate a new problem. It repeats and reaffirms the basic misunderstanding because (a) the Applicant's reliance on Article 9 is necessarily confined in its ambit to the cost of compulsory acquisition, rather than evidence about the potential funding of the DCO; Article 9 has

nothing to do with the latter – this is a repeat of the flawed submission that all that an aggrieved landowner is entitled to know is that compensation will be paid for land lost, rather than the project proceeding itself; (b) Article 9 is concerned with a particular safeguard applicable when compulsory acquisition authorised by a DCO is about to occur, but it does nothing to address the necessary evidence required to demonstrate that a DCO should be made in the first place and, in particular, the requirements to demonstrate a compelling case in the public interest; (c) Article 9 tells one nothing about the ability of this project to proceed and, therefore, demonstration of a compelling case in the public interest; (d) it would again be absurd and contrary to the statutory purpose, as well as applicable in every case, if the basic questions about funding that need to be addressed at the DCO examination stage could be deferred through the surrogate procedure of offering Article 9 as a mechanism. This would mean that a DCO would be made with compulsory acquisition powers attached, all of the disastrous consequences that entails for the affected landowner (and all other interested parties), but without the Applicant having ever provided the necessary evidence to demonstrate the likelihood of funding of the compulsory acquisition and funding evidence in relation to the project as a whole. SHP therefore dealt fully with the adverse consequences of reliance on Article 9.

3.10. It also incorporates a new problem which the Applicant was unable to address. That problem is the need to assess compensation. As SHP pointed out, ordinarily examination of a DCO involving compulsory acquisition does not involve the Examining Authority getting into issues of deciding compensation that will be payable for the acquisition itself. This, however, is based on the assumption that the Examining Authority will examine funding as required under the Regulations and the Guidance. Where there is dispute between the parties as to the amount of compensation payable, the Examining Authority will not normally need to resolve that dispute. It would be sufficient for the Examining Authority to satisfy itself as to the likelihood of funding being available to pay for the compulsory acquisition within the reasonable range of the likely dispute. By contrast, the Applicant's reliance upon Article 9 of the dDCO and a specific figure of £13.2 Million now as demonstrating the likelihood of funding now creates a basic problem. Even if it were right to rely upon Article 9 in this way (contrary to what SHP has submitted), it now requires the Examining Authority to satisfy itself that the sum in question is sufficient to satisfy the compensation bill or the necessary range. However, the evidence is incapable of doing that. What the Examining Authority and the Applicant know is that the compensation bill for SHP's land alone is in dispute and that SHP's own valuation experts have identified a figure far in excess of the total sum that the Applicant is proposing under Article 9. Moreover, the Examining Authority now know that the Applicant itself had previously agreed to purchase SHP's land for a total consideration of £20million (but has since reneged on that). Whilst SHP recognises that an Examining Authority would not ordinarily be required to resolve disputes about compensation, it does need to be satisfied as to the likelihood of funding being available to meet the potential range. On any basis, that range now extends at least to £20M for SHP alone and more and the Applicant only refers to £7M for the Order Land. If the Applicant is now seeking to rely on Article 9 as a game-changer, it must necessarily be inviting the Examining Authority to satisfy itself that £13.2M is likely to be sufficient (including Noise Mitigation Costs), but the Examining Authority has not involved itself in that valuation exercise and the testing of that evidence. Moreover, SHP has repeatedly pointed out that the Applicant's valuation witness (Mr Smith) has persistently refused to divulge the basis for his valuation of the SHP land and, for example, what element or percentage of hope value is included. If Article 9 is to be relied on as a "game-changer" in the way that the Applicant suggests, the Examining Authority would need to satisfy itself that a total sum of £13.2 M for all compensation liability (not simply SHP's land) is likely to

be a sufficient sum. If the Examining Authority is proposing to take that route, SHP will need disclosure of proper evidence from the Applicant as to the basis of their valuation and SHP will wish to rely upon its own valuation evidence and to submit evidence about it.

3.11. As to reliance upon the HMRC, the HMRC is clearly not performing the functions of the Examining Authority. The HMRC is only as good as the information with which it is provided, as to which we remain in the dark. The HMRC is clearly not assessing either the likelihood of funding being available for compulsory acquisition or the funding of the project as a whole. The Applicant's reliance upon HMRC was also the subject of submissions by Mr Macnamara, which are summarised in paragraphs 3.14 – 3.17 below.

3.12. Underpinning those submissions made orally, SHP would have referred the Examining Authority (if the nature of the examination and time permitted) to the statute, the case law and the Government's own Guidance require the Applicant to answer the questions and provide the evidence that the Examining Authority has been seeking. Section 122 provides that a DCO of this type may only be authorised if the land in question is required for the development, or is required to facilitate or is incidental to the development and there is a compelling case in the public interest. Paragraph 6 of the Guidance states that applicants must therefore be prepared to justify their proposals for compulsory acquisition and "need to be ready to defend such proposals throughout the examination of the application". It is certainly not envisaged, nor consistent with inherent fairness, to suggest that such defence can be mounted through provision of information after the examination has started and after the compulsory acquisition hearings. Paragraph 8 requires a clear idea of how the Applicant intends to use the land (something which has self-evidently not been demonstrated by the Applicant – even at this late stage, the Applicant itself has stated that it does not know the nature of the potential occupiers of the northern grassland areas). Paragraph 8 identifies that the Applicant must be able to demonstrate that there is a reasonable prospect of the requisite funds for acquisition becoming available. Paragraph 12 identifies that the Secretary of State will need to be persuaded that there is compelling evidence that the public benefits that would be derived from the compulsory acquisition will outweigh the private loss that would be suffered by those whose land is to be acquired. It goes on to reiterate Parliament's view that land should only be taken compulsorily where there is clear evidence that the public benefit will outweigh the private loss. It is inconsistent with all of this for the Applicant to contend (as it does now) that it does not need to provide evidence as to the basics of a business case for its project, the basics of the viability of the project in circumstances where the Applicant has expressly confirmed that it does not yet have any investors, it will be relying on investors, and those investors will have to rely on a business case. This is therefore a stark and simple case that if the proposal is not viable, it cannot be delivered. There is no public money in prospect or relied upon whatsoever. Likewise, the Applicant's reliance on Chesterfield is completely mistaken. That case concerned a different statutory scheme and one which was dealt with prior to the Human Rights Act coming into force, and without the Guidance referred to above. However, it also concerned the regeneration of a town centre in the public interest which was partly publicly-funded and where, consequently, the project was not intended to rely on private investment through the generation of profit, or to be reliant upon private investors, but rather had to be only marginally viable for the public funds to be included, and where the Inspector and Secretary of State found that the evidence presented did demonstrate the necessary marginal viability. In this case, the Applicant self-avowedly confirms that no public money is involved and it will have to rely upon raising money from private investors who will require a profit if the project is to proceed. Likewise, the Applicant's assertion that the Applicant would not be proceeding if it did not think the project were viable is

meaningless. SHP has always identified its basic concern that this is just a land grab. SHP's concern is that the Applicant is attempting to acquire SHP's land forcibly with this DCO, but where the project used to justify the acquisition is fanciful. The Applicant's inability to demonstrate even the most basic aspects of a business case and the viability of its project and its relentless focus on merely showing potential funds for compulsory acquisition, the willingness on the Applicant to shorten the compulsory acquisition period to 1 year, only serve to increase this fear and are all consistent with actions to obtain the land, not to deliver the DCO project.

3.13. In response to the Applicant stating that it would put in further material relating to funding, business plans etc (such as interim accounts), SHP reiterated the basic problem and inherent unfairness as to the absence of such material being made available prior to the compulsory acquisition hearings.

Note on submissions regarding HMRC Approach to Scrutiny of Source of Funding

3.14. During the Hearing and its answers to third written questions F.3.3 and F.3.11, the Applicant has sought to claim that HMRC is the appropriate body to consider the source of funding suggesting it is HMRC's role to scrutinise funding where the Business Investment Relief Scheme is used. For example, in answer to written question F.3.3 the Applicant states;

"[T]he sources of funding for this Project will be, and indeed have already been, scrutinised by HMRC and the ExA must rely on that body carrying out appropriate checks".

3.15. Attached as Appendix F.3.4 is email correspondence from the same individual at HMRC that issued the HMRC letters that were submitted by the Applicant as part of Appendix 6 to the Applicant's Written Summary of Oral Submissions put at the first CA Hearing [REP5-011]. As the email correspondence followed a prior telephone conversation, its purpose was confirmatory.

3.16. In response to points 4 and 5 (*"4. HMRC do not, in the normal course, scrutinise the source and origin of any funding that is invested"* and *"5. It would be normal for HMRC to accept confirmation that an investment is to be made using foreign income and taxes that would otherwise be taxable, without undertaking further diligence (or checks) on the source or origin of that funding"*), HMRC responded as follows;

> *"We do examine the source of the investment if we have concerns about it, but not routinely. To be clear, the assurance process does not amount or purport to be "due diligence" in a commercial context as regards source."*

3.17. A copy of this email correspondence with HMRC is appended.

Jamie

From: cameron.wilson[redacted]
Sent: 31 May 2019 12:09
To: Jamie
Subject: Re: Business Investment Relief Scheme

Hello Jamie

Sorry but I have been tied up with some other issues.

All five statements are broadly correct.

We do examine the source of the investment if we have concerns about it, but not routinely. To be clear, the assurance process does not amount or purport to be "due diligence" in a commercial context as regards source.

In some cases the name of the target company is unknown if it has not yet been set up but even then it has to be clear enough that the application relates to a specific intention. The company registration details must be included in the final claim.

The assurance given can not be relied on unless the investment takes the precise form described in the application. But it may nevertheless still qualify.

Where an assurance letter contains any reservation or qualification on HMRCs part, then the investor should expect that we will check afterwards that any such concern has been addressed.

Regards

Cameron Wilson

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From: Jamie <jamie@[redacted]
Sent: Friday, May 31, [redacted]
To: Wilson, Cameron (WMBC Wealthy)
Subject: RE: Business Investment Relief Scheme

Hi Cameron,

I was wondering if you would be able to revert on my email of Wednesday (below)?

Best regards
Jamie

From: Jamie
Sent: 29 May 2019 10:39
To: cameron.wilson@hmrc.gsi.gov.uk
Subject: Business Investment Relief Scheme

Dear Cameron,

I refer to the process by which HMRC provide "clearance" that a proposed investment can be treated as a qualifying investment as defined in section 809VC of the business investment relief provisions in Chapter A1 of Part 14 Income Tax Act 2007.

I have reviewed the relevant guidance and would be grateful if you would confirm whether the following statements are correct;

1. An application for "clearance" (or advance assurance) should confirm;
   a. which company in which an investment is to be made;
   b. the level of such investment;
   c. whether the investment is to be made by way of shares or loans; and
   d. when a company is expected to be trading.

2. A "clearance" given by HMRC could be voided if any of the information provided in the Application was not entirely accurate.

3. For example, if funds were subsequently invested in a subsidiary company by way of loans, and this information was not disclosed to HMRC in the application, would it be correct to assume that HMRC would not be bound by any advance assurance it has given?

4. HMRC do not, in the normal course, scrutinise the source and origin of any funding that is invested.

5. It would be normal for HMRC to accept confirmation that an investment is to be made using foreign income and taxes that would otherwise be taxable, without undertaking further diligence (or checks) on the source or origin of that funding.

I look forward to hearing from you.

Best regards,

Jamie Macnamara
Stone Hill Park Ltd

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York Aviation

Manston Airport

Note of Oral Evidence given by York Aviation for Stone Hill Park at the Second Compulsory Acquisition Hearing 4th June 2019

1. This note sets out the key points made in oral evidence at the Second Compulsory Acquisition Hearing and responds to a number of additional points made by the Applicant during the Hearing, highlighting additional information that should be provided by the Applicant, particularly in relation to the viability of the development and the justification for the land area proposed for the development.

2. These comments are made without prejudice to our view that the 'forecasts' upon which the whole of RSP's case depends are not robust. Discussions at the Need Hearing and subsequent Hearings have revealed the 'forecasts' are nothing more than a wish list of what RSP would like to attract to Manston without taking into account the market and a number of key relevant factors that would determine if they could viably do so. The key issue of relevance in relation to this Hearing is whether the development, at the cost and phasing proposed by RSP, would be viable so as to attract investors and/or, whether, at the level of aeronautical charges shown by RSP in the business model, it could credibly attract any airlines to operate. It remains SHP's case that airlines would not be attracted to use Manston to any significant degree due to its inherent disadvantages and certainly not at the prices that RSP will need to charge to achieve the aeronautical revenues shown in their 'business model'. Fundamentally, this comes back to the lack of a coherent Business Plan demonstrating how the development can be funded and the demand 'forecasts' achieved. We set out our view on the viability of the development in Section 7 of our February 2019 Report , which was reinforced by the report by Altitude Aviation Advisory of the same date, both of which were attached as Appendices to SHP's Written Representations [REP3-025]). We set out our overall assessment of financial viability and the required level of charges at paras. 7.19-7.36 of our February 2019 Report.

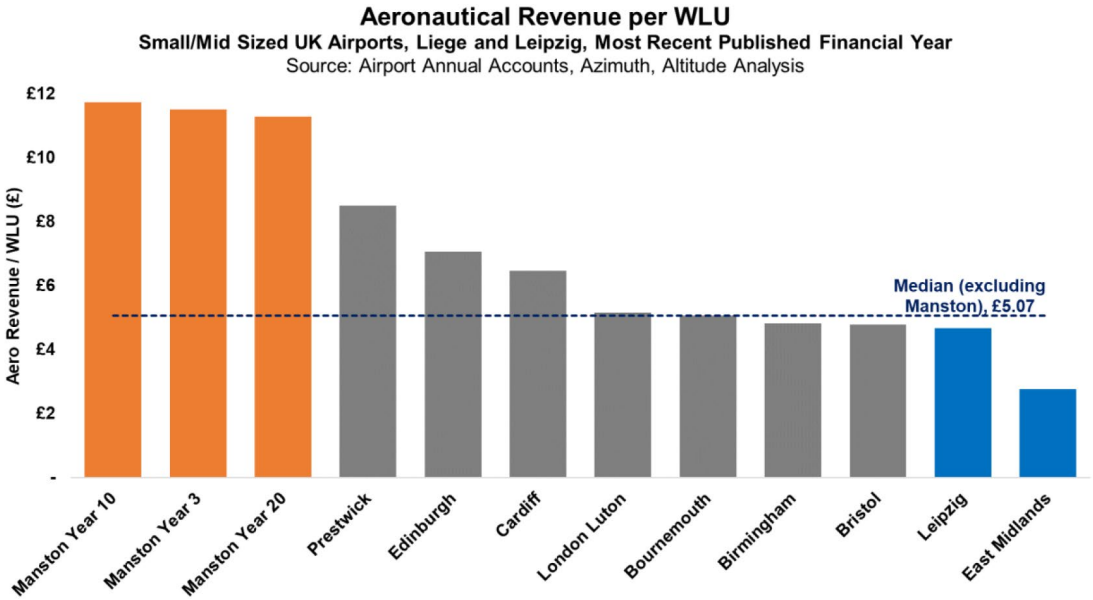
Viability

3. The only financial information provided to the ExA by the Applicant is the summary 'Business Model' provided in RSP's answer to ExA's question F.1.5 at Deadline 3. This falls far short of what would be required in a Business Plan or indeed a Business Case for investment. Altitude Aviation Advisory set out in its February 2019 Addendum Report the information that would be required by lenders in order to establish the extent to which they would be willing to invest in the development of an airport or otherwise provide debt. We consider that the same level of detailed information is required to establish viability in this case. This checklist is appended to this note to assist the ExA.

4. Mr Wilson explained at the Hearing that he had prepared the basic EBITDA model provided by RSP at Deadline 3 but that he was not party to the viability assessment or, indeed, any Business Plan that demonstrates that the levels of demand asserted by RSP and Azimuth are in fact deliverable at the prices proposed and having regard to competition from other airports, switching costs and other relevant factors identified by both Dr Dixon and Mr Cain (see para. 24 of York Aviation Supplementary Note following the Compulsory Acquisition and Need Hearings submitted at Deadline 4).

5. Currently, the spreadsheet provided gives only very high level summary information without any quantified explanation as to how the assumed revenues, and indeed operating costs, were built up. Mr Wilson acknowledged that there was a more detailed model behind this but was unable or unwilling to explain the detailed assumptions he had used to derive these high level figures during the Hearing.

6. The Business Model depends on realising aeronautical income of £17.71 per workload unit in Year 1 falling to £11.29 in Year 20 (see York Aviation commentary on 1st Written Answers F.1.5 submitted at Deadline 4). A workload unit is 1 passenger or 0.1 tonne of cargo/freight. As we have demonstrated, the level of aeronautical revenues claimed by the Applicant are significantly higher than attained by other comparable airports - over double the level of aeronautical income per WLU at Stansted (£5.10) and 4 times that achieved at East Midlands (£2.80) (para. 7.36 of York Aviation February 2019 Report. Further evidence is provided in Altitude's Note appended to SHP's Written Summary at CA Hearing 1 submitted at Deadline 5, which gives examples of the average aeronautical revenue earned at a range of other small and comparable airports (reproduced below). SHP's Deadline 6 comments on RSP's Summary of the Need and Operations Hearing also cite average revenues at Rockford International (RSP's oft cited exemplar of an e-commerce airport) at the equivalent of c.£1.30 per WLU. By any measure, operating at Manston would be more expensive than at the other airports, including those cited as comparators by RSP.



7. In other words, the level of income that Manston expects to earn from each passenger or unit of freight is without precedent for small or cargo dominated airports. This is contrary to what RSP said in response to the ExA's 3rd Questions response ND.3.1. at Deadline 7a, where they stated: *"The forecast assumed that costs of operating from the airport <u>would be in line with other cargo airports</u> – i.e. that cost factors would not unduly attract nor detract the potential market. Separately, the Applicant has commissioned a viability assessment which confirms that the Project can be viably delivered in such a way that would be competitive in the market and would not detract potential operators"* (emphasis added). This viability assessment has not been made available to parties to the Examination, yet this is an essential part of understanding whether there is a compelling case in the public interest for the acquisition of land.

8. Prima facie, the contention that Manston would be cost competitive flies in the face of history and the evidence on the expected level of revenues to be earnt. Furthermore, elsewhere RSP claim that Manston will be able to be a price setter because of its superior facilities, lack of congestion, good slot availability (but not at night when most cargo operators seek to fly) and claimed position relative to the market in the South East – see Deadline 7a answer to ExA's question ND.3.19: *"The offer at Manston will be built around a broader value for money proposition including time, convenience, efficiency, reliability etc to a range of interests, rather than solely the price per kg. For example, an airline will be substantially interested in slot/stand availability and flexibility if it arrives outside scheduled times, environmental and runway constraints, as well as airport charges, speed of turn-round, fuel costs etc.".* However, no evidence has been presented to the Examination to explain the value that airlines would place on these attributes and how they would justify paying 4 times the price of operating at the UK's better located main cargo airport and whether such costs could in practice be passed onto shippers.

9. It is important to note that aeronautical revenue is that earned directly from airlines and does not include any rental income from freight warehouses or commercial income earned from passengers, as confirmed by Mr Wilson at the Hearing. We now understand from the comments made by Mr Wilson at the Hearing that this income also includes an assumption that Manston will sell fuel directly to the airlines and the aeronautical revenues includes a profit margin on sales of aviation fuel as well as including cargo handling income, other than for the integrator operations (e-commerce or otherwise) that are assumed to handle their own freight either in on-site warehouses or taken directly off-site from the aircraft. This confirms what was stated in Appendix 6 to RSP's Summary of the Need and Operations hearing, where in particular RSP stated that, in respect of the e-commerce integrator: *"There is a combination of the above where an "E-Commerce" carrier becomes based at the airport. The airport swaps a higher margin and more volatile business for a lower margin higher volume and more stable income"*. However, nowhere in the model is it evident that the effect of the e-commerce integrator on the margin or income achievable has been factored into the revenue estimates.

10. At the Hearing, both Mr Wilson and Mr Lawlor promised that further detail and justification of the business model would be provided at Deadline 8. This needs to comprise an itemised breakdown of revenues and costs accompanied by a clear explanation and justification of the assumptions used to derive the estimates and how these are expected to change over time so as to provide sufficient transparency to allow the reasonableness of the estimates to be verified. Specifically, the Applicant needs to identify the benchmark airports it has used to derive its revenue estimates as it is unclear from Mr Wilson's remarks at the Hearing whether his estimates are based solely on Prestwick and what broader analysis he undertook of relevant benchmarks. The choice of comparators needs to be justified and evidenced. In particular, it will be important to understand the build up of aeronautical revenues in some detail for each type of operation (e-commerce integrator, niche freight, general freight, low cost passenger services, other passenger services, general aviation) in order to assess the extent to which Manston would be cost competitive as claimed by RSP, and the implications for the achievability of the 'forecasts' of usage.

11. In relation to the level of aeronautical revenues, there are a number of key issues which need to be taken into account and we would expect to see the explanation for how they have been factored into the revenue estimates transparently set out in the further information promised to be submitted by the Applicant:

12. As noted above, the aeronautical revenue per WLU is significantly higher in the first year of operation when there are no passenger services, with the average revenue per WLU shown as being lower from Year 2 when low cost passenger services commence. This would be consistent with the Airport having to discount its charges substantially to attract a low cost carrier to operate (Ryanair is the airline cited by RSP) so reducing average aeronautical revenues per WLU once passenger services commence. For a small airport such as Manston, we would not expect Ryanair to pay more than £0-£3 per passenger in aeronautical charges (see para 7.25 of York Aviation February 2019 Report) and this is likely to include the cost of any handling required. The low cost operation makes up the majority of the passenger services in the Azimuth forecast so it must follow, as the 'Business Model' suggests, that cargo airlines are expected to pay something closer to £17 per WLU to achieve an overall average in the £11-£12 range, making the gap to what is paid by cargo operators at other airports still greater. RSP need to be probed as to whether they expect to charge the same amount per WLU for passenger and cargo operations and whether the level of charges proposed have been discussed with the airlines, including Ryanair and potential cargo operators, including the claimed e-commerce integrators.

13. Secondly, as was evident at the Hearing, RSP will seek to argue that it can realise a higher level of aeronautical income charge because it will be providing handling and other services directly rather than these being provided by third party handling agents. However, it is clear, as the Applicant itself acknowledges (see Deadline 7a answer SE.3.3 to the ExA's third written questions) that *"Integrator dominated airports will inevitably employ fewer people directly because handling staff will be employed by the integrator (DHL, etc.) and not by the airport operator."*. This is material because we know that 50% of Manston's freighter activity is assumed to be by an integrator (new e-commerce or otherwise), which is likely to want to do its own handling. RSP helpfully explain how the integrator might operate at OP.3.9 of the same batch of answers: *"In the case of new-style e-integrators the critical factor will be whether the airport acts as a fulfilment centre as well as a handling centre, or is just acting as a transhipment point from aircraft to a processing facility. We envisage part of the cargo inbound would already have printed labels and hence already be en-route from the originating business to the final consumer and consequently could be easily transferred to a logistics facility for breaking down of pallets for 'last mile' delivery journeys by van or small truck. This does not need to be undertaken airside, and hence could be centred at a nearby logistics building, such as some of the larger ones on the Northern grass or possibly even larger than those shown. Other new integrator consignments may be to re-stocking product lines in fulfilment centres that systems suggest may run short in the near future; in these cases, it is most likely that handling from plane to truck would take place airside or via a cargo shed on airport."* This answer makes clear that RSP expects at least part of the cargo brought in by the integrator to be put straight onto a truck and sorted off-site, i.e. not incurring handling charges at Manston, or otherwise handled in the integrator's own facility so not requiring handling by the airport operator. This is, in effect, the same handling process as at East Midlands meaning that revenues for the airport operator would be directly comparable for half of the traffic at least. Taking this into account, would imply an even higher revenue per WLU needing to be charged to the other cargo operators to make RSP's claimed overall average.

14. RSP also highlighted fuel revenues as a further differentiator to airports such as East Midlands and Stansted, where the fuel is provided by third parties. Fuel income will consist of a margin/mark-up on the cost of fuel, which is currently of the order of £0.50-0.60 per litre for Jet A1. We know from the Transport Assessment (para. 6.4.37), the number of peak day fuel delivery tankers expected in Year 20 is 21, from which it is possible to estimate the level of fuel expected to be sold on a busy day and by extrapolation over the year as a whole. The price of fuel will be an important factor to the airlines in the cost of operating to Manston so the higher the fuel margin assumed in the revenue estimates, the less likely it is that airlines would a) take up fuel at Manston on shorter sectors where they can tanker sufficient fuel for the return trip or b) be willing to operate on longer sectors to the extent that the cost of fuel would be materially higher than alternative airports. It will be important for the Applicant to be transparent in the assumptions it has used to estimate fuel revenues both in terms of the cost of fuel and the assumed margin.

15. We intend to provide further comments on the viability of the proposed development at Manston once further detailed information has been provided by the Applicant but nothing that was stated at the Hearing alters our view that the development is highly unlikely to be viable as the assumed level of aeronautical and other revenues will not be capable of being realised in a competitive market or, if the Applicant seeks to realise revenues at this level, this would be a substantial deterrent to attracting most, if not all, operators.

Compelling Case

16. If the Airport is not viable, it cannot meet the need which RSP claims that it intends to meet. As was noted at the Hearing this goes to the heart of whether there is a compelling case in the public interest sufficient for the acquisition of SHP's land.

17. We note that at the Hearing, Ms Schembri sought, as in the original application documents, to place substantial reliance on the overall shortage of airport capacity in the South East of England as creating a prima facie need for Manston as a freight airport. We have dealt with this at length in our November 2017 and February 2019 Reports.

18. Ms Schembri was completely wrong to construe that the Airports NPS, in supporting the development of a third runway at Heathrow, did not address the requirement for additional capacity for air freight. The NPS is quite clear that the third runway is seen as the principal means of addressing the need for additional capacity for air freight, not least as this is largely a need for additional bellyhold capacity to be provided by additional global air services carrying passengers and freight. It is clear from the extracts below that the Airports NPS very much had the need for air freight capacity in mind when selecting the new northwest runway at Heathrow as its preferred option for development:

"3.14 Increasing airport capacity in the South East of England and maintaining the UK's hub status can be expected to result in both positive and negative impacts, as would be the case for any major infrastructure project. Important positive impacts are expected to include better international connectivity and providing benefits to passengers and the UK economy as a whole (for example for the freight industry)."

*"**International connectivity and strategic benefits, including freight***

3.18 Heathrow Airport is best placed to address this need by providing the biggest boost to the UK's international connectivity. Heathrow Airport is one of the world's major hub airports, serving around 180 destinations worldwide with at least a weekly service, Building on this base, expansion at Heathrow Airport will mean it will continue to attract a growing number of transfer passengers, providing the added demand to make more routes viable. In particular, this is expected to lead to more long haul flights and connections to fast-growing economies, helping to secure the UK's status as a global aviation hub, and enabling it to play a crucial role in the global economy."

"3.24 As set out above, expansion at Heathrow Airport delivers the biggest boost in long haul flights, and the greatest benefit therefore to air freight. This is further facilitated by the existing and proposed airport development of freight facilities as part of the Northwest Runway scheme."

"3.73 Building on this assessment, the Government has identified a number of attributes in the manner of strategic effects, which it believes only the preferred scheme is likely to deliver to meet the overall needs case for increased capacity in the South East of England and to maintain the UK's hub status. The Government has afforded particular weight to these:

- *……*

- *The Heathrow Northwest Runway scheme delivers the greatest support for freight. The plans for the scheme include a doubling of freight capacity at the airport. Heathrow Airport already handles more freight by value than all other UK airports combined, and twice as much as the UK's two largest container ports."*

19. It is not, as Ms Schembri tried to construe, that freight was simply a reason why Heathrow was preferred over Gatwick, but a fundamental driver in the Government's thinking as to how air freight requirements could best be met. It is clear that the NPS set out to address the requirements for global air freight connectivity, selecting Heathrow as the preferred means of meeting this need. As we have demonstrated in Section 4 of our February 2019 Report, once allowance is made for the capacity to be provided by the new runway at Heathrow, there is no capacity shortfall for air freight that falls to be addressed. There is no need for Manston.

20. SHP have dealt further with the absence of a compelling case in their overarching submissions.

Land Required

21. Due to the limited time available at the Hearing there was little time to address whether the applicant had justified the land it requires for the development.

22. The Hearing focussed principally on the matter of Associated Development on the Northern Grass but there are other parts of the Works within the airfield which would not form part of the Principal Development (driven by the requirement to deliver a capability of at least 10,000 annual cargo air transport movements). In this respect, it is important to note that Works 2, 10 and 11 are not related to the cargo operations.

23. In particular, Work No.2 is the provision of light and business aviation hangars and a terminal for the fixed base operator. These are not related to the operation of cargo air transport movements and are entirely incidental to the proposal to re-open the airport. Indeed, the FBO terminal is akin to the passenger terminal (Work No. 12) which has already been reclassified as Associated Development. The provision of facilities for general aviation and business aviation, as well as hangars for MRO/aircraft tear down (Work No 18 already classified as Associated Development) are also incidental to the re-opening of the airport and not related to the handling of cargo aircraft movements.

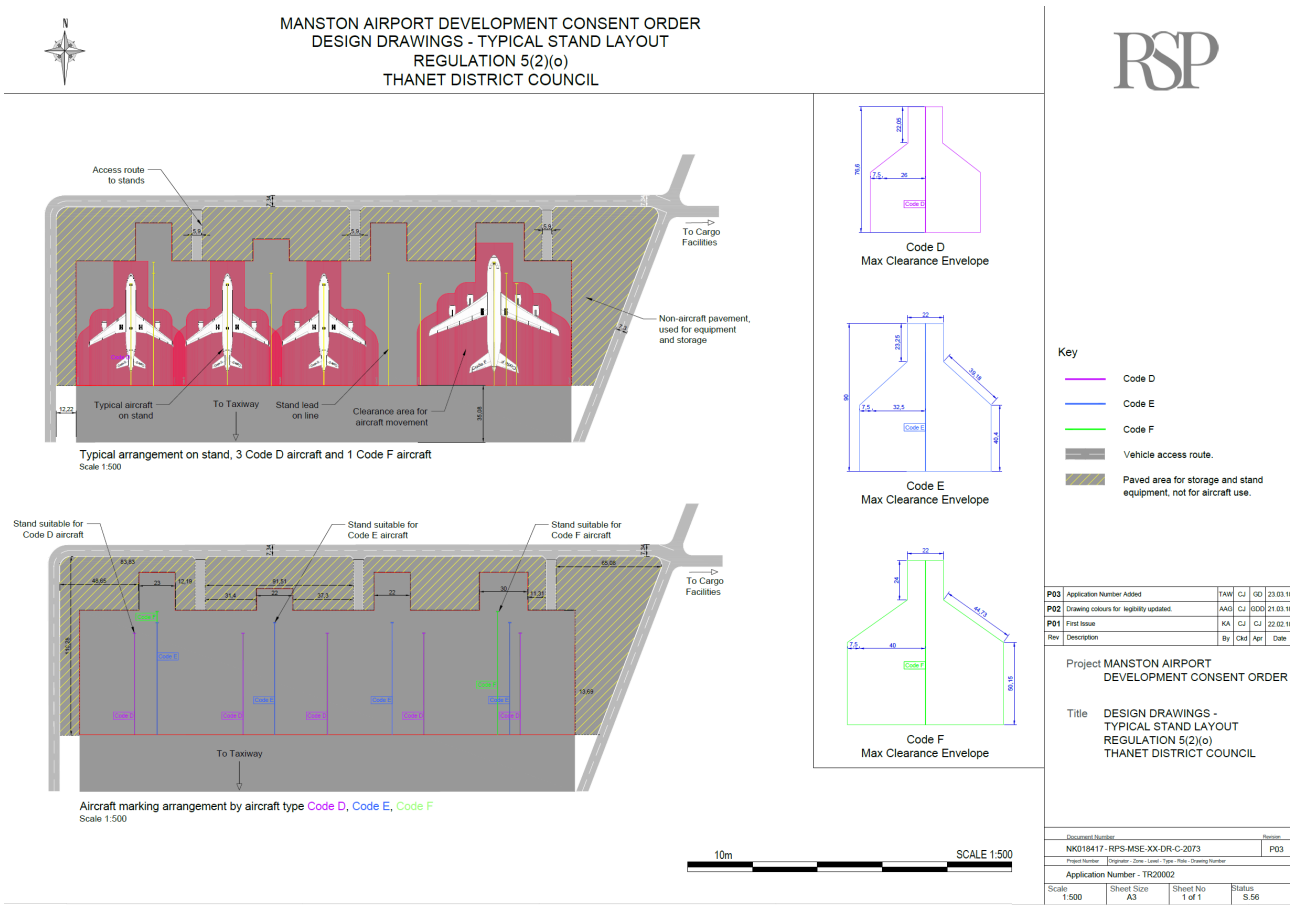
24. There is a similar issue with the aprons associated with the Passenger Terminal – the 4 Code C stands at Work No. 11 and with the MRO/aircraft tear down hangars – the 3 Code C stands at Work No. 10.

25. It needs to be recognised that, within the context of viability, the primary purpose of these developments is to provide a supporting income stream to assist in covering the cost of re-opening the airfield. The specific need for such facilities at Manston has not been justified by RSP, nor the scale of facilities proposed, which is material to the overall land required for the proposal. This needs to be considered alongside the lack of any justification provided for the scale of 'airport related' uses to be located on the Northern Grass and whether they are actually functionally needed to support the cargo operation. We addressed the extent to which the proposed list of airport related used were legitimately Associated Development to the Principal Development in our Deadline 7 comments on the Applicant's Deadline 6 responses, Draft DCO.

26. This list of uses was not discussed in any detail at the Hearing but it remains a substantial concern that the Applicant continues to claim a wide range of general airport related facilities as being eligible to be considered as Associated Development to a cargo NSIP. The example from Annex A to DCLG's Guidance on Associated Development for National Infrastructure Project was cited by RSP at the Hearing that, in respect of Airports, *"Freight distribution centre, including freight forwarding and temporary storage facilities"* would be considered as Associated Development and was claimed as a precedent for the type of facilities they propose as airport related. *Properly understood, this example* needs to be seen in the context that a passenger related NSIP for 10 million passengers or more is likely to include an increase in aircraft movements capable of carrying both additional passengers (requiring additional passenger terminal capacity) and also bellyhold cargo capacity requiring similar facilities for the handling of additional freight. Hence, additional freight handling facilities would necessarily be Associated Development to the Principal Development in this case. An increase in cargo air transport movements, which forms the basis for the Manston NSIP case, does not similarly generate any requirement whatsoever for passenger related activities, nor general/business aviation activities and maintenance activities. Cargo ATMs do not carry passengers but passenger ATMs do carry freight in bellyhold. Just because an airport is open for the handling of cargo aircraft does not automatically mean that any other form of aviation activity necessarily must be accommodated. Hence, to the extent that general airport related development is proposed by RSP, the only possible rationale for these is to provide some financial cross subsidy to the Principal Development.

27. Over and above the question of Associated Development and the extent to which the identified Works have been justified by evidence, there is the question of whether the totality of the land required for the development has been justified. This goes beyond the justification for the Northern Grass and extends to the totality of the proposals. To date, there is an absence a coherent and validated justification for the scale of development overall from the Applicant. We set out our estimation of the area required at paras. 6.9-6.24 of our February 2019. RSP responded with an explanation in their Oral Summary of the CA Hearing, Section 11 & Appendix 11 to which SHP responded at para 4.3 of its Comments on the Applicant's Summary of Oral Evidence at the CA Hearing. Further comments are included in York Aviation Deadline 7 comments on Deadline 6 responses submitted – OP.2.3.

28. It is notable that, despite their answer to Question OP.2.3, the Applicant has itself designed its apron to operate on a MARS (Multiple Apron Ramp System) basis as shown clearly on the Design Drawings submitted as part of the Application (see drawing below). Clearly, the Applicant expects Code D or smaller aircraft to use multiple centrelines rather than to park on a single Code E stand. As we have demonstrated in the analysis contained in our February 2019 Report, the number of Code E stands required to accommodate RSP's aircraft movement 'forecasts' as assessed in the ES is materially less than the 19 stands proposed, particularly as they are demonstrably designed to be used on a multiple use basis by aircraft of different sizes, consistent with the fleet mix assessed in the ES. We remain of the view that the scale of apron proposed is excessive and no more than 10 Code E aircraft stands would be required to accommodate the entire 'forecast'.



29. In relation to the scale of cargo handling buildings required, we continue to believe that the buildings shown are at least 3 times the scale required, even assuming all of the cargo tonnage was handled on site (see paras. 6.21 and 6.22 of our February 2019 Report). We note that RSP continues to misrepresent the scale of facilities at East Midlands in their Deadline 7a response to the ExA's third questions – OP.3.8. In our Deadline 7 comments on RSP answers to the ExA's questions at Deadline 6 – OP.2.5, we explained that the current cargo facilities at East Midlands Airport comprise some 80,000m^2. This area is disputed by RSP, which claims that the cargo handling facilities are currently some 96,000m^2. This is incorrect. On EMA's own website they quote: *"Five airside cargo terminals offering over 865,000 sq. ft of undercover cargo processing area"* (https://www.magairports.com/our-expertise/cargo-services/east-midlands-cargo/). This converts to 80,361m^2 as we have stated. As we pointed out at para. 6.23 of our February 2019 Report, this area also handles purely road based freight (which reflects the quality of East Midlands as a distribution location) so is not, in any event, a relevant comparator for Manston, where no such operations are envisaged.

30. When we assessed the area of cargo handling sheds required, we assumed that all freight would be handled through the on-site airport transit sheds. However, it is now clear from RSP's more recent answers that it envisages that a substantial part of the e-commerce integrator freight will be loaded straight onto a truck from the aircraft side and/or to a fulfilment centre necessarily located closer to the main centres of population. To the extent that freight is loaded directly onto trucks or taken to a landside sorting facility, it will not require space within an on-site freight warehouse on the airside. This will further reduce the scale of facilities required compared to the area that we previously assessed.

31. We remain of the view that the Applicant has failed to substantiate the scale of development shown on its plans, even if its 'forecasts' were capable of being realised. Excessive development is, of course, another reason why the development will not be viable and would constitute an economically inefficient development.

14th June 2019

Key Characteristic	Main Features	Comment	Material Typically Provided to Debt Provider
Demand	Catchment and consumer choice (airlines, destinations, cargo operators, etc.)	• Long run demand linked to GDP, disposable income, affordability, airline economics, etc. • Structural features e.g. hub, inbound tourism, cargo demand, etc.	• Detailed traffic forecast to include passenger segmentation (domestic, short haul, long haul, low cost carrier, etc.), cargo demand (bellyhold, freighter, expeditor), and other (business jet, general aviation, etc.). • Traffic report which covers all aspects of traffic demand including air transport movements (ATMs), aircraft stand demand, runway and terminal busy hour rates, etc.
Competition	Competing airports' features, capacity, etc.	• Detailed assessment of airport competition, and why users choose a particular airport. • Modal substitution options.	• Debt providers would expect the traffic report to include detail of the airport's competition, including discussion on competing airport characteristics.
Revenue	Diverse revenue streams	• Detailed outline of all airline, passenger, and non-aviation related revenues. • Clear rationale for forecast assumptions (airline contracts, concession contracts, property leases, etc.). • Detailed performance benchmarking analysis.	• Business plan to include a detailed build up of all revenue categories over the forecast horizon. • Business plan report should include detailed analysis of historic performance vs. forecast performance, and outcomes vs. sample benchmark airports.
Operating Costs	Operating leverage	• Lower unit costs as volumes increase driven by high fixed costs. • Detailed analysis of fixed and variable costs including staff costs by functional department, and non-staff costs by main outsourced categories.	• Operating cost forecast to include analysis vs. historic performance and regional airport recent trends. • Operating cost forecast to be driven by the appropriate drivers and assumptions clearly explained to debt providers.
Profitability	Profitability driven by airport size and passenger profile	• Operating expenditure consumes a high share of revenue at lower throughput airports. • Operational leverage is difficult to achieve at lower throughput airports.	• Detailed financial model to include debt provisions and below EBITDA operating costs (depreciation, dividends, etc.). • Downside demand / cost scenarios to demonstrate resilience of the business case – what happens if forecast are not achieved? • Detailed financial model to demonstrate debt covenants can be met under a range of scenarios throughout the forecast period.
Investment	Infrastructure leverage / investment flexibility	• High investment cost for lower throughput airports. • More efficient use of infrastructure as throughput increases. • Flexibility on incremental capacity investment.	• Detailed process capacity assessment. • Investment plan to achieve approvals to commence operations. • Investment in capacity and asset renewals over the forecast period.

Figure 5 - Airport Market Key Characteristics (source: Altitude)

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS PUT AT THE SOCIO-ECONOMICS ISSUE HEARING HELD ON 5 JUNE 2019

1. BACKGROUND

1.1. The Issue Specific Hearing 6 (the "Hearing") was held at 10:00am on 5 June 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2. The Hearing took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") (the "Agenda").

1.3. The format of this summary follows that of the Agenda and only refers to parts of the Agenda where Stone Hill Park Limited ("SHP") made substantive comments.

1.4. Present from SHP was Louise Congdon (York Aviation), Jamie Macnamara and Iain Mackintosh.

1.5. A Note of Oral Evidence given by York Aviation for SHP (the "York Aviation Note") is appended as Appendix 1.

2. GENERAL MATTERS

2.1. In the Applicant's Statement of Reasons [APP-012], the Applicant asserts that there is a compelling case in the public interest for the land described in its application (paragraph 9.38) and, in support of its case, asserts that the *"Proposed Development will bring substantial socio-economic benefits both locally and nationally"* (paragraphs 9.44-9.51).

2.2. The evidence submitted by SHP clearly demonstrates that the Applicant's Environmental Statement has vastly overstated the potential socio-economic benefits that would derive from a reopened Manston Airport and understated the adverse impacts.

2.3. During the Hearing, the Applicant was unable to answer basic questions regarding the manner in which the employment impacts had been assessed. For example, when York Aviation explained that Azimuth had misunderstood the Oxford Economics work for Luton, and that the local employment impacts were materially overstated, the Applicant appeared to assert that it did not matter, as long as there were some benefits.

2.4. It is hopeless for the Applicant to assert that its case is compelling, when it is completely unable to substantiate the case it has put forward in its application documents.

3. AGENDA ITEM 4 – EMPLOYMENT

3.1. Paragraphs 5 – 17 of the appended York Aviation Note address the issues of Employment discussed in the Hearing.

3.2. In paragraphs 5-8, York Aviation explains in detail how the Applicant has significantly overstated the number of direct jobs per mppa or million workload units even if the so-

called "forecasts" were delivered. The note explains how the Applicant has used an incorrect comparator for East Midlands airport that includes non-airport related employment at Pegasus Business Park. York Aviation concludes that an employment density would be materially lower at c.650 jobs per mppa or million WLUs.

3.3. Paragraphs 9 and 10 also highlights concerns with the methodology adopted by the Applicant and the likelihood that employment density could be materially reduced based on the Applicant's answer to third written question ND.3.4 [REP7a-reference to be allocated] – the answer acknowledges that some freight would be taken straight off site to fulfilment centres that would be located closer to main population centres.

3.4. In Paragraphs 11 – 14, York Aviation address the assertions made by the Applicant to support its assertion that there would be 600 jobs related to MRO/Aircraft Tear Down work. York Aviation note the scale of the propose facilities at Manston could support c.200 jobs, rather than 600. York Aviation make clear that they are not saying this is the amount of jobs that are likely to be attracted to Manston as there is intense competition between airports across the UK for such activities.

3.5. Paragraphs 18 – 24 outlines the fundamental flaws in the employment effects assessed in the Environmental Statement, which results in the significance of the potential employment gain being overstated.

3.6. The York Aviation Note explains not only the errors and material misunderstandings in the Azimuth Report on which we are told by the Applicant the ES is based, but also the inconsistencies between the Azimuth Report and the employment benefits assessed in the ES. For example, Dr Dixon defines her view that indirect and induced effects would be realised across East Kent, Shepway, Swale, Medway and potentially Dartford and South East London (Volume IV paragraph 5.3.4 [APP-085]. Firstly this is incorrect as Dr Dixon has applied a national multiplier to a region. Secondly, Azimuth's error is compounded by the ES assuming that all the claimed indirect and induced employment is in Thanet.

3.7. The York Aviation Note also explains that Azimuth had misinterpreted the work of Oxford Economics work on Luton in terms of employee residence, incorrectly assuming all employees that would be directly employed at the airport (the direct jobs) would live locally. In addition to the consequential overstatement of local employment benefits, York Aviation also note that this will have led to an overstatement of the extent to which bussing is a viable mode for employee transport and the wider consequences of transport and traffic assessments.

3.8. York Aviation also explain why the use of multipliers to estimating catalytic employment impacts would not be appropriate. On the basis the Applicant's forecasts now suggest that the Manston's usage would be mostly for outbound tourism purposes and the import of E-commerce integrator freight then the catalytic effects are likely to be much less than would be expected elsewhere.

3.9. It was highly revealing that Dr Dixon complained at the Hearing that York Aviation do not publish the multipliers. This demonstrates Dr Dixon's complete lack of understanding that any credible assessment of catalytic impacts must be based on specific considerations of the wider benefits to the economy from the assessed improvements to connectivity. The application of the ICAO multiplier relating to the global impact of the aviation sector is wholly inappropriate.

3.10. In summary, the York Aviation Note sets out a number of material errors in the methodology used by the Applicant, which demonstrates that any positive employment benefits have been significantly overstated in the ES.

4. AGENDA ITEM 5 – DISPLACEMENT

4.1. Paragraphs 25 – 26 of the York Aviation Note sets out the displacement effects that should have (but have not) been accounted for in the socio-economic assessment. York Aviation note that the Applicant displacement relating to the interception of trucking flows, displacement of activity from other UK airports and the displacement effects of a PSZ on other economic activities in the vicinity of the airport have not been considered.

4.2. Given the sufficiency of overall capacity for air freight in the UK, the application proposals inevitably rely upon significant displacement. No proper account is taken of that displacement in the Applicant's assessment which undermines not only it's assessment but also an important part of its case, which the applicant has grossly over-stated.

For example, during the Hearing (Recording Part 2 of 2: from 00:02:50) the ExA gave the example of the Applicant's answer to ND.2.5 which referred to Manston securing "sound stage equipment" business that currently uses Doncaster Airport. The ExA twice asked the Applicant to explain whether this would have displacement effects, but each time the Applicant failed to address the question.

5. AGENDA ITEM 6 –TOURISM

5.1. In paragraphs 27 – 29, York Aviation explains the material flaws in the approach taken by the Applicant to assessing the potential tourism benefits to Thanet and Kent. It is clear from the evidence submitted by York Aviation that the Applicant has not understood how airports support tourism within the local economy and has materially overstated the beneficial effects.

6. AGENDA ITEM 10 – ANY OTHER RELEVANT BUSINESS

6.1. It is clear from the evidence submitted by SHP and its advisers that the Applicant has materially overstated the significance of the potential employment or tourism gains. It is further noted that the Applicant was completely unable to substantiate its assertions when challenged or questioned at the Hearing.

6.2. The Applicant's failure to assess the employment impacts on a credible basis has consequential impacts on transport and other areas. One example is that the claimed positive health and wellbeing impacts to Thanet that are derived from employment are vastly overstated in Chapter 15 (e.g. please refer to 15.8.28 onwards).

6.3. As we heard at the first Compulsory Acquisition Hearing held on 20 March 2019, the author of the Azimuth Report [APP-085], which we are told in the Statement of Reasons [APP-012] explains the need for and the benefits of the proposed development, acknowledged that she had no relevant prior experience in forecasting air freight. The ES is largely based on assumptions taken from the Azimuth Report.

6.4. There is a lack of robust assessments based on experience or evidence. If the assumptions that the Applicant's advisers have been instructed to use (e.g. on forecasts, fleet mix, employment densities etc) are flawed, then the environmental effects assessed will be infected with the same errors.

APPENDIX 1: YORK AVIATION NOTE OF ORAL EVIDENCE FOR SHP

York Aviation

Manston Airport

Note of Oral Evidence given by York Aviation for Stone Hill Park at the Socio-Economic Hearing 5th June 2019

1. This note sets out the key points made in oral evidence to the Socio-economic Hearing and responds to a number of additional points made by the Applicant during the Hearing.

2. These comments are made without prejudice to our view that the 'forecasts' upon which the socio-economic assessment is made are not robust. Discussions at the Need Hearing and subsequent Hearings have revealed the 'forecasts' are nothing more than a wishlist of RSP would like to attract to Manston before taking into account the relevant factors that would determine if they could viably do so. If, as we strongly believe to be the case (see our Reports of November 2017 and February 2019 that were attached as Appendix 4 to SHP's Written Representations [REP3-025]), the forecasts are not capable of being realised then the claimed economic benefits will simply not arise regardless of the errors that we go onto identify in this note.

3. Furthermore, it could also be argued that investing in an airport that is unlikely to succeed is inefficient investment leading to economic harm, not least when there are alternative uses of the site and alternative means of handling the freight using facilities at existing airports. This was made clear at para. 7.4 of our November 2017 Report.

4. Even if the 'forecasts' were right, which they are not, then the socio-economic assessment contains the following errors of assessment:

Employment Density

5. At the hearing, the Applicant continued to assert that is was reasonable to use the overall employment density (direct jobs per mppa or per million workload units (WLU)) from East Midlands Airport of 887 jobs per million WLU as the basis for assessing the direct jobs that would arise at Manston, despite this including non-airport related employment on the Pegasus Business Park. What Dr Dixon may not be aware of is that York Aviation undertakes the economic impact assessment work for MAG Airports, including East Midlands, so the quoted employment density derives from our work. In fact, Dr Dixon appears to have derived her direct employment density by taking the on-site employment in 2013 of 6,730 divided by 2014's passengers and freight WLUs of 7.59 million to derive an employment density of 887 employees per workload unit (see pages 4 and 5 of East Midlands Airport Sustainable Development Plan – Economy and Surface Access[1]). It is made clear on page 5 of that document that this includes employment on the Pegasus Business Park that is not direct airport related employment.

   "There are also a wide range of jobs in the airport's support activity – cargo, hotels and also <u>a range of professions and occupations in companies that are based at Pegasus Business Park</u>." (emphasis added)

[1] https://live-webadmin-media.s3.amazonaws.com/media/2931/ema-sdp-2015-economy-and-surface-access.pdf

6. Hence, it was clear from the source material used by Dr Dixon that not all of the 6,730 jobs were strictly airport related. As we note at para 3.54 of our February 2019 Report and in our Deadline 7 comment on the Applicant's response to ExA's second written questions SE.2.4 [REP7-014]), if non-aviation uses in the vicinity of East Midlands Airport (Pegasus Business Park) are stripped out, the true airport related employment density is virtually identical to Prestwick Airport at c.650 jobs per mppa or million WLUs, which we consider remains the best estimate of likely on-site direct employment density at Manston. Azimuth's dismissal of Prestwick as a relevant comparator is all the more perverse given it has formed the basis of the Applicant's assessment of likely staff and operational costs within its business model.

7. Furthermore, the fact that East Midlands Airport has proportionately more passengers than expected at Manston would tend to suggest that the direct on-site employment density should be lower still at Manston as freight activity tends to have lower employment than passenger handling.

8. At the hearing, Dr Dixon attempted to argue that use of an employment density of 887 was inherently conservative by reference to work undertaken by York Aviation for ACI EUROPE in 2003, which estimated an average employment density across all of Europe's airports in 2002 of 950 jobs per million WLU. We append the summary from this report, which makes clear that this employment density applied to the totality of Europe's airports in 2002. It also makes clear that the employment density varies across different types of airports according to the type of activity at the airport so it is not appropriate to simply use the European average employment density for an individual airport. Furthermore, James Brass of York Aviation did alert Dr Dixon to this report being out of date and inappropriate for current use in an e-mail exchange of October 2017 also appended.

Airport Company Employment

9. In any event, we note that the RSP has sought to justify the use of a high employment density by referring to a 4 shift system for staff in its recent responses (see York Aviation's Deadline 7 comments on the Applicant's response to the ExA's second questions SE.2.7 [REP7-014]). There is no reason for this as most airports operate with a 3 shift system for 24 hour operations and we know that Manston will not operate at night so, in practice, a 2 shift system would be sufficient. Although it was claimed at the hearing that the employment had been worked out in terms of hours of work required, it remains unclear the basis upon which this has been undertaken.

10. Whilst we recognise that the Applicant intends to carry out some element of cargo handling itself leading to relatively higher levels of staff employed directly by the Airport Company than elsewhere, this is irrelevant to the question of the overall direct employment at the Airport, which relates to the totality of employment on-site directly related to airport operations regardless of the employer. To the extent that the new integrator takes freight straight off-site for processing elsewhere (see Applicant's answer to ExA's third written questions ND.3.4 [REP7a-002] that acknowledges that some freight would be taken straight off-site to fulfilment centres necessarily elsewhere closer to the main centres of population), this would tend to reduce the level of on-site employment rather than increase it. Coupled with the effects of automation, this presents a further reason why even the adoption of an on-site direct employment density based on Prestwick may optimistic.

MRO/Aircraft Tear Down

11. In terms of the justification for high levels of on-site employment, the Applicant has also claimed that there would be 600 jobs related to MRO/Aircraft Tear Down (see York Aviation's Deadline 7 comment on response to ExA's second written questions SE.2.7 [REP7-014]). At the Hearing, the Applicant attempted to justify this figure by reference to a) Ryanair's maintenance hangars at Prestwick and b) the activities of Tarmac Aerosave at Tarbes in France. Taking each in turn:

12. Ryanair Prestwick

Ryanair has a 5 bay hangar at Prestwick[2], operated on its behalf by Prestwick Aircraft Maintenance Ltd. Its latest report and accounts showed that it employed 400 people in total (see attached extract from PAML accounts). With 3 bays at Manston, this would suggest a realistic comparable employment figure of 240 jobs.

13. Tarmac Aerosave

Tarmac Aerosave has aircraft teardown facilities across 3 sites in Europe. In 2017 (the 10th anniversary of its operation at Tarbes in France, the company was reported as having 200 employees (see press statement attached). The Tarbes site appears to have 2 hangars capable of accommodating widebodied aircraft, i.e. substantially larger than the hangars proposed at Manston and parking for around 24 aircraft[3], including a substantial number of widebodied aircraft, which again could not be accommodated at Manston, other than by occupying some of the freighter Code E stands so reducing the capability for freight. Hence, it appears highly unlikely that as many as 200 jobs could be sustained in aircraft tear down at Manston with the proposed 3 Code C bay hangar and associated Code C aircraft apron.

14. In overall terms, these examples would suggest that the number of jobs that might be sustained if MRO or aircraft tear down activity could be attracted to the proposed 3 bay hangar at Manston would be of the order of around 200 jobs. We do not take a view here on the likelihood of such activities being attracted to Manston but note that there is intense competition between airports across the UK to attract such activities.

Study Area and Indirect/Induced Employment Multipliers

15. The study area for assessing economic effects was never properly defined in the Azimuth Report, although paragraphs 5.3.3 and 5.3.4 of Vol IV do discuss the potential location where job impacts might be felt, with direct jobs assumed to be local, the indirect and induced effects assumed to be mostly in Kent but extending to neighbouring districts in the Thames Estuary and catalytic effects assumed to be realised mostly in the South East of England.

16. Leaving aside whether the correct multipliers have been used to derive the indirect and induced employment, Section 3.8 of the ES (Chapter 13) [APP-034] takes the figures produced by Dr Dixon and applies them at three levels of assessment:

Local – Thanet

Regional – Kent

UK

17. The ES assesses both the direct on-site job creation and the indirect/induced employment for their significance at both the Local and Regional levels, making no distinction as to the different number of jobs that might be created at these two assessment levels. This is neither correct nor consistent with Dr Dixon's own statements regarding where the jobs might arise. Whilst the on-airport jobs will clearly be located within Thanet, the distribution of employee residence will be wider, so even for direct employment, assessment at the Local level will overstate the significance. Dr Dixon then defines her view as to the relevant area for the indirect and induced effects to be realised, including *"In addition to East Kent, these include Shepway, Swale, Medway and potentially Dartford and South East London"* (Azimuth Reports, Vol IV, para. 5.3.4). It is clear that in assessing the employment benefits of the claimed indirect and induced employment, the ES has been inconsistent with Dr Dixon's work, which forms the entire basis for the assessment of the expected employment and economic benefits.

[2] http://www.prestwickaerospace.com/aerospace-capability/ryanair/
[3] http://www.tarmacaerosave.aero/about-us

18. More fundamentally, it is important to make sure that the multipliers used in deriving indirect/induced employment are relevant to the study areas being considered and these study areas need to be clearly defined in the first instance before estimating the relevant multipliers to be used, typically by reference to the expected supply chain effects, taking into account location specific input output tables. Azimuth did not do this and relied on UK level multipliers from other studies regardless of their applicability to Manston. Despite the clear use by Dr Dixon of a UK level multiplier (Azimuth Reports, Vol IV, para. 5.3.3), the Application Documents treat this employment as local/regional so overstating the significance of the potential employment gain.

19. As stated by the Applicant in response to the ExA's question SE.1.5 [REP3-195], it has adopted an indirect/induced employment multiplier based on work carried out for Stansted and Luton. At the Hearing Dr Dixon relied on the multiplier of 1.8, which she said derived from Oxford Economics work for Luton referenced in Azimuth's Vol IV (which is indeed the multiplier used for induced/indirect effects in the Azimuth Report and ES). This work was published in 2015 and referred to the year 2013. As discussed at the Hearing, this report is appended to this note. We would draw the ExA's attention to the Executive Summary where it is clearly stated that a multiplier of 1.9 is a national UK level multiplier, which will include the entire supply chain of all of the companies operational at the Airport, including aircraft component purchases, vehicles, specialist airport equipment etc:

    "For every direct job the airport supports, another 1.9 are supported elsewhere in the UK economy."[4]

20. The report goes on to set out the impact at the 3 Counties level (Bedfordshire, Buckinghamshire and Hertfordshire), which is wider than Kent as an equivalent for Manston. Although the multiplier is not explicitly stated, it is evident from Table AB2 on page 78 that the indirect multiplier at the 3 Counties level is 0.7 (6,446⁄9,437) and for Bedfordshire, the equivalent multiplier would be 0.4 (3,724/9,437). For the local district of Luton in which the airport is located, the indirect/induced employment multiplier is 0.25 (2,349/9,437). These figures are in fact set out in Table 7 of Vol IV of the Azimuth Reports. Despite this, Dr Dixon continued to claim at the Hearing that 1.8 was an appropriate multiplier to use for the Local/Regional impacts of Manston. This is simply not correct and, as stated at para. 5.12 of our November 2017 Report, a more appropriate local multiplier for Thanet would be of the order of 0.4, even if 0.7 might be applicable to the wider area of Kent and the Thames Estuary.

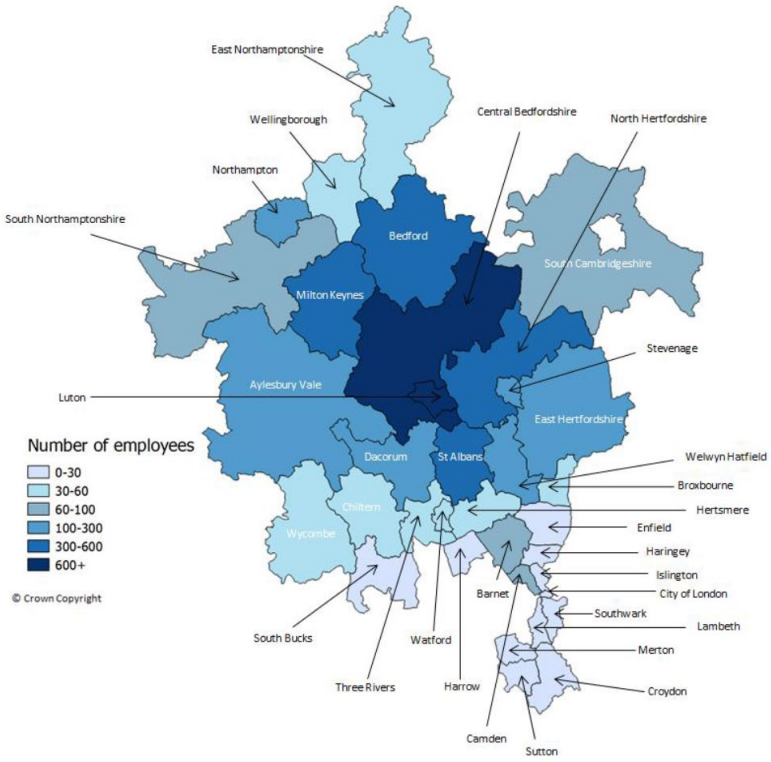
21. On a corrected basis, leaving aside the issues relating to the underlying demand forecasts upon which these employment estimates are based, the local and regional impacts of the development would be far less than claimed by the Applicant.

Employee Residence

22. As well as in relation to multiplier, Azimuth also misinterpreted Oxford Economics work on Luton in terms of employee residence. It is important to note that the Oxford Economics work records jobs by place of employment - not residence. Information on the residence of direct employees is given on page 20 of Oxford Economics' work and reproduced below.

[4] Oxford Economics, Economic Impact of Luton Airport, November 2015, page 8.

Figure 2.2: Estimated place of residence of London Luton Airport employees, 2013



23. In practice, direct airport employees reside over a wide area, certainly far wider than the immediate environs of Manston. We understand, based on the information provided at Table 6.32 of the Applicant's Transport Assessment that it has been assumed that 79% of on-site employees would reside in Thanet and the remainder in neighbouring parts of Dover district. The assumption that all employment would be local will have led to an overstatement of the extent to which bussing is a viable mode for employee transport and this will have implications for the wider traffic assessment of the impact on the highway network.

Catalytic Jobs

24. As pointed out at para. 5.8 of our November 2017 report [Appendix 4 of REP3-025), multipliers are not normally used for estimating the catalytic employment impacts of an airport development project, which are more normally assessed by specifically considering the wider benefits to the economy from connectivity, usually by reference to reliable forecasts of business passenger numbers and freight expected at an individual airport. As we pointed out, Azimuth adopted a wholly inappropriate ICAO multiplier relating to the global impact of the aviation sector. Given that the forecasts for Manston now suggest that its usage will mostly be for outbound tourism purposes and, as we now know, import of e-commerce integrator freight then the catalytic effects on the economy are likely to be much less than would be expected elsewhere.

Displacement

25. Given the way in which the employment estimates have been built up, based on national/global multipliers for indirect/induced and catalytic effects, consideration needs to be given to displacement effects from other airports and even other modes such as trucking. Displacement will apply in an number of ways:

- *RSP has made clear that Manston seeks to intercept flows of trucked freight and this will be a form of displacement of activity. Although Dr Dixon attempted to claim at the Hearing that this would not matter as most of the truck drivers would be foreign based, this seems*

inconsistent with the notion that Manston might intercept flows of outbound freight being trucked from the UK to Europe.

- *Secondly, given the scale of the overall UK market for pure freighter aircraft, if Manston were to achieve its forecasts, this would imply substantial diversion of movements from other airports. Given the evidence that, with a third runway at Heathrow and developments elsewhere, there will be no shortage of capacity for air freight to and from the UK for the foreseeable future, any freight traffic captured by Manston, necessarily must be displaced from elsewhere. In particular, as we highlighted in our Deadline 7 comment on the Applicant's written answer to the ExA's question ND.2.25, the e-commerce activity now being cited by RSP as the primary role of Manston would be direct displacement from activity already present at East Midlands Airport. The Applicant itself has acknowledged that is seeks to divert niche freighter operations from Doncaster Sheffield Airport.*

These displacement effects need to be accounted for in the socio-economic assessment, given that the quantified effects have been assessed at a national level. They have not been and this is another area where the net impacts have been overstated even at a national level.

26. Another displacement consideration is in relation to the effect of the PSZ on other economic activities in the vicinity of the Airport. Although the Applicant's answer and appendices at OP.2.7 to the ExA's second questions does give some consideration to the effect of a PSZ in future on other developments in the vicinity of the Airport, the effects have not be quantified but would, nonetheless, constitute another form of displacement in terms of opportunities foregone. Furthermore, the Applicant does not seem to realise that the PSZ would need to be put in place as a forward looking restriction on other development, which SHP has estimated would need to be put in place by Year 4, acting as a barrier to growth of economic activity within the area from that point onwards. It should be noted that it is likely that any PSZ for Manston would be materially larger than other airports with the same number of aircraft movements due to the pre-ponderance of cargo and general aviation aircraft that have a higher propensity to crash than commercial passenger aircraft and this has not been factored into the analysis submitted by the Applicant.

Tourism

27. The Applicant seeks to claim significant beneficial effects in terms of tourism benefits to Kent and Thanet. In answer to ExA's question SE.2.15, RSP seeks to imply that 20% of passengers using MSE would be inbound tourists. In the first instance, as we pointed out in our Deadline 7 comment on this answer, RSP has extraordinarily used data for Gatwick, Stansted and Luton as representative of small airports. This is not generally representative at all, as we point out.

28. When considering the scope for airports to support tourism within the local economy, it is important to recognise the role that these named airports play in serving London. When you strip out the passengers travelling further afield from these airports, principally to London, and those visiting friends and relatives, for which tourism spending will be significantly lower, the actual proportions of passengers at these airports that are foreign visitors staying locally (including those staying the night before flying) is 1% at Gatwick, 1.5% at Luton and 0.5% at Stansted from detailed CAA Survey data[5] (see table below).

[5] CAA survey data is available to purchase from the CAA. York Aviation holds all survey data from 2003 and does not rely on published Survey Reports only. This enables more detailed analysis of the performance of individual airports.

Surface Origin / Destination of Inbound Foreign Visitors

Foreign Passengers' Surface Origin / Destination at Select London Airports

Airport	Foreign Passenger % of Total Passengers	Of which: % Surface Origin/Destination in London	Of which: % Surface Origin/Destination within 30 Minutes of Airport	% of Total Passengers who were Foreign and Stayed within 30 Minutes	% of Total Passengers who were Foreign and Stayed with 30 Minutes (excl. VFR)
London Gatwick 2018	29.6%	49.9%	5.2%	1.6%	1.0%
London Luton 2018	30.1%	50.8%	18.5%	5.6%	1.5%
London Stansted 2018	34.6%	59.7%	3.8%	1.3%	0.5%
London Southend 2019 Q1	22.3%	54.8%	19.2%	4.3%	0.8%

Source: CAA Passenger Survey (2018) and (2019 Q1 – Southend Only)

29. At the Hearing, the Applicant cited Southend Airport as a more relevant comparator. Southend has not previously been included in the CAA Survey but is being surveyed in 2019. The provisional issue of the results for the first quarter (Q1) has just been released by the CAA and the results are included in the table above. Whilst these results are provisional, due to the small sample size, it would strongly suggest that the impact of the Airport on tourism in Southend has been negligible as only 0.8% of passengers appear to be foreign visitors staying locally for reasons other than visiting friends and relatives.

12th June 2019

ACI EUROPE
AIRPORTS COUNCIL INTERNATIONAL

York Aviation

The social and economic impact of airports in Europe

www.aci-europe.org

January 2004

Preface

John Burke, President, ACI EUROPE and Chief Executive, Aer Rianta

To assess properly the many challenges facing Europe's airports - one must fully grasp the scale and reach of a civil aviation industry that comprises more than 130 airlines, a network of over 450 airports and some 60 air navigation service providers. This complex set-up forms a unique global network linking people, countries and cultures - and plays a vital role in the further integration and development of Europe. Airports play an essential role in realising this economic growth and delivering immense social benefits to the citizens of Europe.

In 1998, ACI EUROPE commissioned a study on the social and economic impact of Europe's airports from York Consulting. York Aviation, its sister company, was appointed to update the 1998 study. Using the most recent data collected from a wide range of ACI EUROPE member airports, 'The social and economic impact of airports in Europe' provides an invaluable insight to role played by European airports in boosting regional accessibility and social expansion, driving tourism development, and serving as national and regional economic motors.

In order to navigate the future as a stronger, more robust and more confident industry, policy makers must better acknowledge the social benefits provided by airports in terms of the freedom to fly. Airports enable remote and island communities to participate more fully in Europe, thus promoting social inclusion, with the social and economic importance of access to Europe's airports to grow further with enlargement of the European Union. This study also highlights the many key economic benefits accompanying airport development. European airports not only have massive economic impacts in terms of direct, indirect and induced employment, but serve as strategic catalysts, enhancing business efficiency and productivity by providing easy access to suppliers and customers.

ACI EUROPE has been striving to help both national and local legislators recognise the social and economic benefits delivered by Europe's air transport industry, and to give these benefits their rightful weight in the debate on sustainable growth. Sustainability is a three-legged stool; while environmental concerns are certainly important, the very significant social and economic benefits of aviation are too easily forgotten. I sincerely hope that the detailed research provided in this study will help to facilitate a better understand the key role played by European airports and better serve to uphold the overall contribution of aviation to our daily lives.

Airports Council International (ACI) is the only worldwide professional association of airport operators. ACI EUROPE represents over 450 airports in 45 European countries. Member airports handle 90% of commercial air traffic in Europe, welcoming over a billion passengers each year.

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Summary

European airports are now widely recognised as having a considerable economic and social impact on their surrounding regions. These impacts go far beyond the direct effect of an airport's operation on its neighbours to the wider benefits that air service accessibility brings to regional business interests and to consumers. Airports provide essential infrastructure to support regional social and economic growth as well as being commercial entities in their own right, capable of generating returns on investment to the benefit of their shareholders, other stakeholders and to society as a whole.

The importance of transport to economic growth has been recognised by the European Commission in their Transport White Paper[1]: "*difficult to conceive of vigorous economic growth which can create jobs and wealth without an efficient transport system that allows full advantage to be taken of the internal market and globalised trade*."

With the enlargement of Europe and the greater travel distances involved, air transport will play an ever more important role in the integration of Europe. This report seeks to explain and expand on the specific **social and economic importance of Europe s airports**.

In 1992, ACI EUROPE published a study 'Airports – Partners in Vital Economies'. This study looked in general at the economic importance of Airports. York Aviation was appointed in December 2002 to update the 1998 report, using the most recent data collected from ACI EUROPE's member airports. We have collected information from 58 airports for this study, covering the largest hub airports to very small local airports. The airports covered accounted for 63% of the workload units at Europe's airports. We have used the broad methodology and definitions from the 2000 ACI EUROPE Study Kit as a basis for collating data for this study. In summary, we consider the overall economic impact of airports under the following headings:

direct - employment and income that is wholly or largely related to the operation of an airport;
indirect - employment and income generated in the economy of the study area in the chain of suppliers of goods and services;
induced - employment and income generated in the economy of the study area by the spending of incomes by the direct and indirect employees; and
catalytic - employment and income generated in the economy of the study area by the wider role of the airport in improving the productivity of business and in attracting economic activities, such as inward investment and inbound tourism.

We have also analysed the social impacts of airports and the effects of restricting capacity or otherwise limiting the growth in demand for air travel.

Air transport in a modern society

The most important contribution of airports is the connectivity they provide, which allows the European economy and society to flourish. Air transport provides the accessibility essential in a modern economy and society. Globalisation of the world economy is a key driver of air traffic growth. Cross-investment between European countries, as well as to and from the USA, Far East and the rest of the world is increasingly a feature of modern business, with mobility of labour a growing factor.

The air transport sector is evolving rapidly to meet the changing needs of society as a whole. It is predicted that, despite recent global events, overall air traffic growth rates are likely to return to previous levels (5-6% per annum) in the medium term, driven in part by the growth in low cost services.

Transport is seen as an important factor in the economic and social integration of Europe, and an important indicator of quality of life. Its importance will grow with the enlargement of the European Union (EU). The EU has recognised the importance of mobility to the social and economic development of nation states and also the integration and realisation of the Union. In addition, in remote regions, air transport fulfils an essential social function, often connecting communities to essential services, such as hospitals and further education.

Airports as national and regional economic motors

Airports constitute necessary infrastructure for a wide range of economic activities. This wider economic role is known as the catalytic impact, arising from the effect that air service accessibility can have on the region served by the airport.

Access to markets and external and international transport links are regarded as "absolutely essential2" to businesses making location decisions. The catalytic effect of an airport operates primarily through enhancing business efficiency and productivity by providing easy access to suppliers and customers, particularly over medium to long distances. Global accessibility is a key factor for business location and success in all regions of Europe.

Large airports are often seen as fundamental national economic motors, for example the role of **Amsterdam Schiphol Airport** as a 'Mainport' for the Netherlands economy. The importance of national connections is illustrated by the studies undertaken in Switzerland examining the impact of the loss of direct services from **Zurich Airport** to the Swiss economy following the demise of Swissair. Airports are increasingly developing as multi-modal interchange nodes. Their network positioning creates strategic advantage which enables them to 'entice' a broad range of economic activity, functioning as new development poles. This is evidenced by the development of **Amsterdam Schiphol** and **Paris Charles de Gaulle (CDG) Airports**.

Global accessibility can be important at a regional level as well as at a national level. For example, 31% of companies relocating to the area around **Munich Airport** cited the airport as the primary factor in their location decision. A survey of business in the **Hamburg** area found that 80% of manufacturing companies reported air service connections as important to getting customers to look at their products. In 1995, it was reported that 93% of the top Irish companies used **Dublin Airport** for business travel. There is no reason to believe this proportion will have declined.

Where airports have good connectivity, this can act as a powerful magnet for companies:
The Ile de France Region generates 30% of the French national GDP. Accessibility to **Paris CDG Airport** is a powerful factor in company location decisions, particularly for the large global companies headquartered in the Paris area, and to firms engaging in new high-tech, innovative, industries.

Connections to Eastern Europe offered by **Vienna Airport** have enabled Vienna to provide the location for the East European headquarters of several global companies.

The attractiveness of airports and their hinterlands is particularly strong for 'high tech' industries as evidenced by **Copenhagen** and **Nice Airports**.

It is possible to define the 'air intensive' sectors of business, namely those sectors of industry that are most dependent upon air service accessibility:

Insurance
Banking and Finance
Other Means of Transport
Printing and Publishing
Coke, Petroleum and Nuclear Fuel
Extraction
Transport
Communication
Other Business Activities
Research and Development
Basic Metals
Computer Activities
Precision and Optical Instruments

Often it is the **financial and business services** sectors which make the greatest use of air transport and for whom accessibility to air services will have the strongest influence on location decisions. For example, there are a high number of foreign owned companies located in the vicinity of **Brussels Airport**, many of whom are active in these air intensive sectors.

Airports with available land are developing **business parks** to capitalise on the attractiveness of air service connectivity to businesses. Often these business parks are used by firms with some connection to the airport or aerospace industries. Otherwise they are chosen as locations for companies making intensive use of air transport. Examples include **Cork, Hamburg, Nice** and the 'Aviapolis' development at **Helsinki Airport**.

The use of **air freight** as a means of transport is increasing, particularly for high value, low weight goods, or those requiring urgent transport. The Organisation for Economic Co-operation and Development (OECD) has estimated that up to a third in value of world trade in merchandise travels by air.

Airports driving tourism development

Tourism is the second main element of catalytic impact. For the EU as a whole, tourism accounts for 5% of total employment and of GDP, and as much as 30% of the total external trade in services.

Airports play a major role in making the development of inbound tourism possible. Many destinations would not be easily accessible without air services, such as the **Spanish** and **Greek Islands.** Good air service connections are vital to their success as tourist destinations.

Even for major European cities, air travel can account for a third or more of their foreign visitors. For example, almost 10 million visitors arrive in the Ile de France area by air via the **Paris Airports**, spending €3 billion. Equivalent spending in the Alpes-Maritime Region from visitors arriving via **Nice Airport** was almost €1.5 billion.

Traditionally, charter carriers have played a major role in facilitating the development of tourism in Europe. Low cost, no-frills carriers are now opening up new markets to tourism and accelerating the growth in tourism, even in traditional markets, such as UK-Ireland.

Airports vital to regional accessibility and social development

Air transport for passengers and freight is an essential component of the modern global economy. The social benefits contribute to the quality of life in Europe. The importance of air transport access has led many European countries, such as **France** and **Norway**, to introduce Public Service Obligations to ensure that essential services are maintained.

The social and economic importance of air transport in Europe will grow with enlargement of the EU. Air transport provides accessibility to the global economy and enables remote and island communities to participate more fully in Europe, thus promoting social inclusion.

Availability of air services can be an important indicator of the quality of life - particularly for remote areas. These social and regional accessibility benefits are far more difficult to quantify. However, they are vital to the development of remote regions of the Europe. Quite simply, without air service access, many regions in Europe would be denied participation in the modern world. This would have profound 'quality of life' implications.

There are many examples of airports engaging in programmes to ensure that their positive social impact is maximised. Such programmes include initiatives in education and training, as well as local cultural and sporting programmes. Many airport operators, including **Paris, Lyon, BAA** and **London City**, take positive steps to ensure that local employment opportunities are maximised.

The direct and measurable impact of airport activities

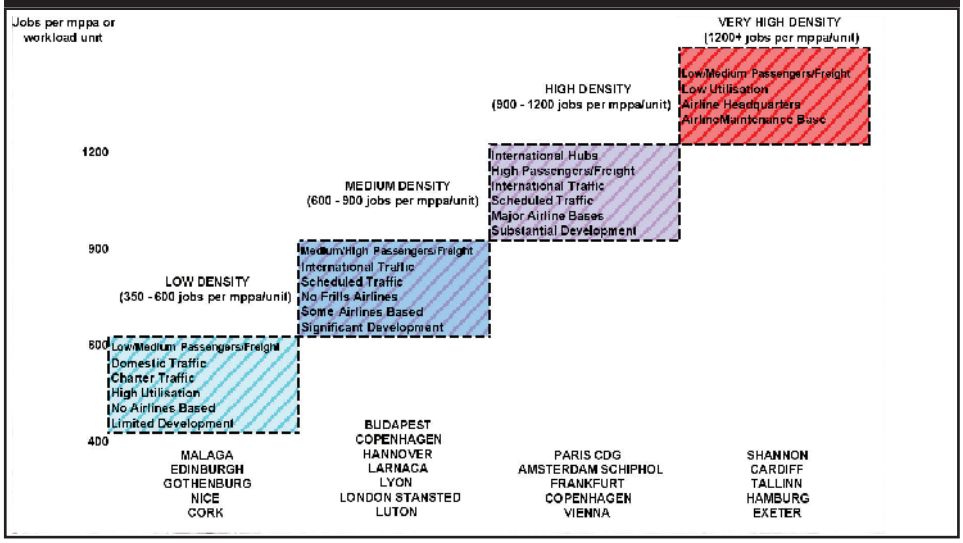
Airports support employment directly on-site and in the surrounding area but also indirectly in the chain of suppliers providing goods and services. In addition, the incomes earned in these direct and indirect activities generate demand for goods and services in the economy, which supports further employment.

In 2001, we estimate that **total on-site employment at airports reporting traffic to ACI EUROPE was around 1.2 million**. In addition, we estimate that there are a further 0.2 million direct airport-related jobs located off-site at Europe's airports.

Nearly two-thirds (64%) of employment comes from airlines, handling agents and aircraft maintenance, with the remainder split between airport operators (14%), in-flight catering, restaurants and bars and retailing (12%), air traffic control and control agencies (6%), freight (1%) and other activities such as fuel companies and ground transport operators (3%).

The evidence suggests that European airports currently support, on average, around **950 on-site jobs per million passengers (workload units) per annum**. This is lower than the number observed in the 1998 study (the 'typical' 1000 jobs per million passengers ratio), indicating the success of measures taken by airports to reduce costs and increase productivity, despite increases in security measures. Other factors include the development of no-frills carriers and the drive towards lower costs throughout the industry, particularly in the airline sector, resulting in productivity improvements across the board. The factors leading to different levels of on-site employment are illustrated in **Figure 1 overleaf**.

Figure 1:
Typology of on-site employment at European airports 2003



Based on the latest ACI worldwide air passenger and freight forecasts, we estimate that total on-site employment at airports reporting traffic to ACI Europe could rise to around 1.4 million by 2010, assuming a 2% per annum continuing growth in productivity. This is an increase of 17% in employment over 2001 levels.

On the basis of this evidence we estimate that, on average, for every 1,000 on-site jobs supported by European airports there are around 2,100 indirect/induced jobs supported nationally, 1,100 indirect/induced jobs supported regionally, and 500 indirect/induced jobs supported sub-regionally. Given that there are 950 on-site jobs created per million passengers - once we factor in the direct, indirect and induced jobs we conclude that f**or every million passengers (workload units), European airports support around:**

- **2,950 jobs nationally;**
- **2,000 jobs regionally; and**
- **1,425 jobs sub-regionally.**

Airports can make a substantial contribution to the overall economy of the areas that they serve, when the combined effect of their direct, indirect and induced impact is taken into account. Estimates vary in the range 1.4-2.5% excluding tourism impacts.

The effect of restricting airport capacity

Restricting airport capacity or pricing off air travel demand could have severe economic or social consequences. Studies suggest that failure to increase capacity to meet demand could **reduce GDP at a national or regional level by 2.5 to 3%**, although this will be heavily dependent upon the level of restriction applied.

Based on forecast growth in passenger and freight traffic at Europe's airports, direct employment at airports is expected to grow by almost 200,000 jobs between 2001 and 2010. However, restricting growth in demand, through limits on capacity or other means, would have the effect of reducing this growth in jobs and under more severe restrictions could result in a nett loss of direct jobs as productivity improvements negate the benefits of traffic growth.

On 6 Oct 2017, at 15:39, James Brass <James.Brass@yorkaviation.co.uk> wrote:

Dear Sally

Thank you for your email and apologies for the slow response. I need to tell you that York Aviation does now have a conflict of interest in this matter and hence I cannot engage further in relation to this. However, just as an observational point, I would highlight that the 2004 ACI EUROPE report is now substantially out of date and we would no longer consider it to be necessarily representative of a 2017 world.

Best regards
James

James Brass
Partner

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Primary House
Spring Gardens
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NEW: Follow us on Twitter @YorkAviation

York Aviation is the trading name of York Aviation LLP, registered in Cardiff, No. 0C307526. Registered Office: Smithfield House, 92 North Street, Leeds, LS2 7PN

From: Sally Dixon [mailto:sally@azimuthassociates.co.uk]
Sent: 03 October 2017 15:35
To: James Brass <James.Brass@yorkaviation.co.uk>
Subject: Calculations for indirect/induced employment at airports

Dear James,

It has been some while since we have been in touch. I am still engaged on the Manston Airport project, which is progressing rapidly under the DCO process towards a submission to the Planning Inspectorate next month.

I have a query about York's 2004 report for ACI Europe (The Social and Economic Impact of Airports in Europe) and would be very grateful for your clarification. On page 9 there is a calculation of direct/induced employment at airports:

On the basis of the evidence we estimate that, on average, for every 1,000 on-site jobs supported by European airports there are around 2,100 indirect/induced jobs supported nationally, 1,100 indirect/induced jobs supported regionally, or 500 indirect/induced jobs supported sub-regionally. Given that there are 950 on-site jobs created per million passengers, once we factor in the direct, indirect and induced jobs, we conclude that **for every million passengers (workload units), European airports support around:**
• 2,950 jobs nationally;
• 2,000 jobs regionally; or • 1,425 jobs sub-regionally.
Can you tell me what the "or" means here?

I have used your 2,100 figure to calculate a indirect/induced job forecast but would like to be able to split this out geographically. I have assumed that 2,100 is the total across the country (i.e. 1,100 of 2,100 will be regional and of these 1,100, 500 will be sub-regional/local) but am concerned I may have misinterpreted your findings.

On closer inspection, the addition of 950 direct jobs to the 2,100 jobs derives 2,950 jobs nationally and this is where I question my interpretation.

I would be very grateful for your help on this James.
Many thanks and kind regards,
Sally

REGISTERED NUMBER: SC252985 (Scotland)

STRATEGIC REPORT,

REPORT OF THE DIRECTORS AND

FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 JULY 2018

FOR

PRESTWICK AIRCRAFT MAINTENANCE LTD

SATURDAY
S84ASHYX
SCT 27/04/2019 #176
COMPANIES HOUSE

4. EMPLOYEES AND DIRECTORS

	31/7/18	31/7/17
	£	£
Wages and salaries	13,388,197	10,184,031
Social security costs	1,361,679	1,016,994
Other pension costs	158,918	91,685
	14,908,794	11,292,710

The average number of employees during the year was as follows:

	31/7/18	31/7/17
Management / admin	18	13
Engineering	382	313
	400	326

	31/7/18	31/7/17
	£	£
Directors' remuneration	81,457	78,442

5. AUDITORS' REMUNERATION

	31/7/18	31/7/17
	£	£
Fees payable to the company's auditors for the audit of the company's financial statements	3,350	3,350

	31/07/17	31/07/16
Tax compliance services	7,850	6,850
Other services	25,480	20,405
	33,330	27,255

6. TAXATION

Analysis of the tax charge

The tax charge on the profit for the year was as follows:

	31/7/18	31/7/17
	£	£
Current tax:		
UK corporation tax	24,026	19,558
Tax on profit	24,026	19,558

UK corporation tax was charged at 19.67% in 2017.

continued...

Tarmac Aerosave, the European leader in aircraft dismantling services

Safran is one of the founding shareholders in Tarmac Aerosave, a specialist in aircraft storage and dismantling services, which has just celebrated its 10th anniversary. In these few short years, Tarmac has already become the European leader in its sector.

Founded in 2007, **Tarmac Aerosave** is based in Tarbes, southwest France. Today, it has become the European benchmark in the storage and dismantling of both military and commercial aircraft from leading manufacturers such as Airbus, Boeing, ATR, Bombardier and Embraer. Safran is one of the three main shareholders, alongside Airbus and Suez. Safran has been involved since the outset, reflecting its focus on **corporate social responsibility (CSR).** In addition to providing space to **park aircraft** not being used **(**500 capacity) and **store** various parts and subassemblies (50,000 for the moment), Tarmac Aerosave offers the largest capacity for dismantling aircraft at end-of-life in Europe, at two different facilities, in Tarbes and in Teruel, Spain.

"We have dismantled and recycled 125 aircraft to date, and we are capable of recycling more than 90 percent of each aircraft, by weight," explains CEO Philippe Fournadet.

Rémy Michelin / Tarmac Aerosave

Complementary maintenance operations

Over the last decade Tarmac Aerosave has also developed its **maintenance capabilities**, to carve out a position as an MRO provider for both aircraft and engines. For example, the company has set up a workshop to dismantle and service **CFM56 engines**, with the help of Safran. François Planaud, Vice President, Services & MRO at **Safran Aircraft Engines,** explains: "Since our engine MRO activities complement those of Tarmac Aerosave, we helped the company create a flexible engine maintenance shop, allowing them to carry out minor servicing jobs on CFM56 engines. Their workshop was certified to Part 145 in January 2017, proving the quality of their services and also underscoring the expertise developed by Tarmac Aerosave with our support."

About Tarmac Aerosave

Tarmac now has more than **200 employees** and over **15,000 square meters** of storage space. It has a **12% share of the global market for stored aircraft.** In addition to a planned expansion of its original site in Tarbes, Tarmac will shortly open a new facility at Toulouse Francazal airport.

OXFORD ECONOMICS

The economic impact of London Luton Airport

A report for London Luton Airport Operations Limited and London Luton Airport Limited

November 2015

OXFORD ECONOMICS

Foreword:

Nick Barton – CEO London Luton Airport
Councillor Andrew Malcolm – Acting Chairman LLAL

Nick Barton

Andrew Malcolm

This is the first aviation focussed report published in the post-2015 election environment and one that has been conducted on a wholly independent basis by Oxford Economics. London Luton Airport Operations Limited, the airport operator, and London Luton Airport Limited, the airport owner, commissioned this report to highlight the current and future economic benefit of London Luton Airport to both the local and national economies.

We believe that this report will make a significant contribution to the development of an integrated transport policy for the United Kingdom; one in particular that reconciles the rebalancing of the UK economy with the need for sustainable development. The Oxford Economics report sits alongside the vital strategic work undertaken by Sir Howard Davies and provides our new Government with additional corroboration of the importance of aviation to the UK economy.

In commissioning the report we were mindful of the depth of the Davies Commission's review of macro runway capacity requirements, but also of how broadening the analytical scope to micro or regional considerations could complete the roadmap of UK aviation needs.

Through this report, Oxford Economics has demonstrated how the presence of a strong regional airport can boost UK economic growth and deliver greater choice, value and service to aviation passengers.

Regional airports play a vital role in supporting aviation capacity growth in the UK. They will sustain the supply of slots for airlines and destinations for passengers throughout the period of new runway construction in London and enhance the reputation of the UK as a place to visit, invest or reside in. For its part, London Luton Airport has proven its role in meeting the aviation demands of the 21st century and this is demonstrated by the economic benefits that are created by its presence in Southern England.

It is imperative that London Luton Airport fulfils its potential to serve more passengers, deliver greater competition between carriers and achieves all of this on an environmentally sustainable basis. That is why we are proud of our airport and the contribution that it will make to the lives of business and leisure passengers alike in coming decades.

We urge all stakeholders with an interest in the future of UK aviation to take note of this report's conclusions and the potential that exists for London Luton to serve ever greater numbers of passengers and draw overseas investors into our economy.

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Executive Summary

In February 2015 London Luton Airport Operations Limited (LLAOL) and London Luton Airport Limited (LLAL) commissioned Oxford Economics to undertake an analysis of the nature and scale of the economic impact of London Luton Airport on the UK as a whole, and on the surrounding sub-regional and local economies.

The report sets out the results of that analysis, measuring the economic contribution of the airport in terms of jobs created, contribution to GDP and government tax receipts. We present results for the value of this impact in 2013 and forecast it out to 2030 under two scenarios for the future of the airport.[1,2] The report goes on to explore the value that London Luton Airport creates for its passengers by offering them low-cost and local air transport, and by relieving pressure on the air transport system elsewhere in the south east of England.

Measuring the impact of London Luton Airport

To quantify the contribution of London Luton Airport to the UK and local economy, we consider a range of potential impacts in turn, following a standard analytical technique known as an economic impact assessment. This approach considers three channels of economic impact arising from the airport's operations: direct, indirect and induced impacts.

- The direct impact is generated by the immediate activities of the airport itself.
- The indirect impact encapsulates the economic activity supported in the airport's UK supply chain as a result of its procurement of goods and services.
- The induced impact comprises the benefits arising as the workforce (including that in the supply chain) spends its wages generating further rounds of economic activity.

The impact through each channel is quantified using three metrics: Gross Value Added (GVA) contribution to GDP; employment, in terms of jobs sustained; and the exchequer impact, in terms of additional tax receipts accruing to the Treasury or local authorities.

Quantifying the wider 'catalytic' economic benefits that the airport offers to those who use its services involves other metrics. The benefits that proximity and low-cost air travel offer for millions of Luton passengers are quantified in terms of the equivalent cash value to those passengers each year.

[1] This report updates a previous exercise relating to 2011, undertaken by Halcrow. However, methodological differences mean the two reports are not directly comparable.

[2] We use the term 'London Luton Airport' to refer to all activities and businesses which are inherent to the operation of the airport, and including both direct onsite employment and direct offsite employment within firms located in close proximity to the airport whose activities form an integral part of the activities of the airport.

London Luton Airport's impact in 2013

In 2013, the economic activity created by London Luton Airport contributed some £1.3 billion to UK GDP.[3] For every pound London Luton Airport contributes to GDP itself, it creates another £2 elsewhere in the UK economy. In 2013 this impact comprised:

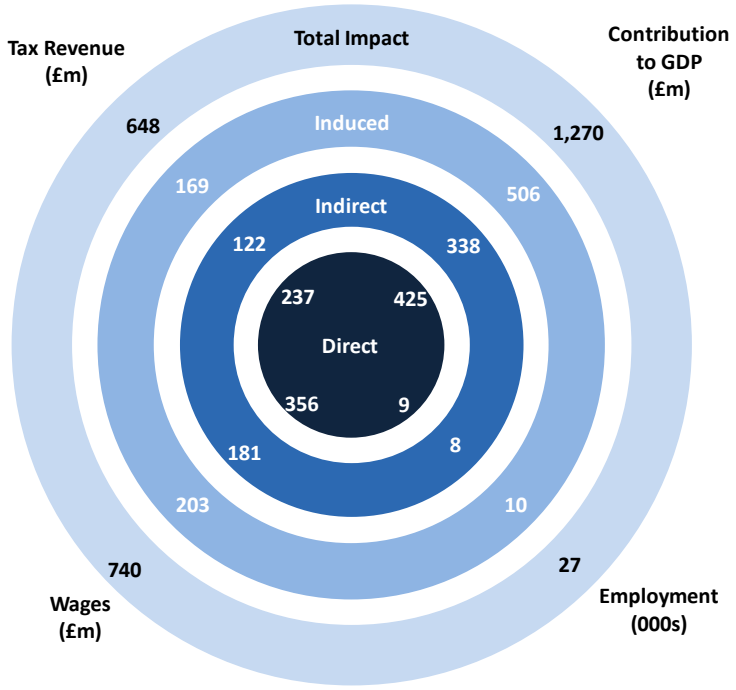
- £425 million in direct impact (which is equivalent to 10 per cent of the local Luton Borough economy);
- £338 million in indirect impact within the supply chain of the airport; and
- £506 million in induced impact as employees of the airport and its supply chain spent their wages.

The airport is estimated to have sustained 27,000 jobs in 2013, comprising:

- 9,400 direct jobs (10 per cent of all employment in Luton Borough);
- 7,700 indirect jobs within the supply chain of the airport;
- 10,000 induced jobs as employees of the airport and its supply chain spent their wages.

For every direct job the airport supports, another 1.9 are supported elsewhere in the UK economy. By sustaining this level of employment, London Luton Airport contributed £740 million in gross wages in 2013, and also produced tax receipts of £648 million for the Treasury, primarily in the form of employee and employer taxes, air passenger duty and corporation tax.

Total UK economic impact of London Luton Airport, 2013

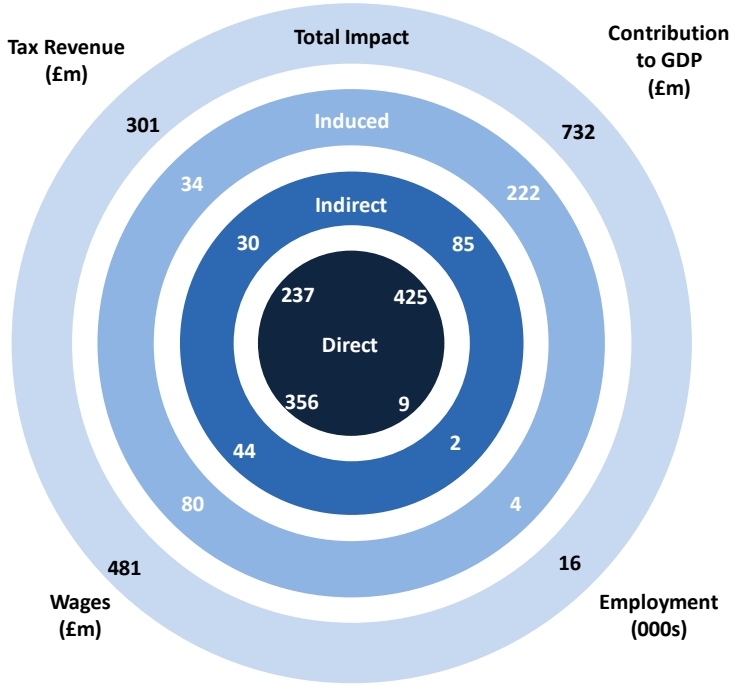


[3] Hereafter referred to as 'contribution to GDP'. Prices are constant 2013 throughout the document unless otherwise stated.

The sub-regional and local economic impact of London Luton Airport in 2013

London Luton Airport plays a pivotal role in economy of the local area and surrounding sub-regions. Within the Three Counties area, which includes Bedfordshire, Buckinghamshire and Hertfordshire, the airport supported a £732 million contribution to GDP and sustained 16,000 jobs in 2013. As would be expected, the greatest impact was felt in the immediate vicinity of the airport. The largest sub-regional impact therefore occurs within Bedfordshire, where the airport delivered a GDP contribution of £600 million. This reflects the direct economic impact of having the airport located within its boundaries, the corresponding strength of the airport's supply chain linkages within the local area, and the fact that 50 per cent of the direct workforce (and therefore much of the associated consumer spending) resides in Bedfordshire. Within the Borough of Luton alone, the airport supported a £533 million contribution to GDP and sustained almost 12,000 jobs.

Total economic impact of London Luton Airport within the Three Counties sub-region, 2013



The future economic impact of London Luton Airport under alternative scenarios

With substantial changes to the capacity of London Luton Airport planned, we are able to forecast how its economic impact is likely to evolve in the years to 2030. Our baseline scenario assumes no significant infrastructure development. Yet the airport's total GDP contribution, including multiplier impacts, is forecast to grow to £1.7 billion[4] by 2030. Productivity growth, however, means that the total number of jobs supported by London Luton Airport (including multiplier impacts) is likely to be 500 lower in 2030 than in 2013 under this scenario.

Under our development scenario - in which a range of infrastructure developments, including improvements to roads, parking and terminal enhancements, are implemented – the economic impact of Luton would be substantially higher.

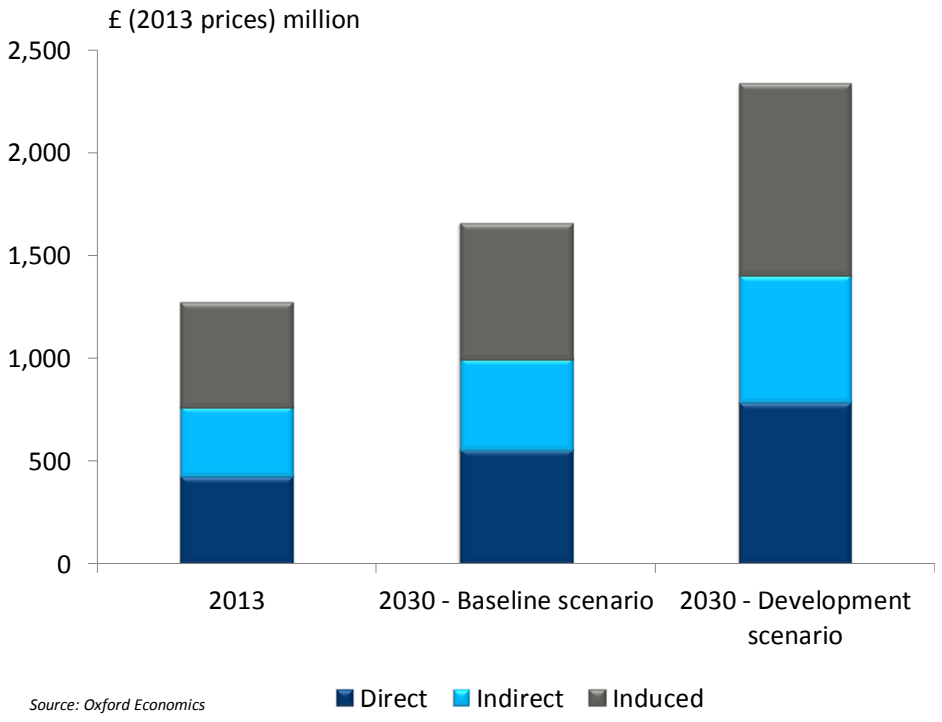
In the development scenario, we assume that infrastructure enhancement results in passenger numbers increasing from around 9.7 million in 2013 to 18 million in 2020, at which point the airport will have reached its new level of capacity. Under this scenario, the total GDP contribution of the airport would reach £2.3 billion in 2030, 41 per cent higher than under the baseline option. The airport and its associated activities would support 37,700 jobs in total.

Key indicators under the baseline and development scenarios, 2013 and 2030

		2013	2030 – Baseline scenario	2030 – Development scenario
Passengers		9.7m	12.6m	18.0m
GDP	Direct	£425m	£554m	£781m
	Total	£1.3bn	£1.7bn	£2.3bn
Employment	Direct	9,400	9,300	13,100
	Total	27,200	26,700	37,700
Wages	Direct	£356m	Not calculated for future years	
	Total	£740m		
Tax revenue	Direct	£237m		
	Total	£648m		

[4] In 2013 prices

Forecast total GDP contribution of London Luton Airport to the UK economy, 2013 to 2030



Source: Oxford Economics

Within the Three Countries sub-region, the total GDP contribution of London Luton Airport is estimated to reach £1 billion in 2030 under the baseline scenario. This increases to £1.4 billion under the development scenario. Under the baseline scenario the total number of jobs supported by London Luton Airport in the Three Counties sub-regional economy in 2030 increases from 15,900 in 2013 to 16,000 in 2030. Under the development scenario employment increases to 22,600.

Under the development scenario, London Luton Airport may need over 1,100 additional workers in the three highest-skilled occupational groups, which include roles such as aeronautical engineers, aircraft pilots and flight engineers. At the same time, over 2,500 additional workers will be needed for lower-skilled roles such as customer advisors, baggage handlers and storage workers.

We analyse the extent to which the airport's future demand for labour could be met by workers from Luton Borough. Our analysis suggests that while there is likely to be sufficient labour within Luton Borough to fill lower-skilled jobs, the airport will need to look further afield to recruit the people needed to fill the more specialised high-skill roles.

London Luton Airport's value to passengers

Ultimately London Luton Airport exists to serve its passengers, of whom there were 10.5 million in 2014 alone. For around 43 per cent, or 4.5 million, of these passengers Luton was the closest airport to their origin or destination in the UK. For these passengers, flying from an alternative airport would add between 20 and 68 minutes in travel time, and further associated travel costs, for each leg of their journey. Luton also offers among the cheapest available fares for the destinations it serves, with 75 percent of comparable fares cheaper than average among the seven major airports considered.

Taking account of the value of passengers' time, the surface transport costs they face, and the competitive fares offered by airlines at Luton, we estimate that the airport provided additional value for passengers of approximately £120 million in 2014 alone – an average of just over £37 per return trip.

As a result of the extra value offered by Luton more people were encouraged to take a trip than otherwise would have done. We estimate that last year over 900,000 Luton passengers took a flight who would not have flown at all had Luton not existed.

London area airport capacity

London Luton Airport will play an increasingly important role in providing much-needed capacity to the London airports system over the next 10 to 15 years, particularly if expansion plans are implemented.

In 2011 Luton accounted for 7 per cent of passengers at London airports. But based on official DfT forecasts it is expected to contribute 17 per cent of London passenger growth between 2011 and 2030. This demonstrates the degree to which the airport is set to become an even more crucial part of the air transport network of the UK.

1 Introduction

1.1 Purpose of the study

This report has been prepared for London Luton Airport Operations Limited (LLAOL) and London Luton Airport Limited (LLAL). It provides a detailed assessment of the current economic impact of London Luton Airport to its local area, surrounding sub-regions and the national economy. This impact has been estimated for 2013 and forecast for the period to 2030 under two scenarios. We also estimate the consumer value that London Luton Airport creates for its passengers by offering them cheap and local air transport, and by relieving pressure on the air transport system elsewhere in the south east of England.

This report provides a detailed assessment of the economic impact of London Luton Airport

1.2 Introducing economic impact analysis

The economic impact of London Luton Airport is measured using a standard means of analysis called an economic impact assessment. The three 'core' channels of impact that comprise the airport's 'economic footprint' are:

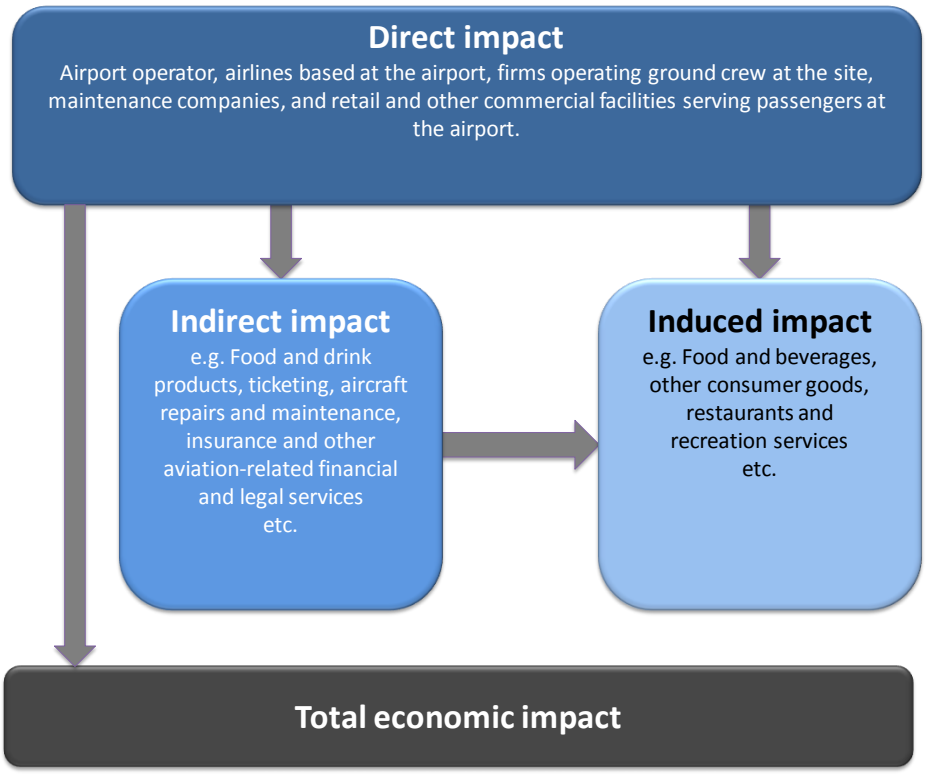
- **direct impact**, which relates to the economic activity generated by the airport itself;
- **indirect impact**, which encapsulates the activity and employment supported in London Luton Airport's UK supply chain as a result of its procurement of goods and services. Economic activity in this category could include, for example, food and drink products, ticketing, aircraft repairs and maintenance, insurance and other aviation-related financial and legal services; and
- **induced impact**, comprising economic benefits that arise when London Luton Airport employees and those in its supply chain spend their earnings, for example in retail establishments.

Using these pathways, a picture of London Luton Airport's economic footprint is presented using four metrics:

- **employment**, as the number of people employed, measured on a headcount basis;
- **GDP**, or more specifically, London Luton Airport's *gross value added (GVA) contribution to GDP*;
- **gross wages** paid to workers; and
- **tax revenue** flowing to the UK government.

Adding together the direct, indirect and induced impacts across the metrics above provides an estimate of the total economic impact of London Luton Airport, as shown in Figure 1.1, below.

Figure 1.1: Channels of economic impact



The main principles of the economic impact methodology are outlined in the respective sections of this report, and there is a full technical description at Appendix A.

In addition to the three core economic impacts identified above, the study considers wider **catalytic impacts** – benefits that accrue to passengers who use the airport's services. This part of the assessment focuses on the cash-equivalent value of the airport's location and low costs to passengers, and goes on to examine Luton's role in providing much-needed capacity to support passenger growth in the London airport system over the coming 10 to 15 years.

1.3 Geographical coverage

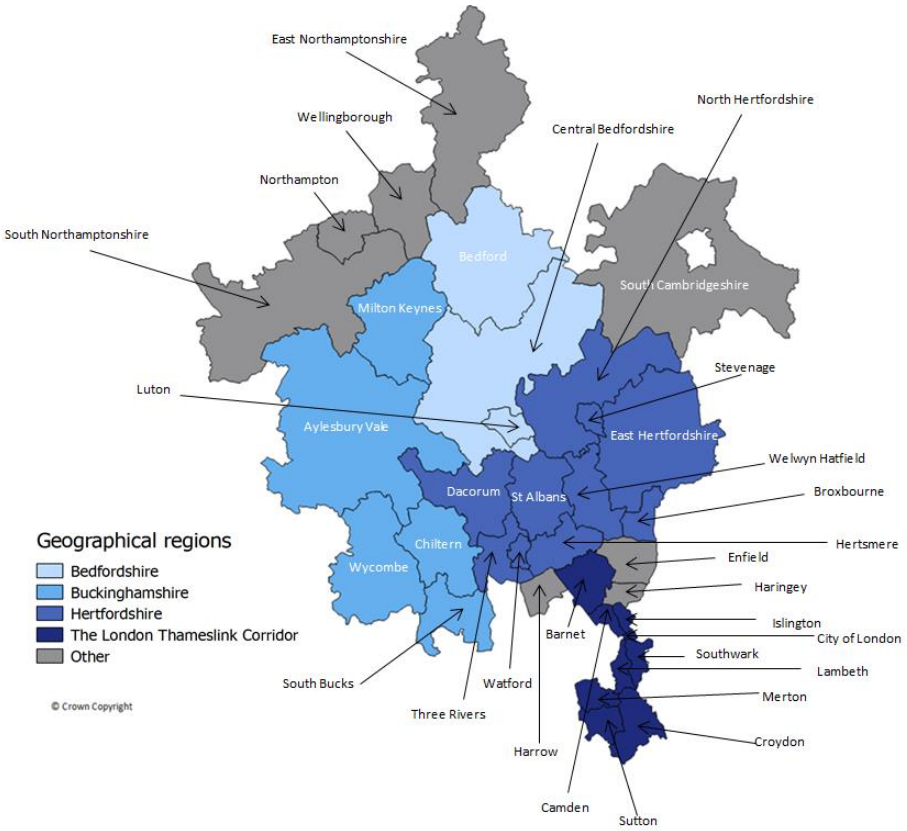
The study assesses the economic impact of London Luton Airport on the economy of the UK as a whole; in the nearby sub-regions that have strong linkages to the airport in terms of workers, supply chains and passengers; and in Luton and surrounding local authority areas (primarily those that fall within the sub-regions identified).

Based on consultation with LLAL and LLAOL, the following sub-regions have been identified for analysis:

- Bedfordshire (comprising Bedford, Central Bedfordshire and Luton)
- Buckinghamshire (comprising Aylesbury Vale, Chiltern, Milton Keynes, South Buckinghamshire and Wycombe)
- Hertfordshire (comprising Broxbourne, Dacorum, East Hertfordshire, Hertsmere, North Hertfordshire, St Albans, Stevenage, Three Rivers, Watford and Welwyn Hatfield)
- The 'Three Counties' area (Bedfordshire, Buckinghamshire and Hertfordshire combined)
- The London Thameslink Corridor, which comprises London boroughs with a direct rail route to London Luton Airport Parkway (Barnet, Camden, Islington, City of London, Southwark, Lambeth, Merton, Sutton, and Croydon).

The study also considers the individual local authority areas that fall within the sub-regions above, plus a small number of other nearby local authorities within which economic impacts were expected to accrue. The latter were, once again, identified through discussion with LLAL and LLAOL.

Figure 1.2: Geographical coverage of the study



1.4 Defining London Luton Airport

Within this study the term 'London Luton Airport' is used to refer to all activities and businesses which are inherent to the operation of the airport, and which are therefore included within the direct impact of the airport. Following the approach taken in the 2012 study by Halcrow,[5] the direct impact of the airport includes both *direct onsite* employment, which is located within the airport boundary, and *direct offsite* employment within firms located in close proximity to the airport whose activities form an integral part of the activities of the airport.

Activities included within the definition of London Luton Airport include the airport operator, airlines based at the airport, firms operating ground crew at the site, maintenance companies, and retail and other commercial facilities serving passengers at the airport.

1.5 Report Structure

The remainder of this report is structured as follows:

- **Chapter 2** presents a detailed analysis of the direct contribution of London Luton Airport;
- **Chapter 3** examines the indirect and induced contributions of London Luton Airport, and adds these to the direct impact to estimate the total economic impact of the airport on the national, sub-regional and local economies;
- **Chapter 4** assesses the potential future economic impact of London Luton Airport under two alternative scenarios; and
- **Chapter 5** considers the catalytic impacts generated by London Luton Airport.

The technical appendices at the end of the report provide a detailed explanation of the methodologies used in the various parts of the analysis, and tables of detailed findings to supplement the results presented throughout the report.

[5] http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

2 The direct impact of London Luton Airport

Key points

- It is estimated that London Luton Airport directly employed 9,400 people in 2013, which is 10 per cent of all employment in Luton Borough.
- It is estimated that 29 per cent of London Luton Airport employees live in the borough of Luton. A further 31 per cent live in the nearby local authority areas of Central Bedfordshire, North Hertfordshire, Bedford and St Albans. In total, 77 per cent of employees live within the Three Counties area, which comprises Bedfordshire, Buckinghamshire and Hertfordshire.
- The direct GDP contribution of London Luton Airport in 2013 was £425 million. This is equivalent to 10 per cent of the local economy.
- London Luton Airport also directly supported £356 million in gross wages for its workers and generated £237 million in tax revenues for the UK Exchequer.

2.1 Approach to estimating direct impacts

To estimate London Luton Airport's direct impact it is necessary to collect data that correspond as closely as possible to the definition of the airport and its associated businesses outlined in Section 1.4. To do this, the study draws on information provided by LLAL and LLAOL, businesses operating at the airport, and the 2012 employment and economic assessment of London Luton Airport by Halcrow.[6] Where data are not available from these sources results have been estimated using official government statistics and Oxford Economics' UK macroeconomic, regional and input-output models.

We are grateful for the contributions of the following businesses that provided data to inform the analysis:

- The Restaurant Group plc
- Lagardère Services Travel Retail UK & Ireland
- Easyjet
- SSP
- Landmark Aviation.

[6] http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

2.2 Direct contribution to employment

It is estimated that London Luton Airport directly employed 9,400 people in 2013

The most detailed previous work to estimate the direct impact of London Luton Airport was undertaken for the 2012 Halcrow study. This presented a central employment estimate for 2011 based on data from the Business Register and Employment Survey and Experian.[7] More recent estimates of employment at London Luton Airport are presented in the 2013 London Luton Airport Annual Monitoring Report.[8]

Following discussion with stakeholders it was decided to estimate employment in 2013 by growing forward the Halcrow estimate using the growth rates reported in the Annual Monitoring Report. This approach ensures that the direct employment estimate presented in this study is broadly comparable with the Halcrow study, but also incorporates the latest evidence on how employment at the airport has changed since 2011.

On this basis, it is estimated that London Luton Airport directly employed 9,400 people in 2013, which is an increase of 337 from the figure reported in the Halcrow study. This equivalent to ten per cent of all employment in Luton Borough.[9]

Box 2.1: Comparing the direct employment contribution to the 2013 Annual Monitoring Report

The 2013 London Luton Airport Annual Monitoring Report (AMR) suggests that direct employment at the airport was 8,400 in 2013, 1,000 less than the estimate produced for this study.

While this study has taken growth rates from the 2013 AMR, the estimated *level* of employment was obtained by growing forward the employment estimate from the Halcrow report. That study estimated that there were 7,400 full time and 1,700 part time workers in 2011.

The AMR and Halcrow estimates are based on different ONS datasets. The AMR figure is primarily based on the Inter Departmental Business Register, while the Halcrow study is based on the Business Register and Employment Survey. There is further discussion of the alternative approaches to estimating direct employment in Chapter 6 of the Halcrow report, available at: http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

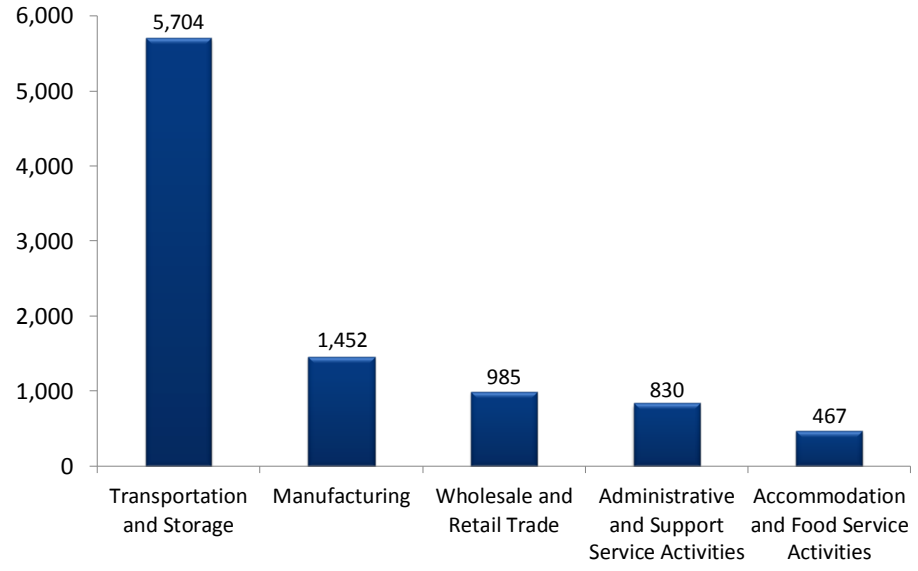
[7] Further details of the methodology used to develop the employment estimate are presented in Chapter 6 of the Halcrow report: http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

[8] http://www.london-luton.co.uk/en/content/8/243/annual-monitoring-report.html

[9] Based on Oxford Economics' regional model ,total employment in Luton Borough in 2013 was 94,000

Figure 2.1, below, shows the breakdown of London Luton Airport workers by sector. This suggests that 60 per cent of workers are employed in the transportation and storage sector; 15 per cent are involved in manufacturing; 10 per cent are employed in the retail trade and 9 per cent in administrative and supportive roles. The remaining 5 per cent work in accommodation and food service activities.[10]

Figure 2.1: London Luton Airport direct employment by broad sector, 2013



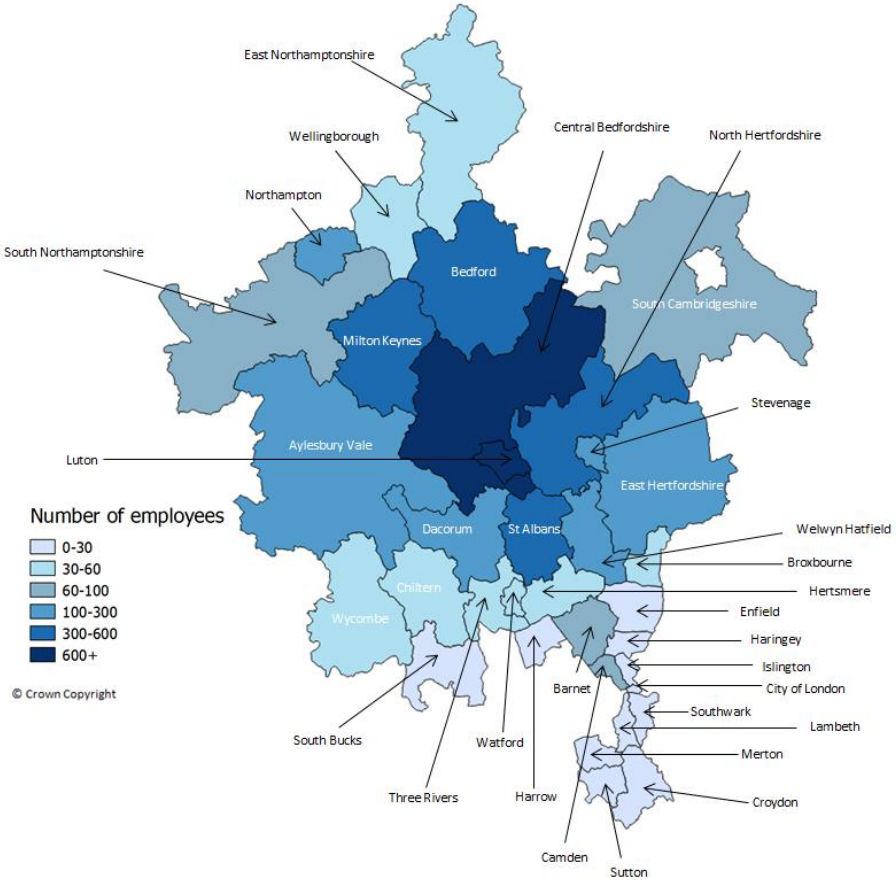
Source: Oxford Economics

To assess commuting patterns amongst those working at London Luton Airport, information on employees' post code of residence was obtained from LLAOL and a sample of airport employers. Using these data, which cover approximately 29 per cent of London Luton Airport employees, it is possible to estimate the number of employees that live in Luton and each of the surrounding local authorities.

[10] The sectoral split for employment was derived from the London Luton Airport employment sector breakdown presented in the Halcrow report. It was assumed that all sectors grew at the same rate between 2011 and 2013.

It is estimated that 29 per cent of London Luton Airport employees live in the borough of Luton (Figure 2.2). A further 31 per cent live in the nearby local authority areas of Central Bedfordshire, North Hertfordshire, Bedford and St Albans. In total, 77 per cent of employees live within the Three Counties sub-region, which comprises Bedfordshire, Buckinghamshire and Hertfordshire.

Figure 2.2: Estimated place of residence of London Luton Airport employees, 2013

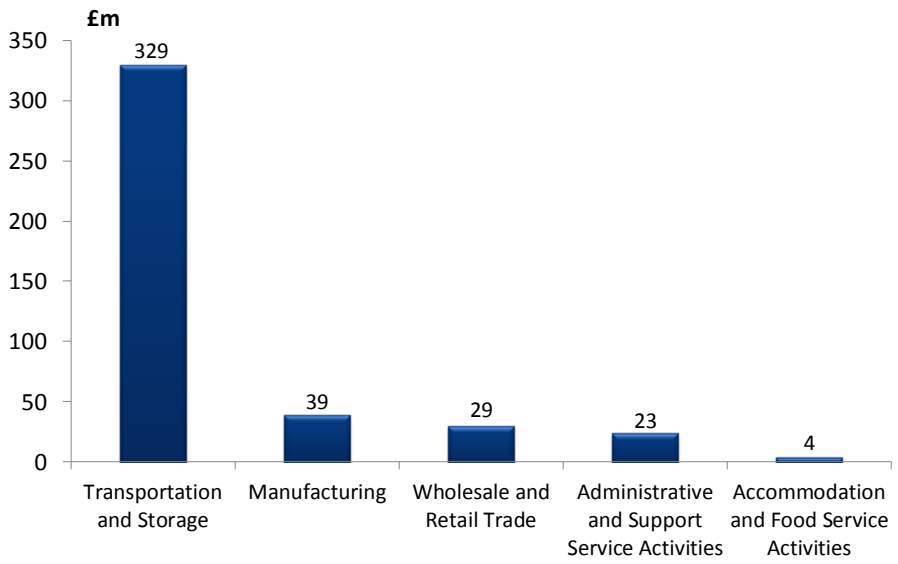


2.3 Direct contribution to GDP

The direct GDP impact of London Luton Airport comprises the total amount of income generated by the airport, either as wages for those employed at the airport, or as profits that accrue to firms at the airport. On this basis it is estimated that the direct GDP contribution of London Luton Airport in 2013 was £425 million. Just over three-quarters of this total came from the transport and storage sector (Figure 2.3). Further details of the methodology used to derive this estimate are set out at Appendix A.

The total direct GDP contribution of London Luton Airport in 2013 was £425 million

Figure 2.3: Direct GDP contribution of London Luton Airport by broad sector, 2013



Source: Oxford Economics

Box 2.2: Comparing the direct GDP contribution to the Halcrow estimates

The direct GDP contribution estimated for this study is not directly comparable to the "direct income injection" estimated in the 2012 Halcrow study. The Oxford Economics approach estimates the total amount of income (GDP) generated by the operation of the airport. In contrast, the Halcrow study focuses on the amount of income that flows from the airport to the local economy. The table below compares the components of the Halcrow and Oxford Economics estimates.

Table 2.1: Comparison between the Halcrow direct income injection and Oxford Economics direct contribution to GDP estimates

Halcrow direct income injection	Oxford Economics direct contribution to GDP
Wages and salaries of workers (excluding tax and NI)	Gross wages and salaries of workers
Direct profits accountable to local economy	All profits generated by firms at the airport are included
Direct business expenditure	Supply chain spending is accounted for within the estimates of indirect GDP impacts
Composite multiplier effect	Multiplier effects are accounted for within the estimates of indirect and induced GDP impacts

2.4 Direct contribution to gross wages

The gross wage bill of London Luton Airport workers was estimated by updating the previous results from the Halcrow study by growing the average wage per worker in line with wage growth from 2011 to 2013 for the Eastern region and then multiplying these wages by the new number of workers in each sector.[11] On this basis it is estimated that those employed at London Luton Airport received £356 million in gross wages in 2013.

It is estimated that the gross wage bill for London Luton Airport in 2013 was £356 million

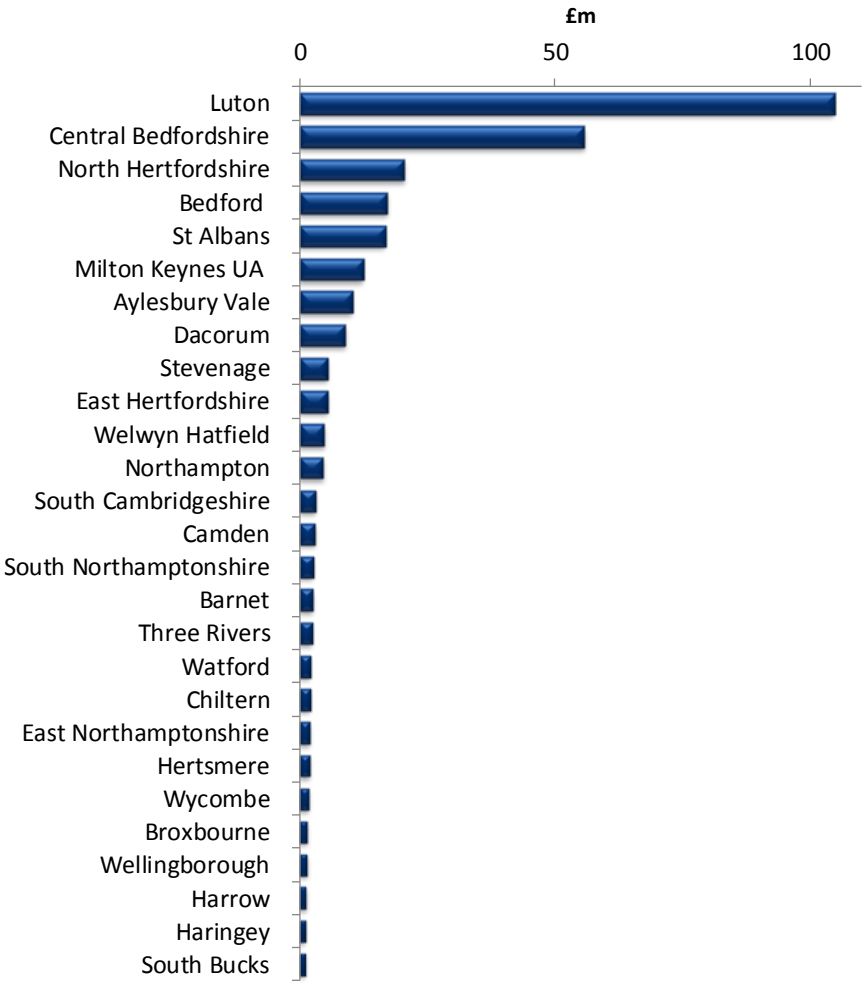
This suggests that the average gross wage at London Luton Airport is £38,000, compared to the national average of £27,000.

To robustly estimate the value of wages that accrue to workers residing in each of the surrounding local authority areas it would be necessary to gather information on average wage levels by district of residence for airport employees. However, information with this level of granularity was not available to the study team, and so it is not possible to assess any tendencies for higher or lower paid workers to live in particular areas.

[11] Wage growth data for the Eastern region was source from the ONS Annual Survey of Hours and Earnings.

Nonetheless, it is possible to obtain a broad indication of the value of wages that accrue to workers living in each local authority area by splitting the total wage bill using estimates for employees' place of residence. On this basis, employees who reside in Luton account for £105 million (or 29 per cent) of the gross wages supported by London Luton Airport. Central Bedfordshire residents account for a further 16 per cent, North Hertfordshire 6 per cent, and Bedford and St Albans account for 5 per cent each (Figure 2.4).

Figure 2.4: Indicative distribution of gross wages by employees' place of residence, 2013



Source: Oxford Economics

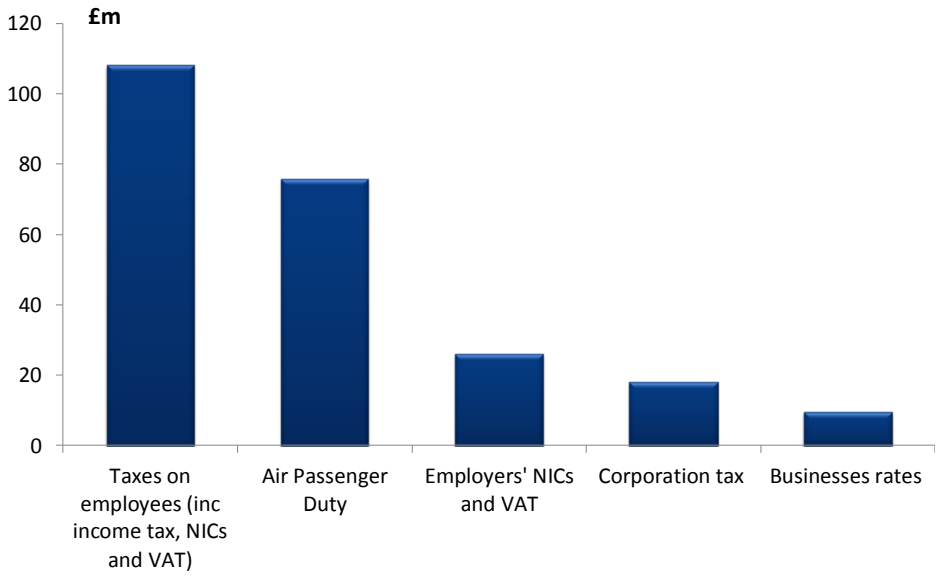
2.5 Direct contribution to tax revenue

This sub-section presents estimates of the value of tax revenues generated by businesses at London Luton Airport for the UK government in the form of employee and employer social security contributions; income tax levied on the earnings of the workforce; VAT paid by employees; employers' VAT and corporation tax; business rates; and Air Passenger Duty. Details of the techniques used to estimate the value of these revenues are described in Appendix A.

London Luton Airport directly generated £237 million in tax revenue in 2013

Overall, it is estimated that London Luton Airport directly generated £237 million in tax revenue in 2013. Taxes on employees account for £108 million, or 46 per cent, of this total. Air Passenger Duty accounts for £76 million, or just under one third.

Figure 2.5: Direct tax contribution of London Luton Airport, 2013



Source: Oxford Economics

3 Multiplier impacts and the total economic impact of London Luton Airport

Key points

UK impacts

- The indirect, or supply chain, contribution to UK GDP of London Luton Airport in 2013 was £338 million. This is estimated to have supported 7,700 jobs.
- The spending of London Luton Airport workers, and those in the airport's direct supply chain, is estimated to have supported a further £506 million contribution to UK GDP and 10,000 jobs.
- Adding these multiplier effects to the direct economic impact estimated in Section 2 suggests that the total UK economic impact of London Luton Airport in 2013 was a £1.3 billion contribution to GDP and 27,000 jobs.
- For every £1 London Luton Airport contributes to GDP itself, it creates another £2 elsewhere in the UK economy. The airport therefore has a GDP multiplier of 3.
- For every direct job the airport creates another 1.9 are created elsewhere in the UK economy. This means the airport's employment multiplier is 2.9.

Sub-regional impacts

- Within the Three Counties area, which includes Bedfordshire, Buckinghamshire and Hertfordshire, London Luton Airport supported a £732 million contribution to GDP and more than 16,000 jobs, including multiplier impacts.

Local impacts

- London Luton Airport supported a £533 million contribution to GDP and 12,000 jobs within the Borough of Luton in 2013, either directly, or through the impact of supply chain spending or the spending of workers. This is equivalent to 12 per cent of the local economy in terms of GDP and 13 per cent in terms of jobs.

The supply chain multiplier impact of London Luton Airport in 2013 is estimated to have been £338 million. This is estimated to have supported 7,700 jobs

3.1 Indirect and induced multiplier impacts

3.1.1 Multiplier impacts on the UK economy

The indirect, or supply chain, impacts of London Luton Airport are estimated using 'input-output' models which map the inputs required by firms at the airport to produce a unit of output. To illustrate this concept consider the following simple example: to provide aviation services that sell for £5 million, an aviation firm may need to purchase fuel for £1 million, airport services for £1 million and

professional and technical services for £0.5 million. In this example the aviation firm has generated a £2.5 million gross value added contribution to GDP (the value of its output less the cost of inputs), and £2.5 million in turnover for other firms in the supply chain. Input-output tables then enable us to estimate the size of the GDP contribution associated with the £2.5 million of supply chain expenditure.

Based on this approach, it is estimated that the indirect GDP contribution of London Luton Airport in 2013 was £338 million.

Induced impacts result from the spending of workers employed at London Luton Airport and in the airport's direct supply chain. Such impacts are mainly felt in sectors serving households such as hotels, restaurants and shops. The induced impact is again estimated using the input-output model, which provides ratios to estimate the value of wages generated by a given level of economic activity. From there it is possible to estimate consumer expenditure, and the induced contribution to GDP associated with that expenditure. Following this approach, it is estimated that the total induced contribution to UK GDP of London Luton Airport was £506 million in 2013.

The 'induced' impact of wage-financed spending by those working at the airport or in its supply chain was £506 million in 2013

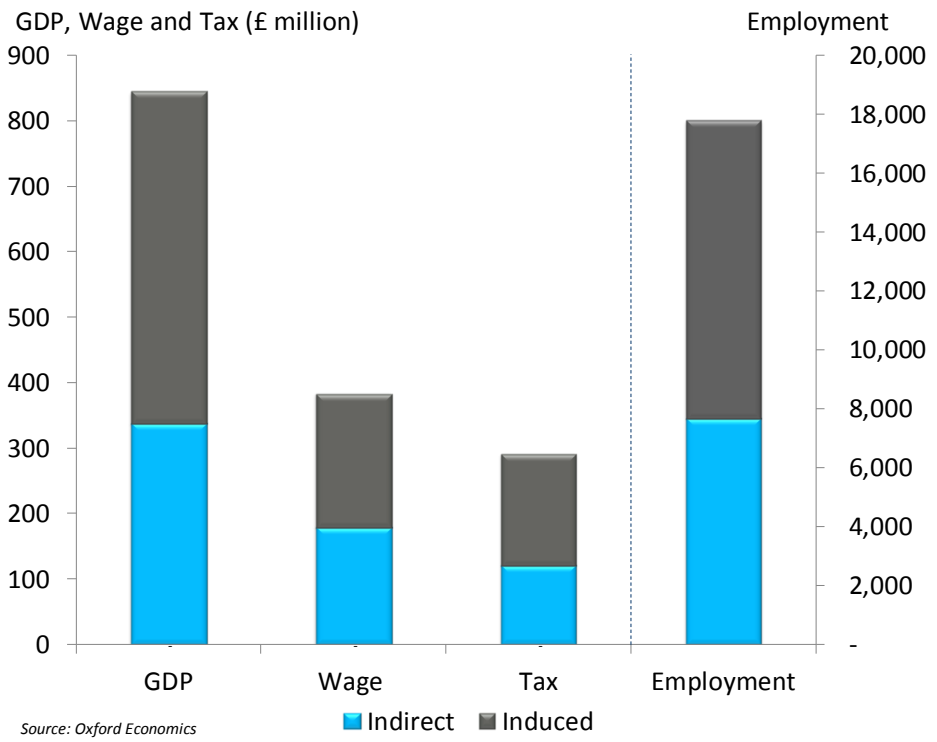
Applying productivity estimates to the indirect and induced GDP impacts enables the estimation of the number of jobs supported in the supply chain and in sectors where direct and indirect employees spend their wages. This suggests that London Luton Airport indirectly supported 7,700 jobs in 2013, while the spending of London Luton Airport workers and those in the supply chain supported a further 10,000 jobs.

These indirect and induced impacts are estimated to have supported gross wage payments of £181 million and £203 million, respectively, across the UK.

Finally, the indirect and induced activities generate further rounds of tax revenue for the UK government**.** The indirect and induced analysis has estimated revenues generated in the form of employee and employer social security contributions, income tax, employee VAT, and corporation tax. In 2013, the tax contributions from the indirect and induced impacts of London Luton Airport were £122 million and £169 million, respectively.

The indirect and induced impacts of London Luton Airport are summarised in Figure 3.1, below.

Figure 3.1: Indirect and induced impacts of London Luton Airport, 2013



Source: Oxford Economics

Box 3.1: Comparing the Oxford Economic approach to multiplier impacts to that used in the 2012 Halcrow study

The 2012 Halcrow study estimated the multiplier impacts of London Luton Airport using a single value of 1.33, taken from Department for Business Innovation and Skills (Oct 2009) *'Occasional Paper No 1 – Research to improve the assessment of additionality'*. That figure is primarily intended for use in the assessment physical infrastructure regeneration projects.

In contrast, the input-output modelling approach applied by Oxford Economics enables economic linkages to be traced between specific sectors of the economy and provides an analysis of multiplier effects that is tailored to reflect the specific circumstances of London Luton Airport and its supply chain. This approach also makes it possible to make a richer set of inferences about how multiplier impacts from the airport affect surrounding areas and sub-regions.

The Oxford Economics approach is based on the very latest 2010 ONS input-output tables, published in February 2014 (see Appendix A for more details).

3.1.2 Approach to estimating sub-regional and local multiplier impacts

The analysis above presented the indirect and induced impacts at the UK level. An important element of this study, though, is to consider the geographical distribution of these multiplier effects to understand how London Luton Airport affects levels of economic activity in surrounding sub-regions and local areas.

Information on the geographical distribution of supply chain expenditure has been gathered from major firms based at London Luton Airport. In total, this information covers around eight per cent of London Luton Airport's estimated supply chain purchases and for this portion of spending it is possible to develop a very accurate picture of the distribution of supply chain impacts. Oxford Economics has estimated the remaining 92 per cent of supply chain spending using inter-regional input-output models developed by Oxford Economics based on established academic techniques.[12] Further details of this approach are set out at Appendix A.

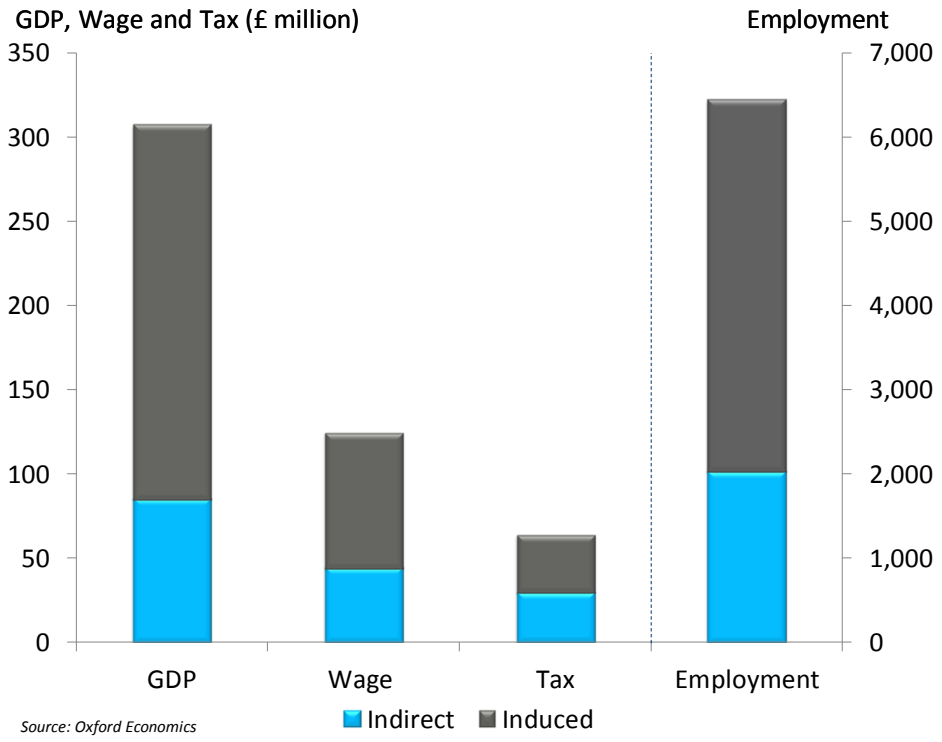
In the case of induced effects, no 'real' data are available to identify where London Luton Airport workers actually spend their wages. Nonetheless, it seems reasonable to assume that most spending is likely to take place close to workers' place of residence, and will therefore support GDP and employment in those areas. This is the starting point for our analysis of induced impacts, but in cases where this results in an unrealistically large injection to the local economy (given the economic structure and average spending per head in that local area), induced impacts are assumed to spill over into neighbouring areas. Again, further details of the methodology are presented in Appendix A.

[12] Flegg A. T. and Webber C. D. (1997) On the appropriate use of location quotients in generating regional input-output tables: reply, Reg. Studies 31, 795−805.

3.1.3 Sub-regional multiplier impacts

Across the Three Counties (which comprises Bedfordshire, Buckinghamshire and Hertfordshire) we estimate that the supply chain and induced wage spending impacts of London Luton Airport support a £308 million contribution to GDP and almost 6,000 jobs. Gross wage payments to workers supported by this indirect and induced activity are estimated to total £125 million, and £64 million of tax is generated for the UK Exchequer (Figure 3.2).

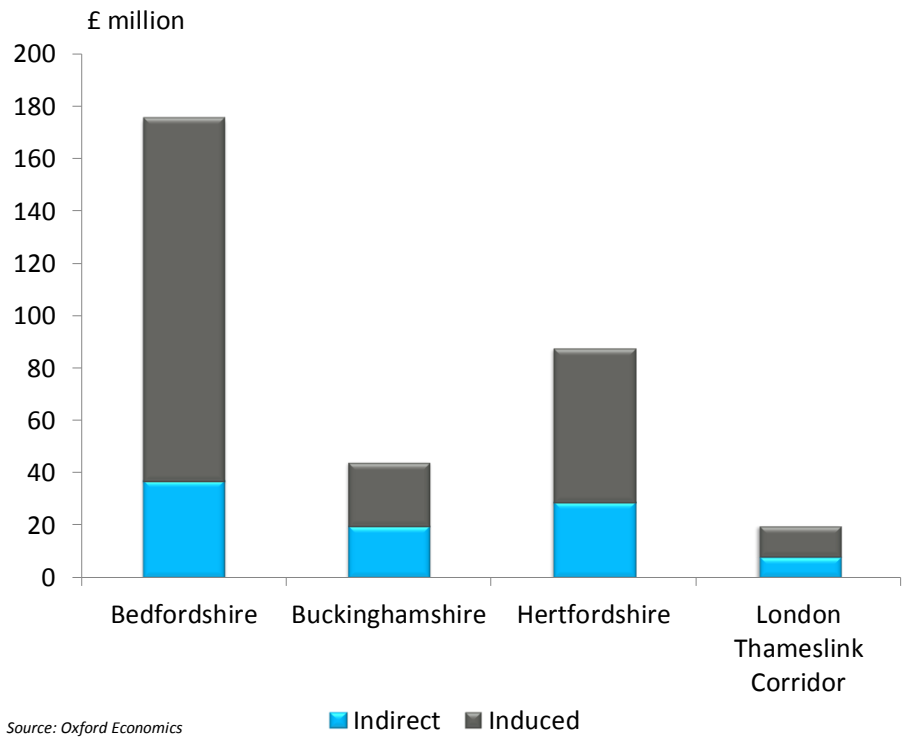
Figure 3.2: Indirect and induced impacts of London Luton Airport in the Three Counties sub-region



It is also possible to view these results for the individual counties within the Three Counties area, and for the London Thameslink Corridor (Figure 3.3, below). This reveals that the largest multiplier impacts occur within Bedfordshire, where the airport supports an indirect GDP contribution of £37 million and an induced GDP contribution of £138 million. The concentration of multiplier impacts within Bedfordshire reflects the strength of the airport's supply chain linkages with the immediately surrounding area, and the fact that 50 per cent of direct workers (and therefore much of their spending) reside in Bedfordshire.

In contrast, relatively fewer workers live in the boroughs of the London Thameslink corridor and so the induced GDP impact of London Luton Airport is smaller in that sub-region. When supply-chain impacts are also taken into account, it is estimated that London Luton Airport supports a £20 million contribution to GDP in the Thameslink Corridor.

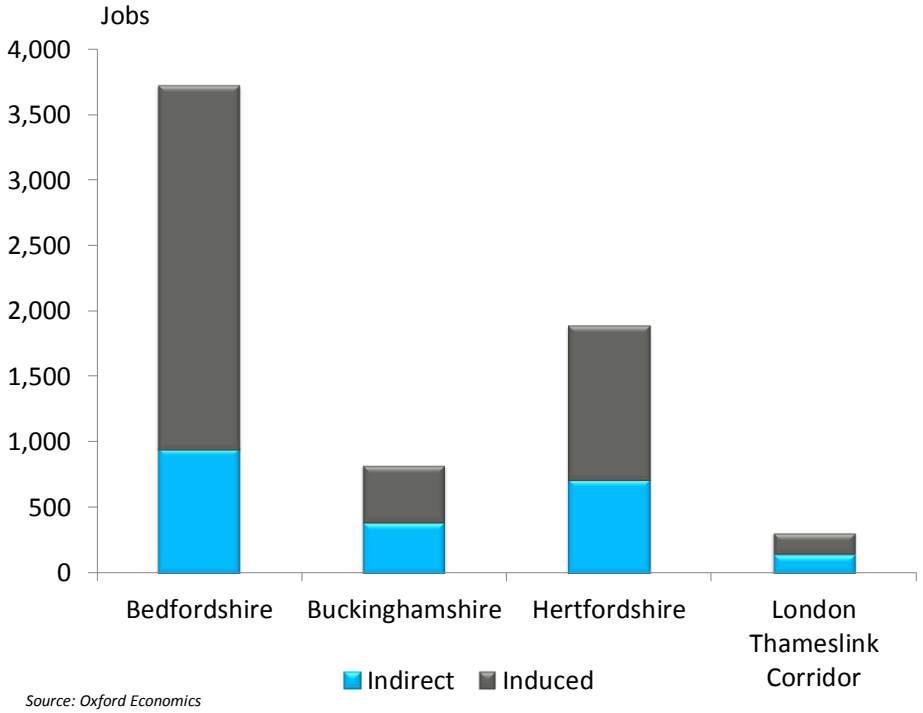
Figure 3.3: Indirect and induced GDP impact of London Luton Airport within surrounding counties and the Thameslink Corridor, 2013



Source: Oxford Economics

Using productivity data in conjunction with the GDP estimates above provides an estimate of the number of jobs supported by the multiplier impacts of London Luton Airport. This suggests that the indirect and induced impacts of London Luton Airport support around 3,700 jobs in Bedfordshire, 1,900 in Hertfordshire, 800 in Buckinghamshire, and 300 in the Thameslink Corridor (Figure 3.4).

Figure 3.4: Indirect and induced employment impacts of London Luton Airport within surrounding counties and the Thameslink Corridor, 2013

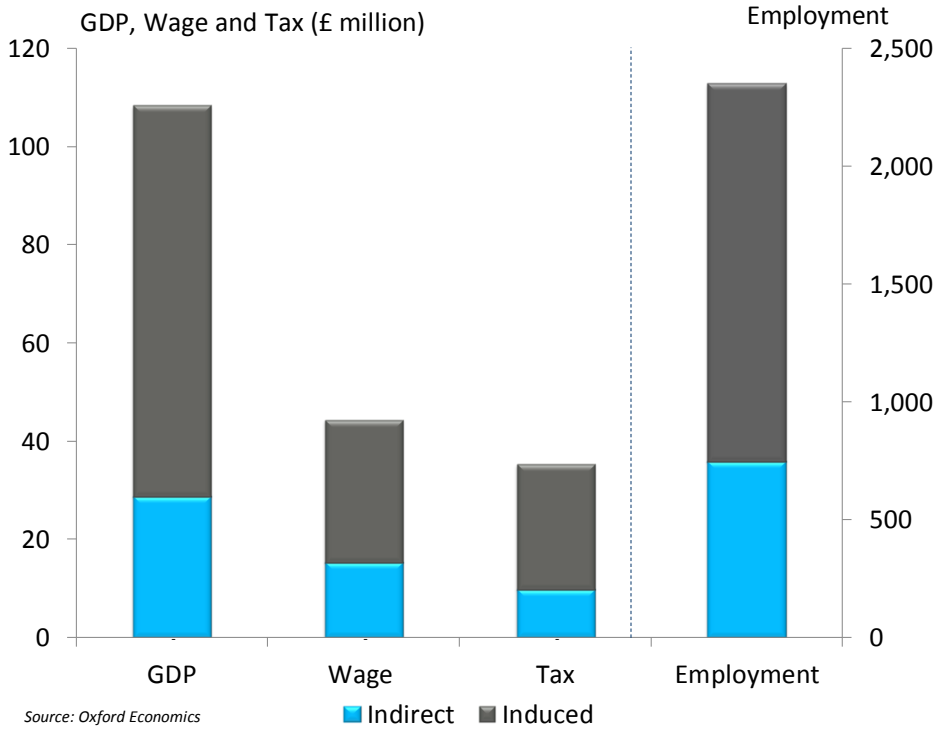


Source: Oxford Economics

3.1.4 Local multiplier impacts

At a local level, and consistent with the findings above for Bedfordshire, the greatest multiplier impacts are estimated to occur in the immediate vicinity of the airport. Our analysis suggests that the indirect and induced impact of London Luton Airport generated an £108 million contribution to the GDP of Luton Borough in 2013. This activity supported £44 million in gross wages, 2,300 jobs, and £35 million in taxes for the UK Exchequer.

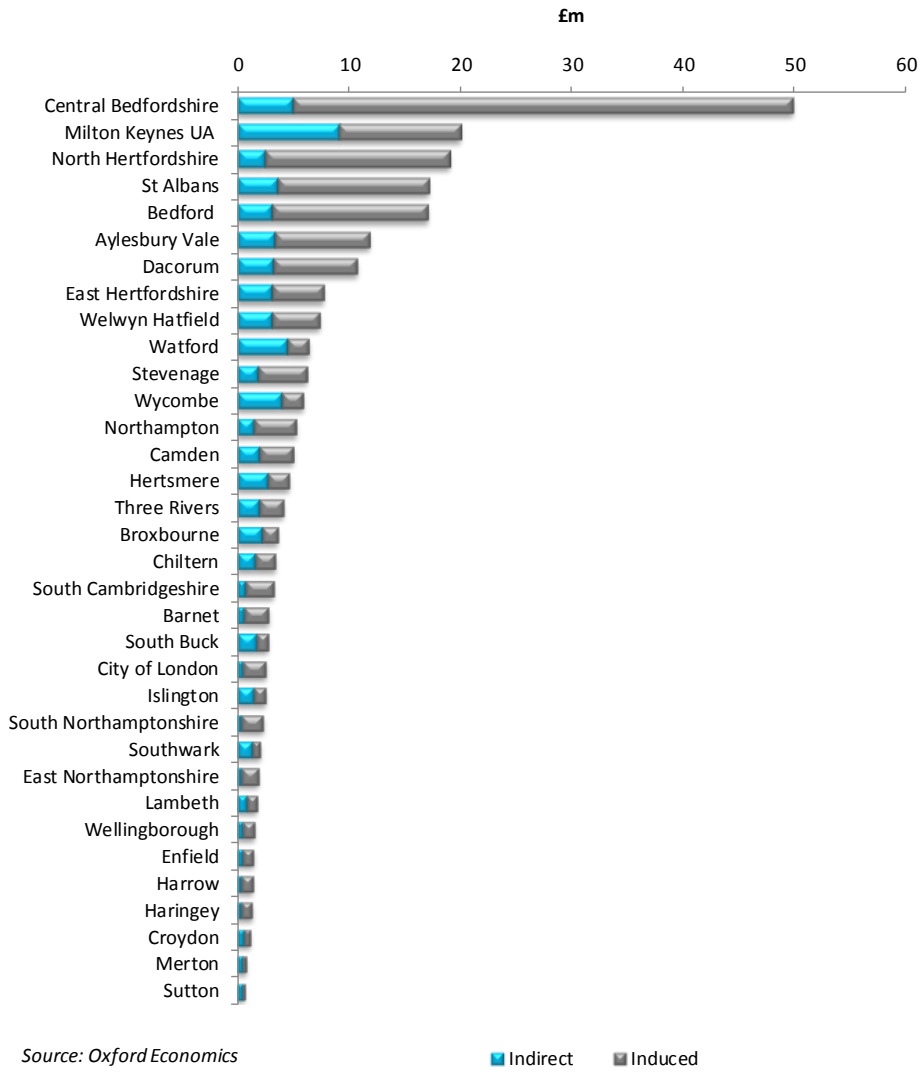
Figure 3.5: Indirect and induced impacts of London Luton Airport in Luton Borough, 2013



Source: Oxford Economics

Figure 3.6, below, extends the analysis to other local authority areas considered in the study. Of particular note is the large induced GDP impact in Central Bedfordshire, where 16 per cent of London Luton Airport workers are estimated to reside.

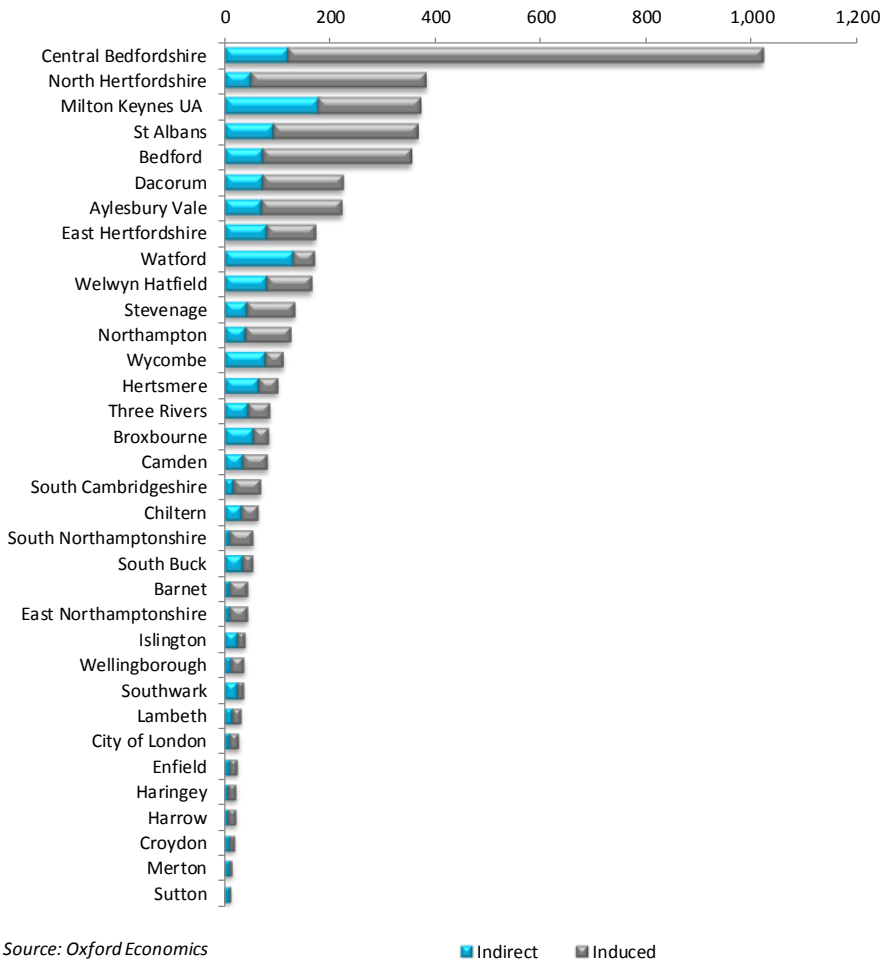
Figure 3.6: Indirect and induced GDP impacts of London Luton Airport by local authority area, 2013



Source: Oxford Economics

As with the sub-regional analysis, productivity data can be used to estimate the number of jobs supported by the airport's multiplier impacts in each local authority area. Once again, the largest impact outside of Luton Borough is estimated to occur in Central Bedfordshire, where just over 1,000 jobs are supported.

Figure 3.7: Indirect and induced employment impact of London Luton Airport by local authority area, 2013



Source: Oxford Economics

3.2 Total economic impact

3.2.5 UK total economic impact

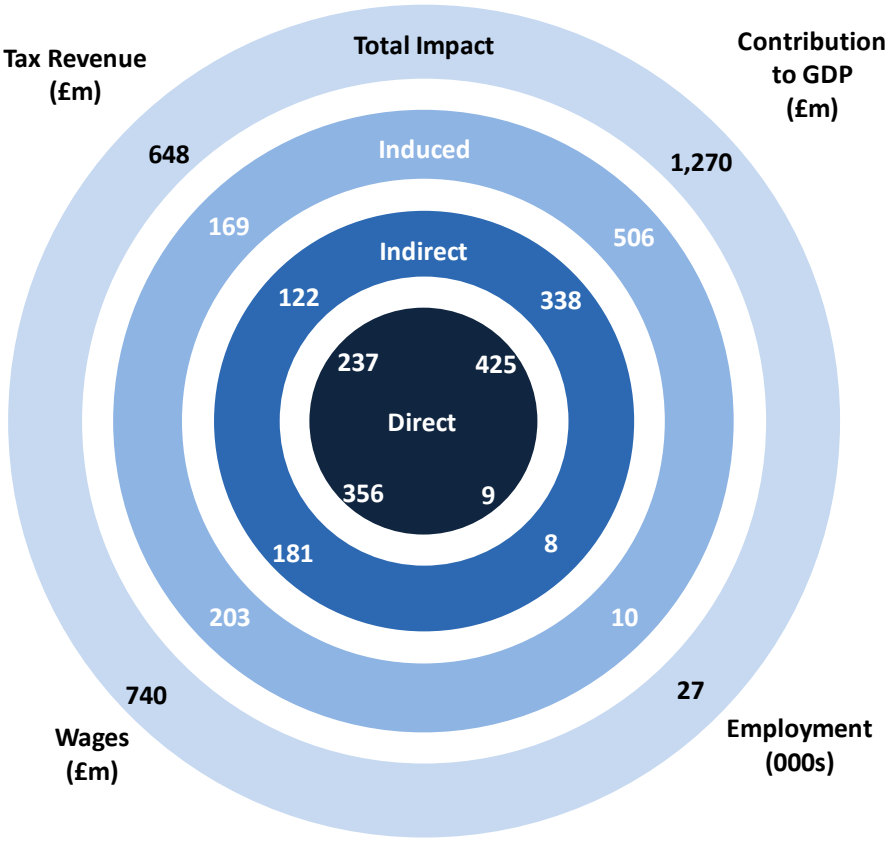
Adding the direct economic impact discussed in Section 2 to the multiplier effects above gives the total economic impact of London Luton Airport. On this basis the airport's total contribution to UK GDP is estimated to have been £1.3 billion in 2013. This means that for every £1 London Luton Airport contributes to GDP itself, it creates another £2 elsewhere in the UK economy. The airport therefore has a GDP multiplier of 3.[13]

The total GDP contribution of London Luton Airport in 2013 is estimated to have been £1.3 billion

London Luton Airport is estimated to have supported a total of over 27,000 jobs in 2013, either directly through the airport's own activities, through its supply-chain, or through the induced expenditure of employees. For every direct job the airport creates another 1.9 are created elsewhere in the UK economy. This means the airport's employment multiplier is 2.9.

London Luton Airport is also estimated to support a total of £740 million in gross wage payments and £648 million tax revenue.

Figure 3.8: Total UK economic impact of London Luton Airport, 2013

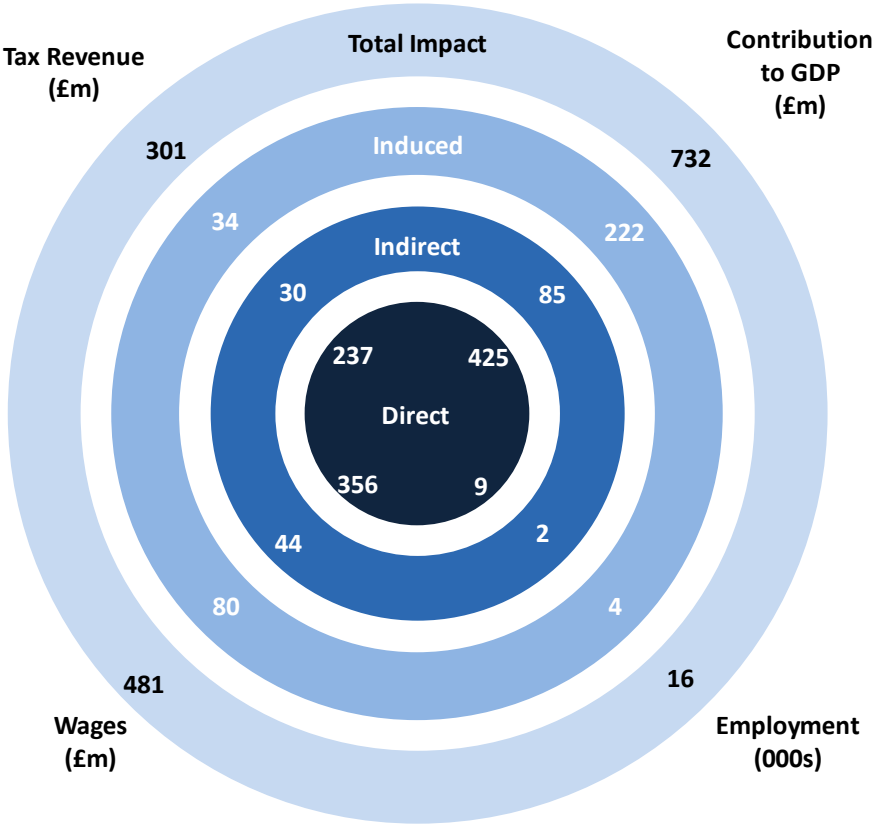


[13] The multiplier is calculated as: (Direct GDP + Indirect GDP + Induced GDP) / Direct GDP

3.2.6 Sub-regional total economic impact

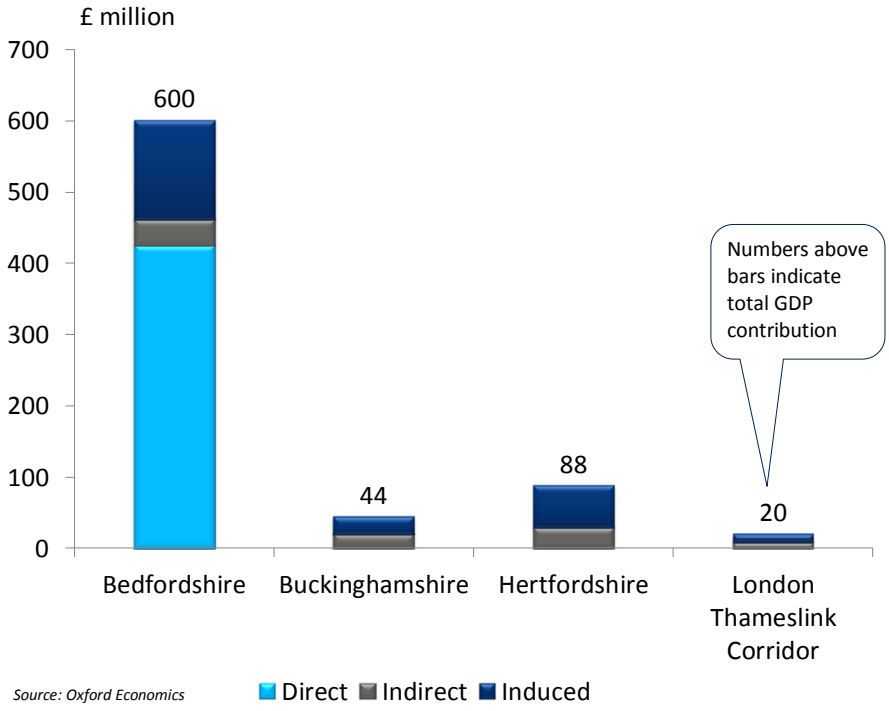
For the Three Counties sub-region the airport's activities supported a total GDP contribution of £732 million, 16,000 jobs, £481 million in gross wages and £301 million in tax revenue (Figure 3.9).

Figure 3.9: Total economic impact of London Luton Airport within the Three Counties sub-region, 2013



Within the Three Counties sub-region, by far the greatest impact of the airport accrues to Bedfordshire. This is because Bedfordshire receives the direct economic impact of having the airport located within its boundaries, as well as large multiplier effects from supply chain linkages between the airport and the immediately surrounding areas. It also benefits from the spending of the large number of airport workers that live and spend money in the county.

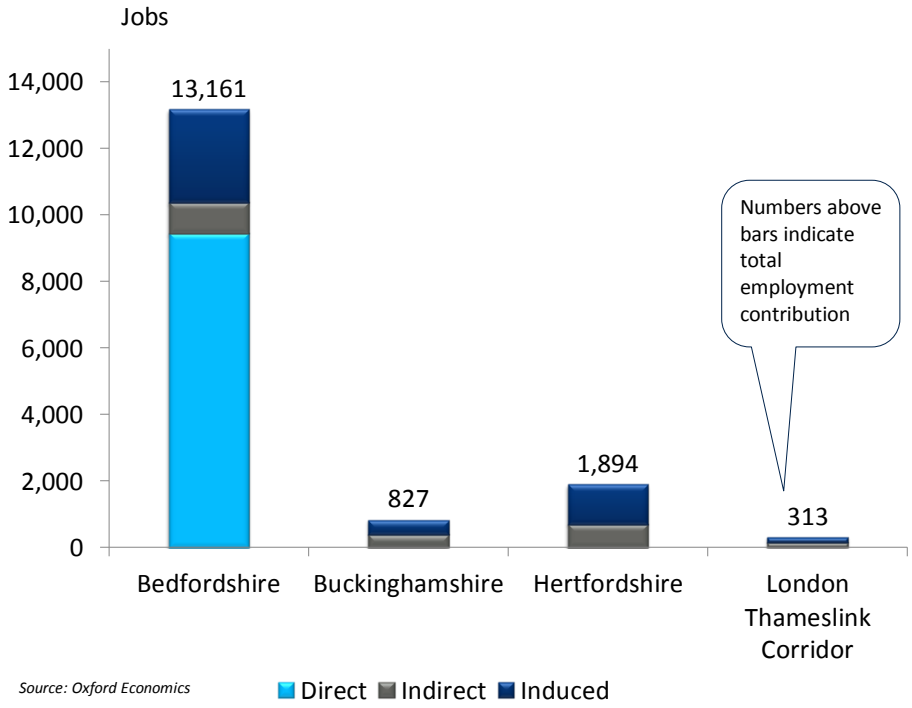
Figure 3.10: Total GDP contribution of London Luton Airport in the surrounding counties and the Thameslink Corridor, 2013



Source: Oxford Economics

Along similar lines, the total employment impact is also concentrated in Bedfordshire, where London Luton Airport supports a total of over 13,000 jobs, including the 9,400 jobs at the airport itself, and a further 3,700 jobs as a result of indirect and induced multiplier effects.

Figure 3.11: Total employment contribution of London Luton Airport in the surrounding counties and the Thameslink Corridor, 2013

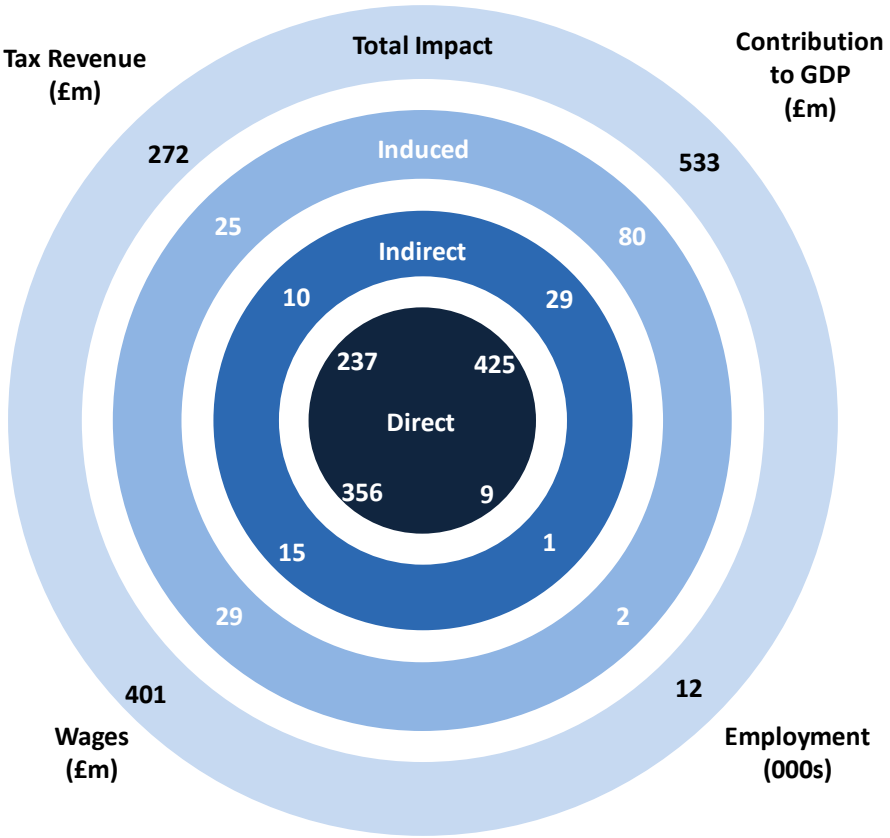


Source: Oxford Economics

3.2.7 The total economic impact of London Luton Airport at the local level

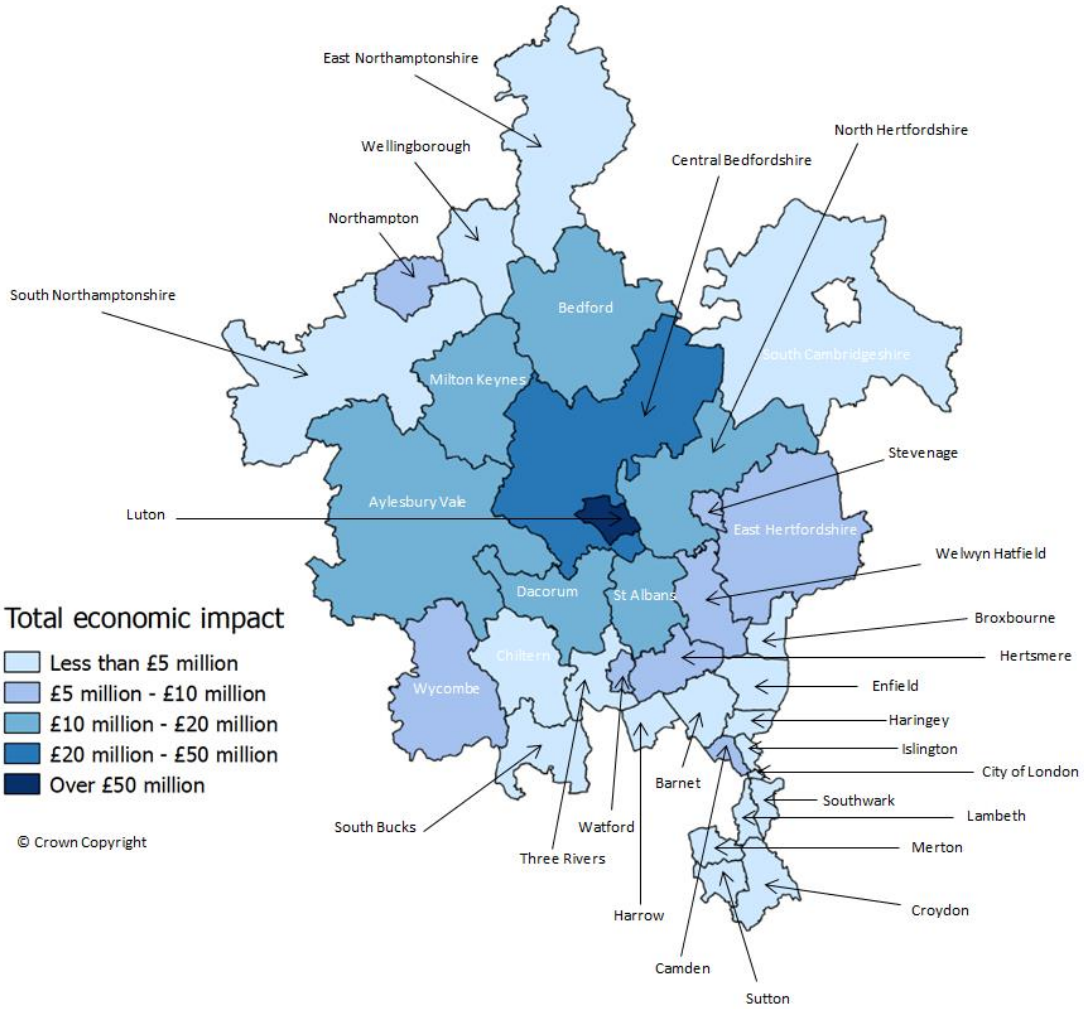
In 2013 the airport's activities supported a £533 million contribution to Luton Borough GDP, 12,000 local jobs, £401 million in gross wages and £272 million in tax revenue for the UK Exchequer.

Figure 3.12: Total economic impact of London Luton Airport in Luton borough, 2013



The total GDP impact of London Luton Airport across all of the local areas considered in the study is shown in Figure 3.13, below.

Figure 3.13: Total GDP impact by local authority area



4 The potential future economic impact of London Luton Airport under alternative scenarios

Key points

Direct impacts

- Under the baseline scenario, which assumes no significant infrastructure development, the airport's direct GDP contribution is projected to increase from £425 million in 2013 to £554 million in 2030. Productivity growth means that London Luton Airport is expected to directly employ 178 fewer workers in 2030 than in 2013 in this scenario.
- The development scenario assumes that development occurs to permit passenger numbers to increase to a maximum of 18 million passengers by 2020. Under this scenario the direct GDP contribution of the airport is projected to reach £781 million in 2030, which is £228 million higher than in the baseline scenario. The airport is projected to directly support the creation of a total of more than 3,600 jobs between 2013 and 2030 under this scenario.

Labour availability

- Across the UK as a whole, those working in job roles closely associated with airports tend to be better paid than workers in other occupations that require similar levels of skills.
- The 3,600 jobs that London Luton Airport is expected to create by 2030 under the development scenario is forecast to include 1,100 posts in the three highest-skilled occupational groups, which include roles such as aeronautical engineers, aircraft pilots and flight engineers. Around 2,500 unskilled posts are expected to be created in roles such as customer advisors, baggage handlers and storage workers.

Total economic impact

- Under the baseline scenario, the total GDP contribution of London Luton Airport, including multiplier effects is projected to be £1.7 billion in 2030, compared to £2.3 billion under the development scenario.
- The total number of jobs supported by London Luton Airport and its multiplier effects in the baseline scenario is projected to decrease from 27,200 in 2013 to 26,700 in 2030 due to productivity growth. However, under the development scenario the total number of jobs supported is expected to grow to 37,700 in 2030.
- Within the Three Countries sub-region, the total GDP contribution of London Luton Airport is estimated to reach £1 billion in 2030 under the baseline scenario, or £1.4 billion under the development scenario. Under the development scenario employment increases to 22,600 in 2030, compared to 16,000 in the baseline scenario.

4.1 Introduction

This section considers the future economic contribution of London Luton Airport under two scenarios reflecting alternative levels of infrastructure development and, therefore, passenger growth. The passenger forecasts associated with each scenario have been provided by LLAOL and are shown in Figure 4.1. The two scenarios are described below.

Baseline scenario

There are no significant infrastructure developments. Passenger numbers continue to grow to 12.6 million passengers per annum (mppa) by 2017, at which point the airport will be operating at full capacity and cannot accommodate any further passenger growth. The airport will maintain 12.6 mmpa until 2030.

Development scenario

This scenario assumes that infrastructure developments outlined in London Luton Airport's 2012 Master Plan are implemented. The key components of the Master Plan proposals include:

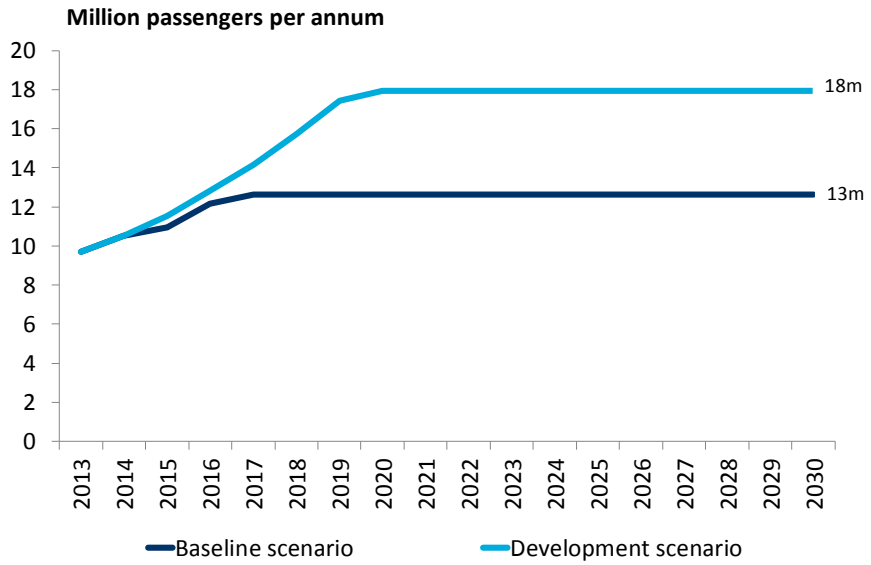
- Dualling of the road from the Holiday Inn roundabout to the Central Terminal Area
- Improvements to the public transport area adjacent to the terminal
- Improvements to the terminal building involving internal reorganisation and minor extensions and building works
- Construction of a new pier
- Provision of a new taxiway parallel to Taxiway Delta
- Taxiway extensions and rationalisation of aircraft parking areas with new stands replacing and improving existing stands
- Construction of a multi-storey car park on part of the existing short-term car park (STCP), to provide additional parking capacity if passenger demand arises in the future.[14]

These improvements allow the airport to grow to 17.8 mppa by 2020, at which point it will have reached its new level of capacity.

[14] The master plan can be located here: http://www.london-luton.co.uk/en/content/8/1171/revised-masterplan.html

Projected passenger numbers under each scenario are shown in Figure 4.1, below.

Figure 4.1: Passenger forecasts under the two scenarios



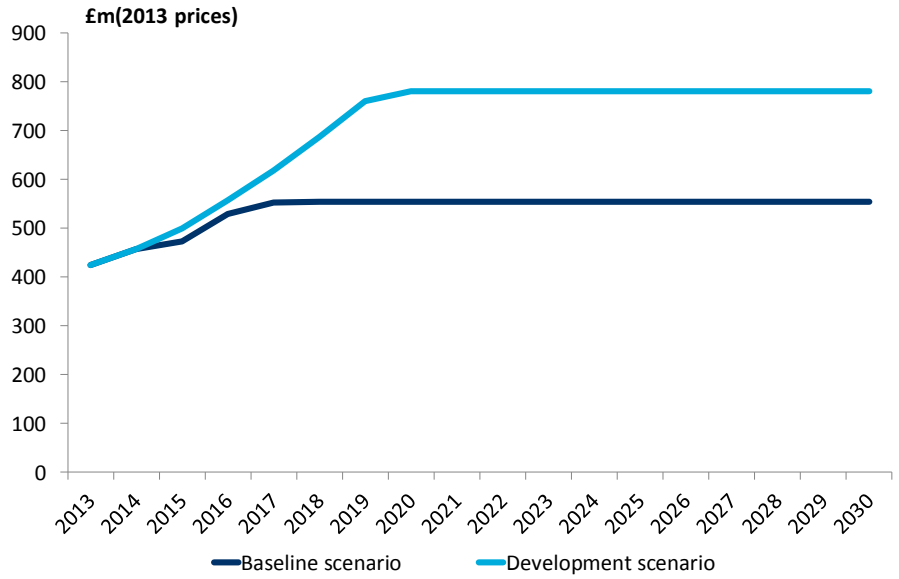
Source: LLAOL & Oxford Economics

4.2 The direct impact of London Luton Airport under alternative scenarios

The analysis assumes that the nominal GDP supported by the airport increases in line with passenger numbers and the consumer price index. So in real terms, the GDP growth rate of the airport reflects the growth rate of airport passengers.

Figure 4.2, below, compares the real (2013 prices) direct GDP contribution of London Luton Airport to 2030 under the two scenarios. Under the baseline scenario, the airport's direct GDP contribution increases from £425 million in 2013 to £554 million by 2030 - an increase of £129 million over the forecast period. Under the development scenario (18 mppa), stronger passenger growth means that the GDP contribution of the airport reaches £781 million in 2030. This is £228 million higher than under the baseline scenario.

Figure 4.2: Forecast direct Gross Value Added contribution to GDP of London Luton Airport, 2013 to 2030



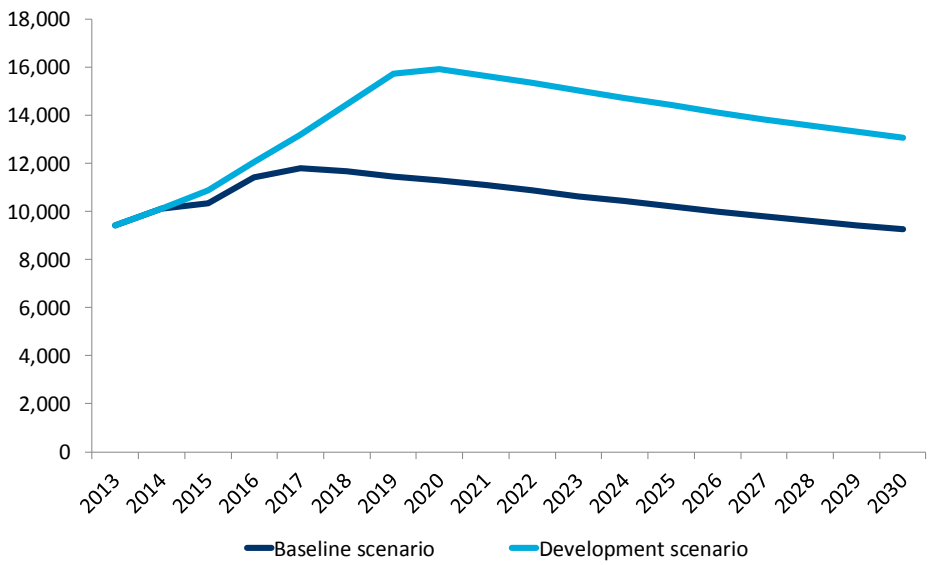
Source: Oxford Economics

The airport could generate up to 3,600 jobs between 2013 and 2030

As passenger numbers and the airport's GDP contribution increase, employment levels will also increase. Our analysis assumes that productivity in the aviation industry increases in future years so that, over time, the number of jobs created per additional mppa declines.

Under the baseline scenario, our calculations suggest that London Luton Airport will need 178 fewer jobs in 2030 than in 2013 due to improvements in labour productivity. In contrast, under the development scenario, London Luton Airport is projected to support the creation of more than 3,600 jobs between 2013 and 2030 since the airport's need for additional workers to service passenger growth far outweighs the impact of productivity growth.

Figure 4.3: Forecast direct employment at London Luton Airport, 2013 to 2030



Source: Oxford Economics

Box 4.1: Comparing the Oxford Economics employment forecast with the Halcrow study

Our analysis suggests that London Luton Airport could directly create 3,600 jobs between 2013 and 2030 under the development scenario. This result is lower than Halcrow finding that employment could increase by 5,100 between 2011 and 2028 under the development scenario.

The two results relate to slightly different time periods. Moreover, the Halcrow estimate relates to full time equivalent posts, whereas the Oxford Economics figure relates to total jobs (full time plus part time).

However, the main reason for the difference is a different assumption concerning future productivity growth. The Halcrow study assumes that productivity remains fixed once airport capacity has been reached, and notes that this is a "*conservative estimation as in practice some degree of productivity gains in airport employment is likely to continue despite traffic level reaching capacity".* In contrast, Oxford Economics assume that productivity in the aviation sector continues to increase in future years so that the number of jobs created per additional mppa declines.

While the Halcrow approach is conservative in terms of productivity, the Oxford Economics approach produces a more conservative estimate of employment growth (since stronger productivity growth means that fewer workers would be needed to deliver a given level of GDP growth).

The forecasts in this section relate to London Luton *Airport* and are therefore conceptually different to the forecasts of Luton *Borough* included in the East of England Forecasting Model used by SEMLEP and other stakeholders.[15] Nonetheless, comparing the projections for London Luton Airport with Oxford Economics' very latest Luton Borough projections[16] provides an indication of the extent to which the airport's share of the local economy might change under each scenario. The results from this exercise are shown in Table 4.1, below.

Table 4.1: The importance of London Luton Airport to the Luton Borough economy under alternative scenarios

Scenarios	London Luton Airport as % of Luton borough	
	GDP	Employment
Baseline	8%	9%
Development scenario	11%	12%

[1515] http://www.cambridgeshireinsight.org.uk/EEFM

[16] The very latest Local Model forecasts were used in this analysis instead of the forecasts from East of England Forecasting Model. The Local Model forecasts are effectively an updated version of the numbers in the East of England Forecasting Model, and incorporate the latest National Accounts data.

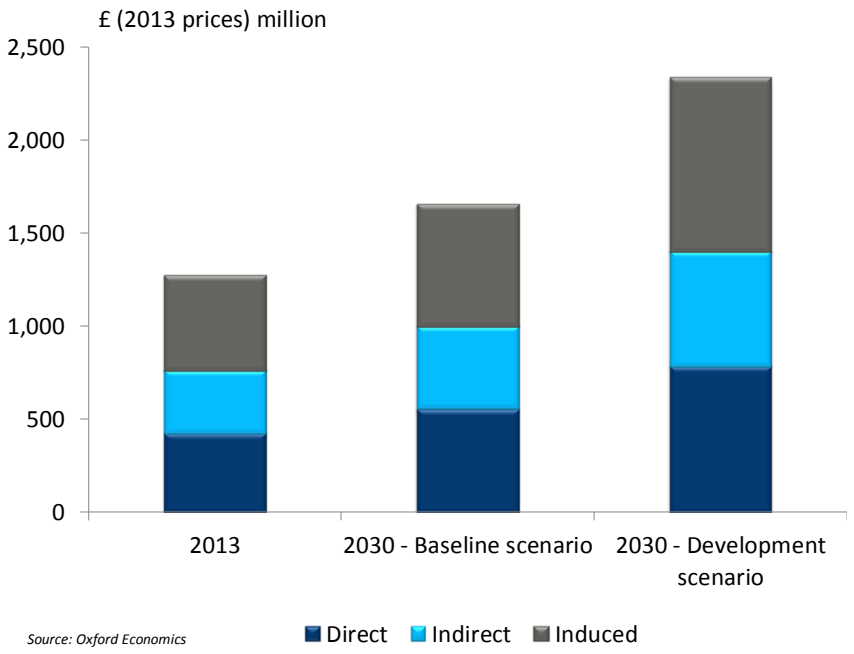
4.3 The total economic impact of London Luton Airport under alternative scenarios

This section presents estimates of the total economic impact, including multiplier effects, of London Luton Airport under the alternative scenarios.

4.3.1 The total UK economic impact

Under the baseline scenario, the total GDP contribution of London Luton Airport to the UK economy is estimated to reach £1.7 billion in 2030. This increases to £2.3 billion under the development scenario. In other words, the total GDP contribution of London Luton Airport could be 41 per cent greater if capacity is increased.

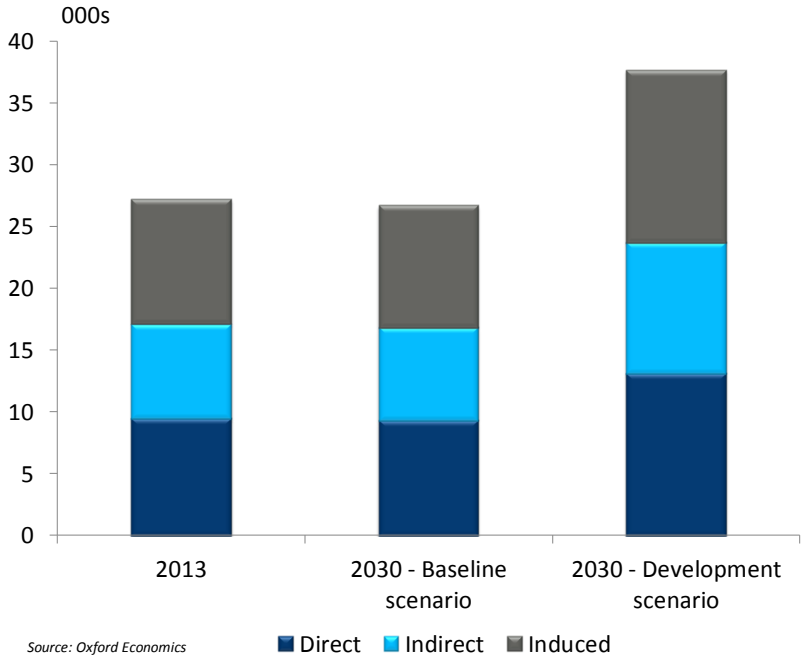
Figure 4.4: Forecast total GDP contribution of London Luton Airport to the UK economy, 2013 to 2030



Source: Oxford Economics

In the baseline scenario, the total number of UK jobs supported by London Luton Airport is projected to decrease from 27,200 in 2013 to 26,700 in 2030 due to productivity improvements across the economy. However, under the development scenario, the total number of jobs supported by London Luton Airport is projected to grow to 37,700 in 2030.

Figure 4.5: Forecast total UK employment contribution of London Luton Airport, 2013 to 2030

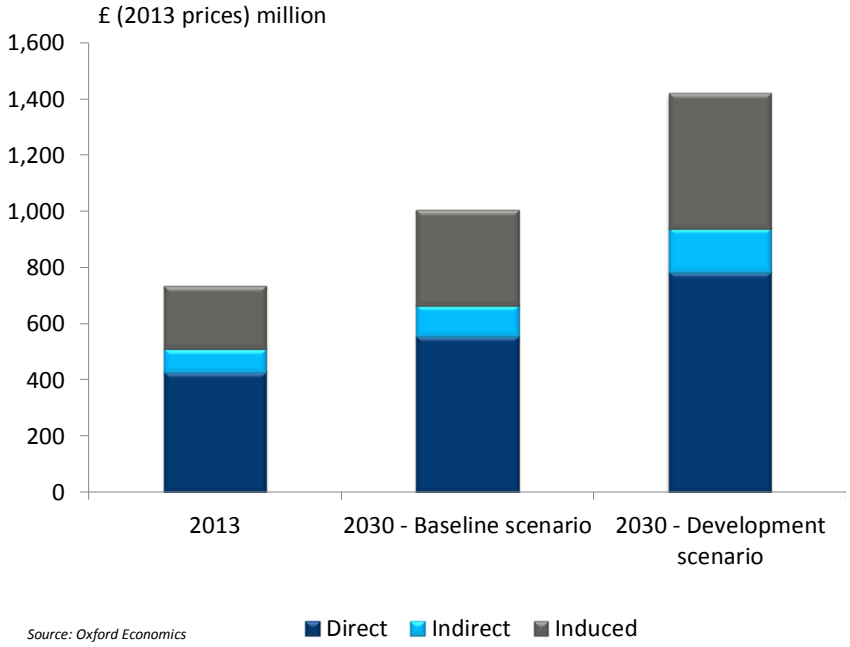


Source: Oxford Economics

4.3.2 Sub-regional total economic impact

Under the baseline scenario, the total GDP contribution of London Luton Airport to the Three Counties sub-regional economy is estimated to reach £1 billion in 2030. This increases to £1.4 billion under the development scenario.

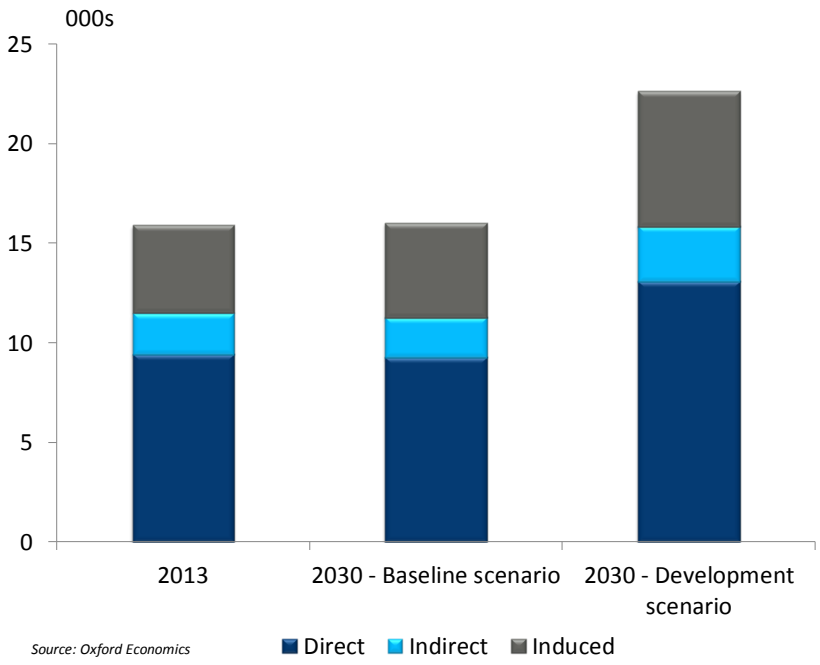
Figure 4.6: Forecast total GDP contribution of London Luton Airport to the Three Counties sub-regional economy, 2013 to 2030



Source: Oxford Economics

In contrast to the UK results, at the Three Counties level the total employment contribution of London Luton Airport is projected to increase very slightly from 15,900 in 2013 to 16,000 in 2030 in the baseline scenario. This reflects an increase in the induced contribution over this period as developments in the sub-regional economy lead to less 'leakage' of the wage spending impact to other parts of the UK. Under the development scenario employment is projected to increase much more markedly to 23,000 in 2030.

Figure 4.7: Forecast total Three Counties sub-regional employment contribution of London Luton Airport, 2013 to 2030



Source: Oxford Economics

4.4 Occupational analysis

4.4.1 Introduction to occupational analysis

The analysis above identified the number of workers the airport is likely to need under the baseline and development scenarios. This final sub-section considers the types of workers employed at the airport, and how these needs may change as the airport grows.

It is important to note at the outset that very little detail is available on the occupations and skills levels of workers employed at London Luton Airport. It is therefore necessary to use information from a number of official datasets to make inferences about the likely characteristics of the airport's workers. The analysis is split into two parts. The first part considers typical occupations of workers employed in airport-related sectors, and the wages of those workers. The second part of the analysis provides an indicative occupational breakdown for workers at London Luton Airport, and suggests how the numbers of workers in each occupational group may change as the airport expands.

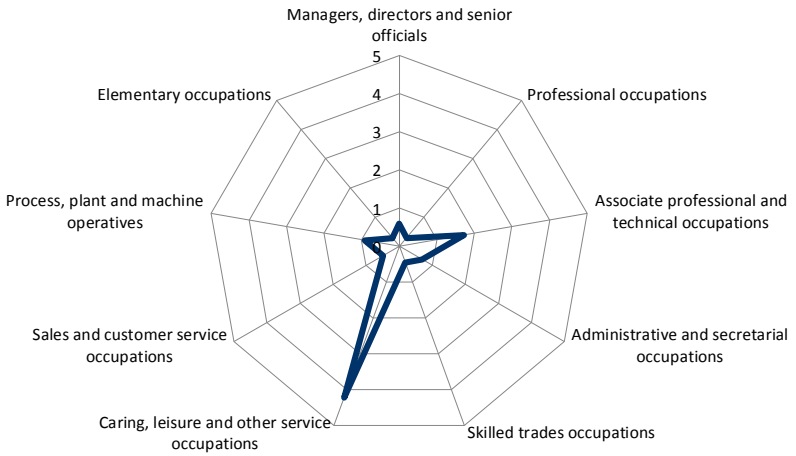
4.4.2 Typical occupations of airport workers in the UK

Using data from the 2011 Census, it is possible to identify the occupations of workers employed in certain sectors that are closely related to economic activity at airports. This is possible for two sectors: air transport and aerospace manufacturing, which together account for 76 per cent of jobs at London Luton Airport. For other sectors with a concentration of jobs at London Luton Airport, such as retail and hospitality published data do not permit aviation-related activity to be distinguished from broader, economy-wide trends. As such, these activities are not considered here.

Air transport (SIC category 51)

Across the UK as a whole, the 2011 Census suggests that 82,000 people are employed in the air transport sector. The same dataset provides information on the occupations of those employed in the air transport sector, denoted by the ONS Standard Occupational Classification. Figure 4.8 summarises the concentration of workers in each broad occupational group in the air transport sector compared to that for the economy as a whole (a value of 1 in the diagram indicates that the concentration of workers in a particular occupational group is in line with the average for all sectors).[17] This reveals that air transport has above-average shares of workers in higher-skill professional and technical roles and lower-skill roles in caring and leisure service occupations.

Figure 4.8: Occupational quotient of workers in the air transport sector relative to the economy as a whole



Note: 1=average for all sectors
Source: Census 2011

[17] Location Quotient = (Specific Occupation Employment Air Transport Sector)/(All Occupation Employment Air Transport Sector)/ (Specific Occupation Employment All Sectors/ All Occupation Employment All Sectors)/

Given the study's interest in understanding the economic impact of London Luton Airport, it is useful to consider the wage levels of workers in air transport-related occupations. To do this we focus on nine detailed occupations which together account for 70 per cent of all UK workers in the air transport sector. These are shown in Table 4.2, ranked from highest skilled to lowest skilled.

Table 4.2: Most common occupations for workers in the air transport sector[18]

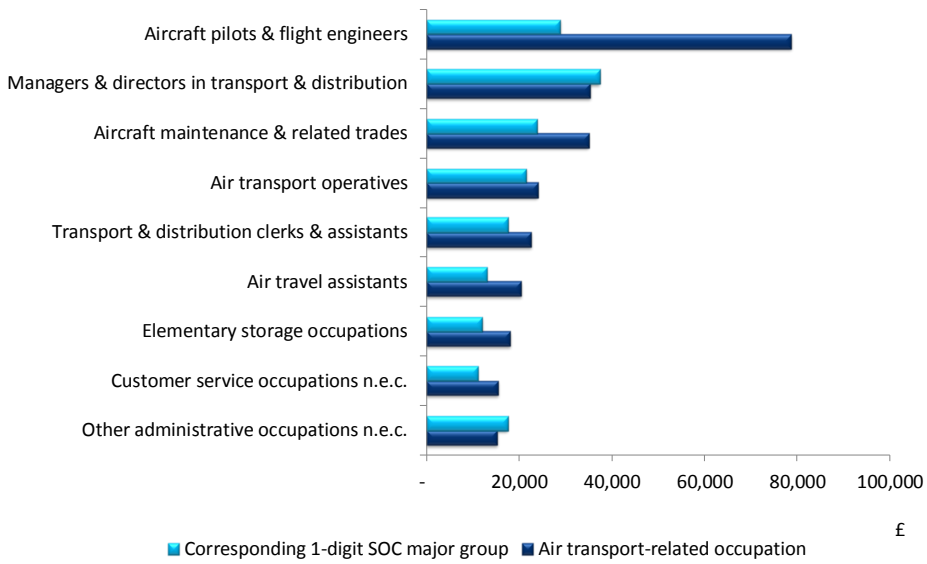
Occupation (SOC code shown in brackets)	Job roles included in occupation	Corresponding major occupational group	Number of workers in 2011
Aircraft pilots and flight engineers (3512)	Airline pilot, first officer (airlines), flight engineer, flying instructor and helicopter pilot	Associate professional and technical occupations	11,000
Managers and directors in transport and distribution (1161)	Fleet manager and transport manager	Managers, directors and senior officials	3,000
Aircraft maintenance and related trades (5235)	Aeronautical engineer, aircraft electrician aircraft engineer, aircraft fitter, aircraft mechanic and maintenance engineer (aircraft).	Skilled trades occupations	3,000
Air travel assistants (6214)	Air hostess, cabin crew, customer service agent (travel), flight attendant and passenger service agent	Caring, leisure and other service occupations	30,000
Air transport operatives (8233)	Aircraft dispatcher, baggage handler, cargo handler (airport), ramp agent and refueller (airport)	Process, plant and machine operatives	4,000
Transport and distribution clerks and assistants (4134)	Export clerk, logistics controller, shipping clerk, transport administrator, transport clerk and transport coordinator.	Administrative and secretarial occupations	2,000
Customer service occupations n.e.c (7219).	Customer adviser, customer service administrator, customer service adviser, customer service assistant and customer services representative.	Sales and customer service occupations	2,000
Other administrative occupations n.e.c. (4159)	Administrative assistant, clerical assistant, clerical officer, clerk and office administrator.	Administrative and secretarial occupations	1,000
Elementary storage occupations (9260)	Labourer (haulage contractor), warehouse assistant, warehouse operator, warehouse supervisor and warehouseman	Elementary occupations	1,000

Source: 2011 Census

[18] Job role descriptions included in the box above are based on ONS Standard Occupational Classification (SOC) Hierarchy, which can be found at the following link: http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dev3/ONS_SOC_hierarchy_view.html

The ONS Annual Survey of Hours and Earnings provides information on average wages in each of these occupations.[19] Figure 4.9 below compares these wage levels to those in the respective broader occupational group comprising all workers in roles that require similar levels of skills.

Figure 4.9: Gross median annual wage for full-time workers in air transport-related occupations and the corresponding 1-digit SOC major group, 2013



Taking a weighted average of the data above suggests that the average wage in the main air transport occupations in 2013 was just under £33,000. This compares to an average of £18,500 for workers in the broader groups that fulfil roles at similar skills levels.[20]

If we exclude wages for aircraft pilots and flight engineers from the analysis, the average wage for air transport occupations reduces to £18,000 and the average wage for workers in the broader groups reduces to £13,000.

From this we can conclude that workers in occupations closely associated with the air transport sector are substantially better paid than those in other roles that require similar skills levels.

Aerospace manufacturing (SIC category 30.3)

It is estimated that 15 per cent of employees at London Luton Airport are employed in the manufacturing sector, and it seems reasonable to assume that most manufacturing activity at the airport relates to aerospace. It is therefore

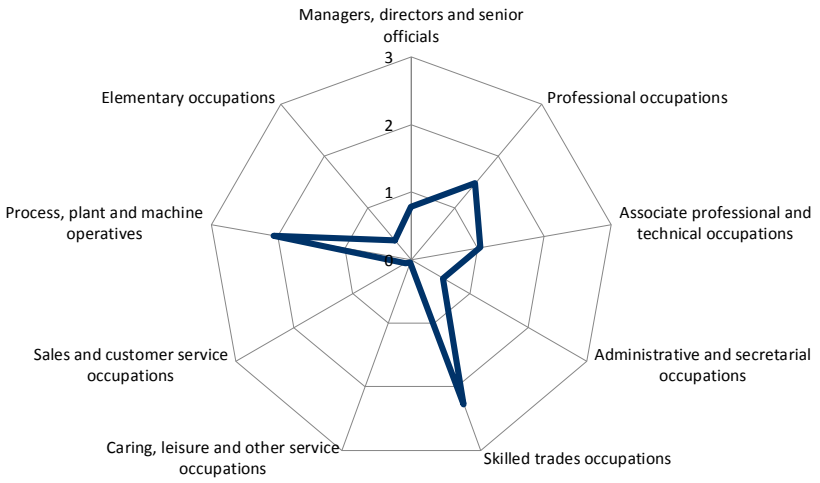
[19] The ASHE data relate to those working in these occupations across the economy as a whole, and not in the air transport sector specifically. Nonetheless, given that many of the roles identified are closely linked to air transport we believe this limitation in the data should not result in a significant bias in the results.

[20] Weights for both averages were based on the number of air transport workers in each group.

informative to consider the occupational breakdown and wage levels of workers in the aerospace manufacturing sector.

The 2011 Census suggests that 100,000 people are employed in aerospace manufacturing across the UK as a whole. Following the same approach as above, the concentration of workers in the sector within each broad occupational group is shown in Figure 4.10, below. This suggests that air manufacturing has above-average shares of workers in higher-skill professional roles, medium-skill skilled trade roles and lower-skill roles in process, plant and machine operations.

Figure 4.10: Occupational profile of workers in the aerospace manufacturing sector compared to the economy as a whole



Note: 1=average for all sectors
Source: Census 2011

Workers in aerospace manufacturing are distributed across a larger number of occupational groups than those in the air transport sector. The Census data suggest that it is necessary to look at 28 occupations to obtain coverage of 70 per cent of workers in the sector. As above, these are shown in Table 4.3, again ranked from highest skilled to lowest skilled.

Table 4.3: Most common occupations for workers in the aerospace manufacturing sector[21]

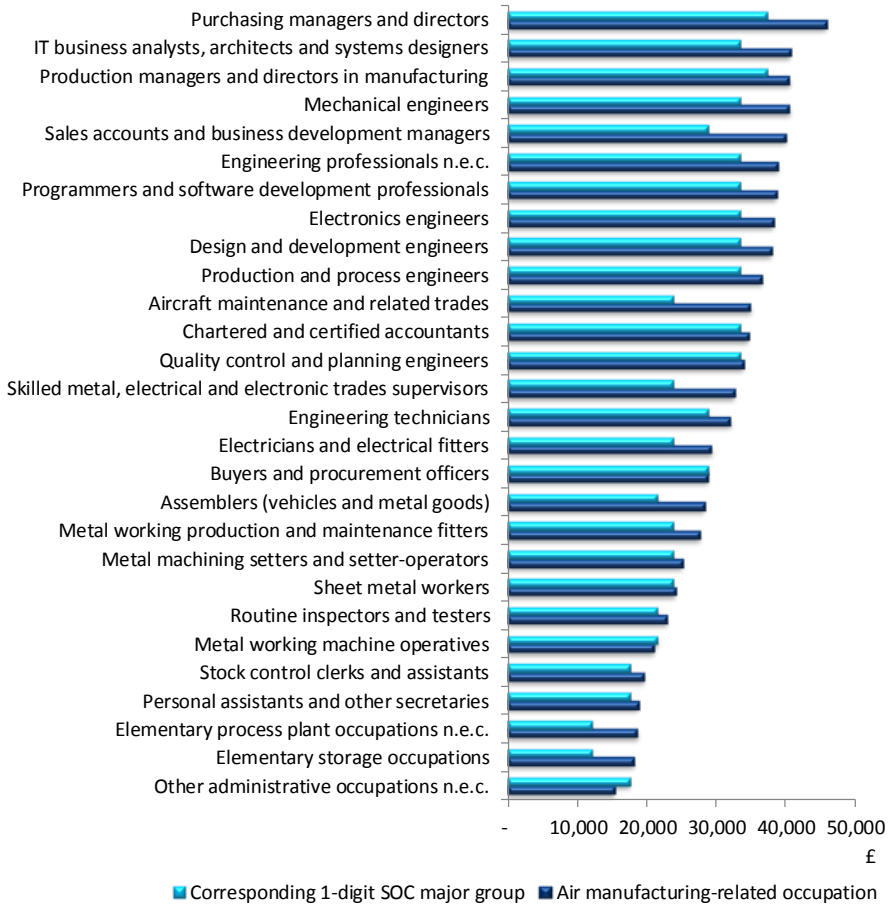
Occupation (SOC code shown in brackets)	Corresponding major occupational group	Number of workers in 2011
Mechanical engineers (2122)	Professional occupations	7,000
Engineering professionals n.e.c. (2129)	Professional occupations	4,000
Design and development engineers (2126)	Professional occupations	3,000
Quality control and planning engineers (2461)	Professional occupations	2,000
IT business analysts, architects and systems designers (2135)	Professional occupations	2,000
Programmers and software development professionals (2136)	Professional occupations	1,000
Electronics engineers (2124)	Professional occupations	1,000
Production and process engineers (2127)	Professional occupations	1,000
Chartered and certified accountants (2421)	Professional occupations	900
Engineering technicians (3113)	Associate professional and technical occupations	3,000
Production managers and directors in manufacturing (1121)	Managers, directors and senior officials	5,000
Purchasing managers and directors (1133)	Managers, directors and senior officials	900
Sales accounts and business development managers (3545)	Associate professional and technical occupations	1,000
Buyers and procurement officers (3541)	Associate professional and technical occupations	1,000
Aircraft maintenance and related trades (5235)	Skilled trades occupations	10,000
Metal working production and maintenance fitters (5223)	Skilled trades occupations	4,000
Metal machining setters and setter-operators (5221)	Skilled trades occupations	3,000
Skilled metal, electrical and electronic trades supervisors (5250)	Skilled trades occupations	2,000
Sheet metal workers (5213)	Skilled trades occupations	1,000
Electricians and electrical fitters (5241)	Skilled trades occupations	900
Metal working machine operatives (8125)	Process, plant and machine operatives	6,000
Routine inspectors and testers (8133)	Process, plant and machine operatives	3,000
Assemblers (vehicles and metal goods) (8132)	Process, plant and machine operatives	1,000
Other administrative occupations n.e.c. (4159)	Administrative and secretarial occupations	1,000
Personal assistants and other secretaries (4215)	Administrative and secretarial occupations	900
Stock control clerks and assistants (4133)	Administrative and secretarial occupations	900
Elementary storage occupations (9260)	Elementary occupations	1,000
Elementary process plant occupations n.e.c. (9139)	Elementary occupations	1,000

Source: 2011 Census

[21] Most common occupations equates to the occupations that comprise 70 per cent of the total workforce.

Figure 4.11 below compares wage levels for the occupations shown above to those in the corresponding broader occupational group.

Figure 4.11: Gross median annual wage for full-time workers in aerospace manufacturing-related occupations and the corresponding 1-digit SOC major group, 2013



Taking a weighted average of the data above suggests that the average wage in the aerospace manufacturing-related occupations in 2013 was just under £32,000. This compares to an average of £27,000 for workers in the broader groups comprising occupations with similar skills requirements.

Once again, this suggests that workers in occupations closely associated with the aerospace manufacturing sector are substantially better paid than those in other roles that require similar skills levels.

4.4.3 Indicative occupational breakdown of workers at London Luton Airport

By combining data on the sectoral structure of employment at London Luton Airport with data from the 2011 Census on the occupations of workers in the Luton 014 'Mid Layer Super Output Area' (which incorporates the airport site) it is possible to estimate the occupational structure of employment at London

Luton Airport.[22] Table 4.4 shows the estimated number of workers in each occupational group in 2013, and the projected number in 2030 under each scenario. The 2030 projections assumes that the occupational structure of employment at the airport remains unchanged as the airport expands. A more detailed breakdown of current occupations is set out at Annex D.

Table 4.4: Current and future employment by occupation at London Luton Airport

Occupation group	Examples of job roles included in occupation group	Estimated employment		
		2013	2030 (Baseline scenario)	2030 (Development scenario)
1 Managers, directors and senior officials	Managers and directors in transport, distribution and production	680	667	942
2 Professional occupations	Mechanical engineer and design and development engineers	701	688	971
3 Associate professional and technical occupations	Aircraft pilots and flight engineers	1,595	1,565	2,208
4 Administrative and secretarial occupations	Transport and distribution clerks and assistants	886	870	1,228
5 Skilled trades occupations	Aircraft maintenance, metal machining setters and setter-operators and hospitality workers	873	857	1,209
6 Caring, leisure and other service occupations	Air travel assistants and travel agents	2,116	2,076	2,930
7 Sales and customer service occupations	Customer service occupations	875	859	1,212
8 Process, plant and machine operatives	Routine inspectors and testers and machine operatives	850	834	1,177
9 Elementary occupations	Air transport operatives and storage workers	861	845	1,192

Source: Oxford Economics

[22] Middle Layer Super Output Areas are a geography for the collection and publication of small area statistics. They have a minimum size of 5,000 residents and 2,000 households with an average population size of 7,500. They fit within local authority boundaries. This definition was sourced from the ONS Neighbourhood Statistics: http://neighbourhood.statistics.gov.uk/HTMLDocs/nessgeography/superoutputareasexplained/output-areas-explained.htm

Comparing the projected number of workers under each scenario in 2030 to the current situation indicates the number of workers the airport could need to recruit in each occupational group over the next 15 years.

It is also informative to consider the future supply of labour in Luton Borough, to understand the extent to which workers in the immediate vicinity of the airport might be available to take up the jobs that would be created were the airport to expand. Oxford Economics' regional model estimates that 2,000 people of working age will be unemployed and looking for work in Luton Borough in 2030. The occupational split of these workers has been estimated using data for the current occupational structure of the Luton Borough population. This has been adjusted using national-level data to take into account that occupational structure of the unemployed is likely to vary to that for those in employment. Further details of the estimation methodology are presented in Annex D. As with the projections of the airport's recruitment needs, it is assumed that the occupational structure of the unemployed in 2030 is unchanged from today.

Table 4.5: London Luton Airport recruitment needs by scenario and potential supply of workers in Luton Borough

Occupation group	Examples of job roles included in occupation group	Additional workers needed by 2030		Estimated number of unemployed workers in Luton Borough, 2030
		Baseline scenario	Development scenario	
1 Managers, directors and senior officials	Managers and directors in transport, distribution and production	-13	262	56
2 Professional occupations	Mechanical engineer and design and development engineers	-13	270	123
3 Associate professional and technical occupations	Aircraft pilots and flight engineers	-30	614	137
4 Administrative and secretarial occupations	Transport and distribution clerks and assistants	-17	341	193
5 Skilled trades occupations	Aircraft maintenance, metal machining setters and setter-operators and hospitality workers	-16	336	200
6 Caring, leisure and other service occupations	Air travel assistants and travel agents	-40	814	183
7 Sales and customer service occupations	Customer service occupations	-16	337	263
8 Process, plant and machine operatives	Routine inspectors and testers and machine operatives	-16	327	241
9 Elementary occupations	Air transport operatives and storage workers	-16	331	686

Source: Oxford Economics

This analysis suggests that under the development scenario, London Luton Airport could need 1,145 workers in the three highest-skilled occupational groups, which include roles such as aeronautical engineers, aircraft pilots and flight engineers. At the bottom of the table, 2,487 additional workers will be needed for unskilled roles such as customer advisors, baggage handler and storage workers.

Comparing these skills needs to the potential supply of unemployed workers in Luton Borough suggests that workers may be available in the immediate vicinity of the airport to fill the lowest skilled roles. For the remaining roles, the pool of unemployed could potentially support 48 per cent of the Airport's worker

requirements under the development scenario. The airport will need to look further afield to fill the remaining roles.

The analysis above is a purely numerical exercise. In reality, airport employers are unlikely to prioritise Luton residents when seeking to fill new positions. They will select the strongest candidates irrespective of where they reside. Nonetheless, it does illustrate the extent to which the airport's future demand for labour could, at least in theory, be met by workers from Luton Borough.

5 Catalytic Impacts

Key points

The catalytic impact of London Luton Airport can be thought of as the benefits the airport offers to those who use its services. Two types of catalytic impact for passengers are explored.

Value to passengers

- Luton is the closest airport for around 43 per cent, or 4.5 million, of the passengers who used it in 2014. For these passengers, flying from an alternative airport would add between 20 and 68 minutes in travel time, and associated travel costs, for each leg of their journey.
- Luton also offers among the cheapest available fares for the destinations it serves, with 75 percent of comparable fares cheaper than average among the seven major airports considered.
- Taking account of the value of passengers' time, the surface transport costs they face, and the competitive fares on offer it is estimated that London Luton Airport provided additional value for passengers approximately £120 million in 2014 alone. Last year 900,000 Luton passengers would not have flown from an alternative airport had Luton not been available.

London area airport capacity

- London Luton Airport, particularly after it expands capacity to accommodate 18 million passengers per annum, will play an increasingly important role in providing much needed capacity to the London airports system over the next 10 to 15 years.
- In 2011 Luton accounted for 7 per cent of passengers at London airports, but based on official Department for Transport forecasts it is expected to contribute 17 per cent of London passenger growth between 2011 and 2030.

5.1 Introduction

Over and above the direct, indirect and induced impacts reported in the sections above, London Luton Airport generates a number of wider 'catalytic' benefits. These can be thought of as the benefits the airport offers to those who use its services. The analysis in this section assesses the value of the airport's location and low cost flight options to passengers, before going on to consider the airport's role in complementing London's hub airports, Gatwick and Heathrow, and contributing transport capacity to the wider London airport system.

That is not to say that these are the only wider benefits generated by London Luton Airport. In particular, it contributes to the overall attractiveness of the surrounding region as a location for businesses to locate and invest. This is not formally analysed in this chapter of the report, but previous research has shown that the availability of international transport is one of the most important factors that firms consider when deciding where to locate.[23]

5.2 Quantifying the value of London Luton Airport to passengers

5.2.1 Travel cost savings

This part of the analysis provides an indicative quantification of the travel time and direct cost savings that passengers enjoy as a result of living close to London Luton Airport.

The analysis is based on 2013 Civil Aviation Authority data provided by LLAOL, with results scaled up to 2014 passenger totals. These data indicate the origin of Luton's UK passengers on the UK side of their journey by local authority. To estimate the potential travel time savings, it was necessary to assign each passenger to a more precise location within each local authority. As such, passengers were assigned to wards within each local authority based on the distribution of the population within that local authority. A second round of estimation was used to assign passengers to a specific postcode area within each ward, based on the main population centre within the ward.

The postcode level data were then used in conjunction with software developed by Oxford Economics to estimate travel times using Google maps. This enabled the estimation of each passenger's travel time to London Luton Airport, under the simplifying assumption that all passengers travel to the airport by car. The exercise was then repeated to estimate the travel time to each alternative international airport that a Luton passenger could have chosen.

[23] For example, the Cushman and Wakefield European Cities Monitor 2011 (http://www.cushmanwakefield.com/~/media/reports/uk/Brochures/European%20Cities%20Monitor%20October%202011.pdf) finds that the most important factors a company considers when deciding where to locate their business are easy access to markets and customers, followed by the availability of qualified staff, and telecommunications. Transport links with other cities and internationally was found to be the fourth most important factor, with 42 per cent of companies suggesting these were an absolutely essential consideration when deciding where to locate their business.

The analysis showed that for 43 per cent of Luton passengers – around 4.5 million passengers in 2014 - the airport was the closest option to their ultimate UK origin or destination. The majority of these passengers came from 13 local authorities: Aylesbury Vale, Bedford, Central Bedfordshire, Dacorum, East Northamptonshire, Hertsmere, Luton, Milton Keynes, North Hertfordshire, South Northamptonshire, St Albans, Three Rivers and Welwyn Hatfield. On average it took passengers 30 minutes to get to London Luton Airport from these locations, assuming no traffic delays.

The next stage of analysis considers how much longer would be involved in travelling to an alternative airport if London Luton Airport did not exist. Around 94 per cent of Luton's UK passengers come from the South East, Eastern, East Midlands, West Midlands and London regions. Comparator airports that offer similar flights to Luton were identified from within these regions. The comparator airports selected were: Heathrow, Gatwick, Stansted, Birmingham, East Midlands and London City.

In a best-case scenario, a passenger unable to travel from Luton could take a similar flight from the next closest airport to their place of residence. If this were the case for all passengers whose origin was in the local authority areas identified above, the average travel time to the airport would increase by 20 minutes, absent any delays. This extra travel time would be associated with higher immediate transport costs as well as time costs for millions of passengers each year in Luton's absence.

In reality, equivalent flights may not be available at the second closest airport and a passenger unable to use Luton may have to travel considerably further to take a flight from an alternative airport. In 2014 the closest alternative international airport, Heathrow, only served 57 per cent of seat-weighted destinations reachable from London Luton Airport.[24] In the extreme case, all passengers whose UK origin or destination was in the local authority areas identified above might have to travel to the furthest comparator airport. In many cases this would be Gatwick, which serves some 80 per cent of the seat-weighted destinations served by Luton, but which is also the furthest alternative airport for many Luton passengers. Where passengers might have to travel to their furthest alternative airport, the journey would take an average of 68 minutes longer. Again, traffic delays could add to that journey time significantly depending on the timing of the flight, making this a conservative estimate.

The analysis above therefore provides a range from 20 to 68 minutes for the additional travel time that would be required if those Luton passengers for whom the airport is closest were to have to use another airport. For people making a return journey these time and associated travel costs would, of course, be double.

[24] Estimated using SRS Analyser data on flight schedules from Luton and the other comparator airports. This figure assumes that there are no capacity constraints that might prevent passengers from flying from one of these alternative airports.

Table 6.1 provides details for each local authority for which Luton is the closest airport. It also compares the distance between the second closest and farthest away airports to give the range of possible increases in journey times.

Table 5.1: Time saving by origin, minutes

	Average time from London Luton Airport	Second closest airport	Average time from second closest airport	Time saved - low	Farthest away airport	Average time from farthest airport	Time saved - high
Central Bedfordshire	30	Heathrow	59	29	Gatwick	96	65
Luton	22	Heathrow	45	23	East Midlands	88	66
St Albans	20	Heathrow	39	19	East Midlands	98	79
Milton Keynes	36	Heathrow	65	30	Gatwick	101	65
North Hertfordshire	25	Stansted	45	19	East Midlands	99	73
Bedford	44	Stansted	67	22	Gatwick	101	57
Dacorum	29	Heathrow	35	6	East Midlands	99	70
Aylesbury Vale	46	Heathrow	55	9	East Midlands	96	50
Welwyn Hatfield	27	Stansted	43	17	East Midlands	108	82
Hertsmere	27	Heathrow	39	12	East Midlands	106	78
Three Rivers	27	Heathrow	30	3	East Midlands	105	79
South Northamptonshire	49	Birmingham	53	3	Gatwick	106	57
East Northamptonshire	63	Birmingham	70	7	Gatwick	129	66

5.2.2 Low-cost air travel

London Luton Airport's competitive fees and charges mean that customers benefit from lower cost flights than are available at other comparable airports

Luton's proximity for millions of people is not the only source of its value relative to alternative airports. This section assesses the extent to which passengers may enjoy lower fares for flights from Luton compared to other airports. The comparator airports are the same as those used in the previous section.

Comparing flight costs is a complex exercise, not least due to the yield management techniques employed by airlines. Prices for apparently similar flights can vary substantially for a wide range of reasons, such as time of day, date, and the number of passengers searching for or reserving seats on a particular flight. To compare flight costs between airports we undertook a structured search to identify flights that are as similar as possible to those offered by Luton. To be regarded as 'similar' for the purposes of this exercise, we selected flights that were identical in terms of the following criteria:

- Time of day: morning before 12:00, afternoon between 12:00 and 17:59, or evening from 18:00
- Departure date: three dates were chosen for the sample - 09/03/2015 (one week from the time of the analysis); 05/06/2015 (3 months away); and 08/08/2015 (a summer holiday travel day)
- Destination airport.

For each flight in the sample we compared the price of flying from Luton to the price of flying from all other airports offering the same flight. Flights were only

included if a minimum of three comparator airports offer a similar flight. Prices were obtained from the price comparison website *www.skycanner.net*.

Table 6.2 below presents a summary of the results. In total, a sample of 44 flights were compared. For 33 flights, London Luton Airport offered a below average price when compared to the other airports. For 21 of the flights Luton was one of the two cheapest providers and for nine flights Luton was the cheapest provider. This demonstrates the degree to which a further benefit for many Luton passengers is the low airfares on offer.

Table 5.2: Summary of airport price comparison

Luton is below average	Luton is below average and one of two cheapest providers	Luton is absolute cheapest in sample	Luton is above average	Luton is most expensive	Total examined
33	21	9	11	5	44

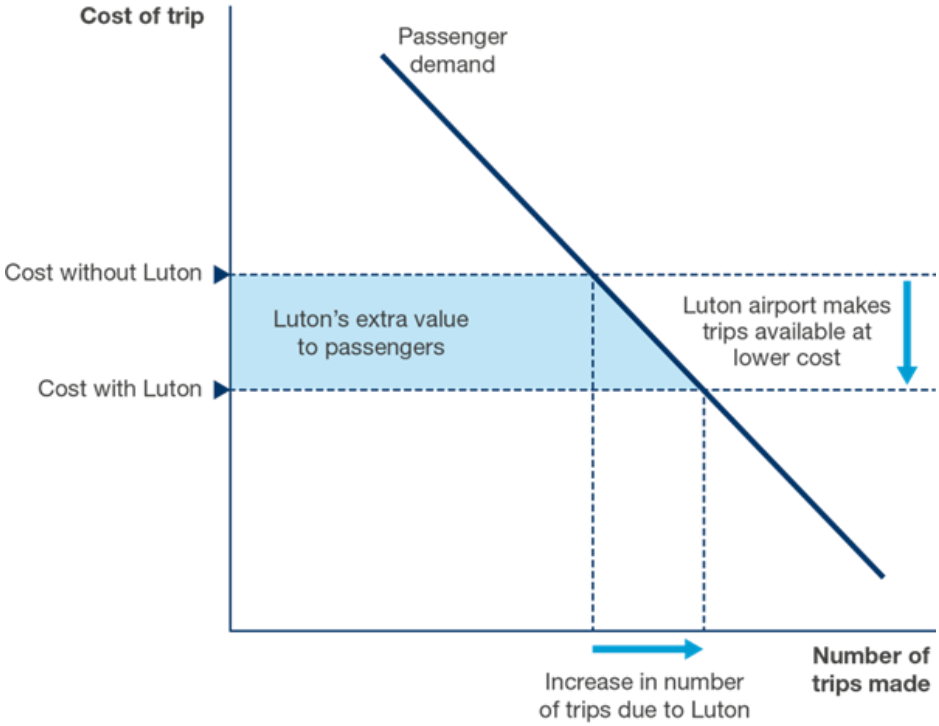
5.2.3 Valuing the benefits to passengers

The main value from an airport accrues to airline passengers. To make a journey, those using the airport self-evidently value making their trip at least as highly as the cost of their surface transport and airfare, and the time taken to reach their destinations. In most cases, of course, people would still make the trip if those costs were higher. Economists call the value received, over and above the costs associated with travel, the 'consumer surplus'.[25] Consumer surplus represents the maximum cost people would be willing to pay to make their journey less the actual cost they face.

[25] Source: IATA. OXFORD ECONOMICS, Economic Benefits from Air Transport in Mexico, 2007

The analysis in the previous two sub-sections suggests that, for millions of people each year, the value of consumer surplus that accrues to Luton passengers may be greater than if they instead had to use another airport, due to Luton's low fares and proximity to the origin or destination of many passengers. As Luton offers a cheaper option for millions of passengers, this boosts the number of people prepared to travel and benefits those who would have travelled anyway (see Figure 5.1)

Figure 5.1: Quantifying the extra value Luton provides for passengers



To explore this further, this sub-section builds on the analysis above to estimate how the value of consumer surplus enjoyed by Luton passengers might change if they instead had to use the next cheapest airport.

This analysis relies on another technical concept – the generalised cost of travel (GCT), which represents the overall cost of making a journey in terms of travel time and money. Direct travel costs take account of things like airfares and the full economic cost of private road transport. Time spent travelling is converted into monetary values based on accepted techniques for valuing people's time based on characteristics such as whether or not they are a business traveller.

For this study a GCT value is calculated for Luton passengers based on their origin and likely airfare. Equivalent values are then computed for those passengers in the hypothetical scenario where these Luton passengers instead use their next cheapest airport (a full description of the methodology is included at Annex F). [26] [27]

[26] Only those passengers for whom Luton is the closest airport were included in the analysis. The remaining passengers were excluded on the basis that they are using London Luton Airport for reason that does not relate to total cost.

The analysis suggests that the average GCT for Luton is £174 per single journey, compared to £194 at the next cheapest airport (the second cheapest airport is specific to each passenger). On this basis we estimate that, on average, a typical passenger of the 6.3 million in 2014 for whom Luton was the cheapest airport enjoyed a consumer surplus that was £19 greater than if Luton did not exist. For someone making a return journey the benefit would amount to some £37.

The benefits for passengers also extend to people who otherwise might not have travelled at all. For many passengers, the overall costs of the Luton option are sufficiently low to encourage them to make a trip which they otherwise would not have taken. To account for this effect, we draw on available evidence about how passengers respond which the cost of travel changes, to measure the responsiveness of the demand for flights to changes in the GTC. We assume an elasticity of -1.27, which means that a 1 per cent fall in the overall (time and fare) cost of travel causes a 1.27 per cent rise in passenger numbers.[28] On these assumptions we can estimate that 900,000 passengers for whom Luton was the closest airport would not have travelled in 2014 had Luton not existed. Adding these benefits, we estimate that the total consumer surplus, or additional benefit to passengers for whom Luton is the closest airport amounted to approximately £120 million in 2014 alone.[29]

27 In order to be conservative, only those passengers for whom Luton is the closest airport are considered in this analysis. While those coming from further afield presumably choose Luton for a good reason, it is harder to quantify the scale of their consumer surplus, hence we conservatively assume that these people are indifferent between travelling from Luton or another airport.

[28] The elasticity of -1.27 is for the generalised cost elasticity for intra-European flights of 500-1000 miles. Source: 'Fleet Level Assessments & System-Wide Environmental Impacts' presentation by the University of Cambridge, UCL, City University London and University of Toronto: http://old-www.arct.cam.ac.uk/Documents/AEvans_Lecture_UTIAS_March13.pdf

[29] In practice, this estimate is likely to be conservative both because it ignores the possibility that road traffic congestion may add to journey times, and because it conservatively assumes the benefits of London Luton Airport to passengers for whom it is not the closest are zero.

5.3 London area airport capacity

Luton Airport has a vital role to play in providing capacity for the London airport system over the next 10 to 15 years

Major airports around London are approaching capacity. If no action is taken to develop new infrastructure there is a risk that airport bottlenecks will constrain the UK's ability to handle increasing numbers of business passengers and tourists, and ultimately harm economic growth prospects.

To address this, the Airports Commission, chaired by Howard Davies, was set up in 2012 to examine options to develop the UK's aviation infrastructure, so that it maintains its status as Europe's key aviation hub. In December 2013 the Commission published a report outlining three shortlisted options to increase the UK's aviation capacity in the long-term. Each of these options would provide at least one net additional runway at Gatwick or Heathrow by 2030. Following a period of consultation, the Airports Commission is set to announce its recommended option in the summer of 2015.

Given the stated aim of developing the chosen option by 2030, it is important to consider how the UK's airport capacity needs will be met in the interim. To explore Luton's role in this, we examine the 2013 Department for Transport passenger forecasts.[30] These come in two variants:

i. *Unconstrained* forecasts, which provide estimates of the extent of passenger growth in the absence of airport capacity constraints

ii. *Constrained* forecasts which factor in the impact of airport capacity constraints.

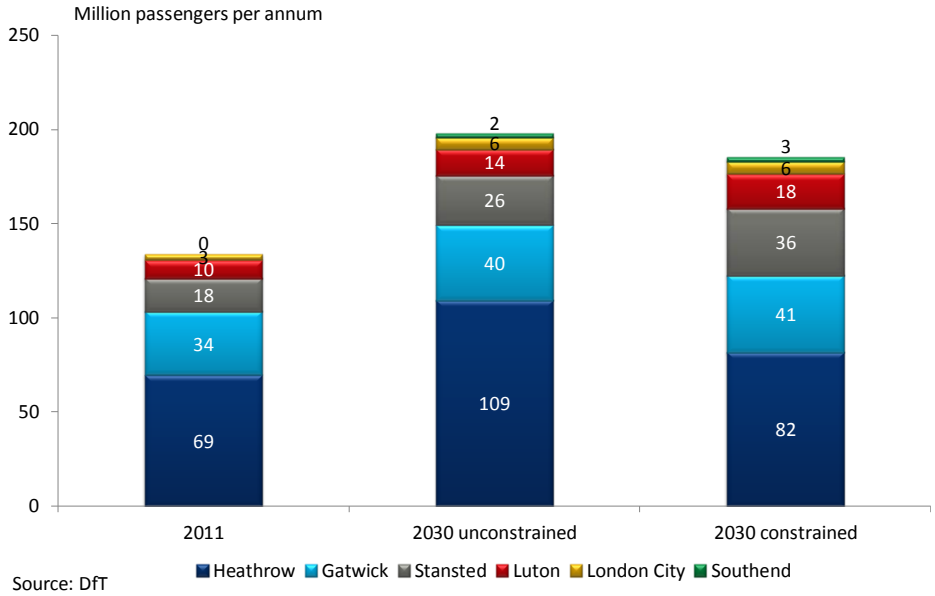
While the constrained forecasts assume that no new runways are built in the UK, they do allow for smaller-scale infrastructure enhancements. Of particular relevance to this study, it is assumed that *"Luton adds 35% to its runway capacity and 70% to its terminal capacity."*[31] This is broadly consistent with the development scenario in our study.

[30] https://www.gov.uk/government/publications/uk-aviation-forecasts-2013

[31] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223839/aviation-forecasts.pdf

Figure 5.2 shows that there were 134 million terminal passengers at London airports in 2011. Under the DfT's unconstrained forecast this would increase to 198 million by 2030. However, once airport capacity constraints are considered, this falls to 185 million 2030 as passengers either switch to airports away from London, or choose not to travel.

Figure 5.2: Constrained and unconstrained passenger forecasts for London airports

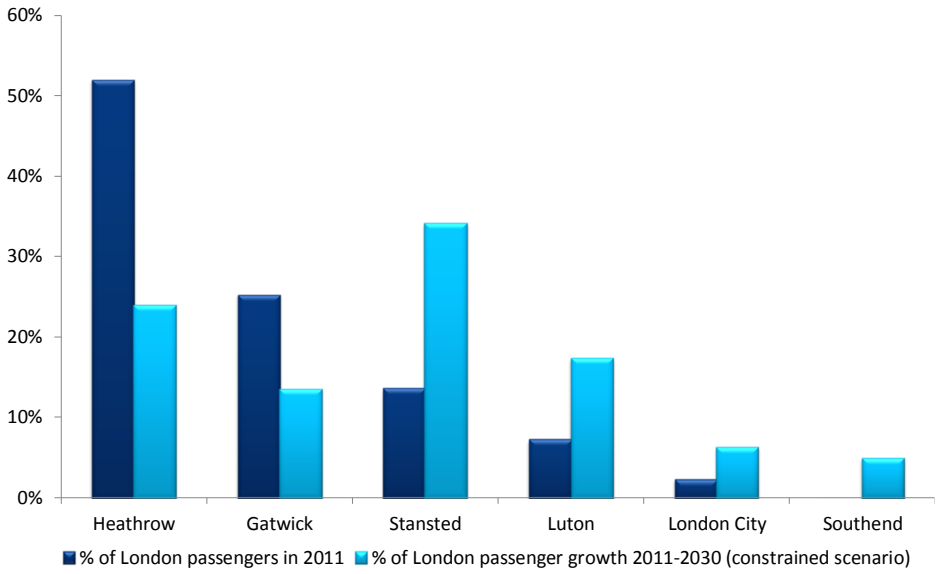


Source: DfT

Closer examination of the data for individual airports highlights the important role to be played by smaller airports in supporting passenger growth to 2030. In the unconstrained forecast, passenger numbers at Heathrow are forecast to increase from 69 million in 2011 to 109 million in 2030. However, Heathrow is nearing its operational capacity and the constrained forecast suggests it will only be able to accommodate 82 million passengers in 2030. As a result, passengers are displaced to other London airports, particularly Luton and Stansted, where there is proportionately greater scope for growth. In the case of Luton, there are 4 million more passengers in the constrained scenario than in the unconstrained scenario, indicating that the airport is well placed to provide capacity to service passengers unable to use Heathrow. This means that passenger numbers at Luton are projected to almost double to 18 million between 2011 and 2030 in the constrained scenario.

To consider the contribution of Luton to overall passenger growth in London further, Figure 5.3 compares each airport's share of passengers in 2011 to its contribution to London passenger growth between 2011 and 2030. This shows that while Luton accounted for just 7 per cent of London airport passengers in 2011, it is expected to accommodate 17 per cent of passenger growth between 2011 and 2030. Were this capacity not available at Luton, the London airports system would be even more constrained and, all else equal, passengers who wished to use a London airport would be likely to face higher fares.

Figure 5.3: Constrained and unconstrained passenger forecasts for London airports



Source: DfT, Oxford Economics

There is currently a large amount of uncertainty concerning what may happen beyond 2030. While the Airports Commission is set to make its *recommendation* in the summer of 2015, the *decision* on additional runway capacity will ultimately be taken by politicians and the timing of any such decision is unknown.

Nonetheless, the analysis in this chapter has highlighted that Luton has an important role to play in providing much-needed capacity for the wider London airports system. It has capacity to accommodate significant growth over the coming decade; provides convenient access to international flights for local residents; and it is able to offer flights at lower cost than many comparable airports.

Appendix A: Economic impact methodology

Direct employment contribution

The most detailed previous work to estimate the direct impact of London Luton Airport was undertaken for the 2012 Halcrow study. This presented a central employment estimate for 2011 based on data from the Business Register and Employment Survey and Experian.[32] More recent estimates of employment at London Luton Airport are presented in the 2013 London Luton Airport Annual Monitoring Report.[33]

Following discussion with stakeholders it was decided to estimate employment in 2013 by growing forward the Halcrow estimate using the growth rates reported in the Annual Monitoring Report. This approach ensures that the direct employment estimate presented in this study is broadly comparable with the Halcrow study, but also incorporates the latest evidence on how employment at the airport has changed since 2011.

Direct GDP contribution

This is comprised of the wages paid to those directly employed at the airport, plus profits generated by firms at London Luton Airport.

To calculate London Luton Airport's total wage contribution, the 2013 employment estimates were multiplied by average gross wage estimates for the relevant sectors. These average wages were based on estimates from the Halcrow report, adjusted to account for wage growth between 2011 and 2013.

To estimate profits for 2013 we uplifted average turnover per employee estimates from the Halcrow study using productivity growth rates[34] for the Eastern region, and then multiplied by total employment to obtain an estimate of turnover. We then applied Halcrow's turnover/profit ratio to arrive at a pre-tax profit estimate. Since we are considering the direct impact of London Luton Airport on the whole of the UK, and in contrast to the Halcrow approach, we did not make a further adjustment to only count profits attributable to the local economy.

Direct gross wage contribution

The gross wage bill of London Luton Airport workers was estimated by updating the previous results from the Halcrow study. While Halcrow reported net wages in their headline results, the detailed workings included average gross wage per worker estimates. Oxford Economics grew these estimates in line with wage growth from 2011 to 2013 for the Eastern region and then multiplied these wages by the new number of workers in each sector.

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[32] Further details of the methodology used to develop the employment estimate are presented in Chapter 6 of the Halcrow report: http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

[33] http://www.london-luton.co.uk/en/content/8/243/annual-monitoring-report.html

[34] Productivity growth rates for individual sectors were used.

Direct tax contribution

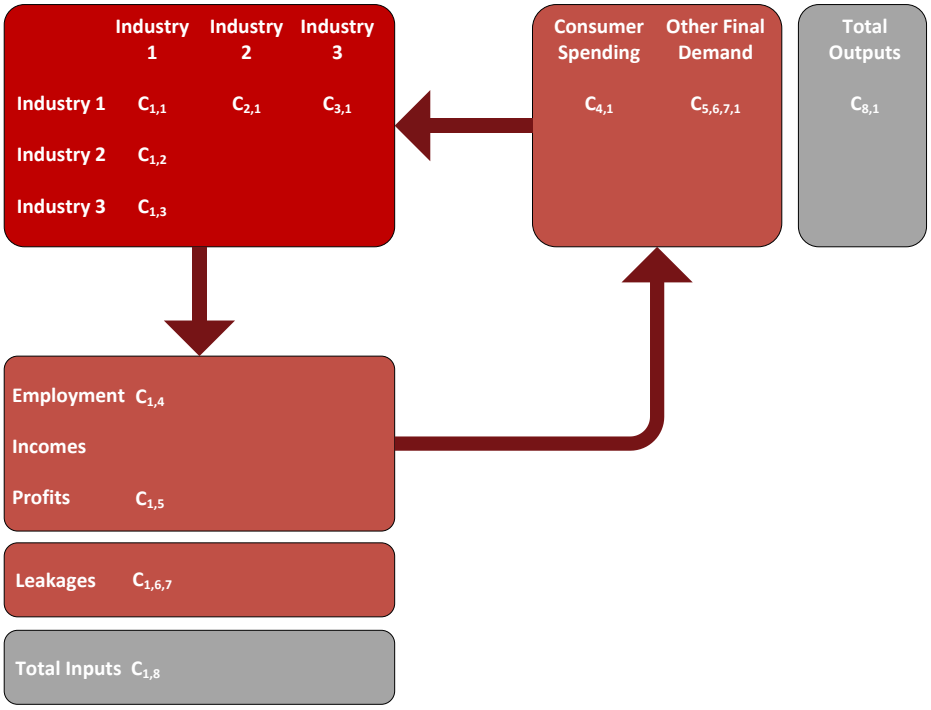
There are a number of large companies at London Luton Airport that operate from many sites across the UK, and sometimes internationally. In these cases the value of tax revenue attributable to London Luton Airport was estimated by updating the previous results from the Halcrow study by adjusting their assumptions on the various tax rates to reflect the latest data available. Specifically, Income tax and National Insurance Contributions were updated using the 2013 ONS 'The Effects of Taxes and Benefits on Household Income' release, located here: http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/2012-13/index.html. APD was updated using information on APD rates and allowances for 2013 from HM Revenue an Customs, located here: https://www.gov.uk/government/publications/rates-and-allowances-excise-duty-air-passenger-duty/rates-and-allowances-excise-duty-air-passenger-duty

Overview of input-output modelling approach for the UK

Input-output tables are designed to give a snapshot of an economy at a particular time, showing the major spending flows. These include "final demand" (i.e. consumer spending, government spending and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector – the supply chain); how much of that spending stays within the economy; and the distribution of income between employment income and other income (mainly profits). Input-output tables are therefore particularly useful when estimating indirect and induced economic impacts.

The idea behind the input-output table is that the economy can be divided into a number of producing industries, and that the output of each industry is either used as an input into another industry, or in final consumption. For example, grain produced by the farm sector becomes an input into flour milling; flour produced by the milling sector becomes an input into the baking sector, and so on. In essence an input-output model is a table that shows who buys what from whom in the economy.

Figure AA.1: A simplified input-output model



Source: Oxford Economics

Reading across horizontally illustrates the distribution of each industry's output, split between intermediate demand from other industries (used as an input to production) and final demand (consumer spending, exports and other government consumption). Therefore, Industry 2 in Figure AA.1 purchases an amount, C2,1 from Industry 1 as an input to their production process. Thus, reading down vertically indicates what each industry purchases from other industries in the national economy by way of inputs which, when combined with imports from abroad (leakages), employment costs, operating surplus and any additional taxes or subsidies to production, give total inputs, which will equal total outputs. In the simple model illustrated in Figure AA.1, C8,1 will equal C1,8.

A primary application of domestic use input-output tables is to create multipliers that are used to illustrate how an increase in demand in one sector affects the whole economy:[35]

- **Type I multiplier** – estimates the impact on the whole economy of £1 spent in a given industry, through its supply chain.
- **Type II multiplier** – includes the Type I multiplier, but also includes the effect of spending by households as a results of the additional employment generated by the additional £1 spend. The multipliers reported in this report are Type II multipliers.

[35] In a domestic IO table intermediate demand has been adjusted to remove the effects of imports. Imports are itemised in a different part of the IO table.

To calculate the indirect and induced impacts for London Luton Airport, domestic-use input-output tables, available for the UK economy from the ONS, were used to build a bespoke input-output model. The ONS tables can be downloaded here: http://www.ons.gov.uk/ons/rel/input-output/input-output-analytical-tables/2010/index.html

Regional input-output modelling approach

The above approach is used to quantity the indirect and induced impacts at the UK level. An important element of this study, though, is to consider the geographical distribution of these multiplier effects to understand how London Luton Airport affects levels of economic activity in surrounding sub-regions and local areas.

Information on the geographical distribution of supply chain expenditure has been gathered from major firms based at London Luton Airport. In total, this information covers around 8 per cent of London Luton Airport's estimated supply chain purchases and for this portion of spending it is possible to develop a very accurate picture of the distribution of supply chain impacts. Oxford Economics has estimated the remaining 92 per cent of supply chain spending using inter-regional input-output models developed by Oxford Economics based on established academic techniques initially developed by Flegg and Webber.[36] This approach involves constructing regional input-output models by applying Location Quotients (LQs) and regional size adjustments to the standard UK input-output tables. Oxford Economics' regional model was used to provide data on LQ's and regional employment.

For this study, regional input-output tables were developed for Luton Borough , the Three County area and the regions surrounding Luton Borough (Eastern, South East, London and East Midlands).

Employment shares were used to divide the impact of the Three County area to the various local authorities within the area. The supply chain impact that remained (i.e. the four regions supply chain impact minus the Three Counties supply impact) was split out according the sectoral employment share amongst all the local authorities within that area.

In the case of induced effects, no 'real' data are available to identify where London Luton Airport workers actually spend their wages. Nonetheless, it seems reasonable to assume that most spending is likely to take place close to workers' place of residence, and will therefore support GDP and employment in those areas. This is the starting point for our analysis of induced impacts, but in cases where this results in an unrealistically large injection to the local economy (given the economic structure and average spending per head in that local area) induced impacts are assumed to spill over into neighbouring areas. The

[36] Flegg and Webber, (2000), 'Regional Size, Regional Specialization and the FLQ Formula'. Regional Studies, Vol. 34.6, pages 563–569.

spending adjustment and a quantum that is absorbed by neighbouring areas is calculated using regional IO tables.

Indirect and Induced GDP contribution

To calculate the indirect and induced gross value added contribution to GDP (i.e. GVA), the total expenditure effect (derived from the input-output models) is multiplied by industry sector-level GVA to gross output ratios, again calculated from the ONS input-output tables.

Indirect and Induced employment

To calculate the impact on employment, labour productivity in each industry sector in the supply chain is applied to the respective component of the GVA figures.

Appendix B: Economic impact results by geographical area

Table AB.1 Total GVA contribution to GDP impact of London Luton Airport, 2013

Total GVA contribution to GDP 2013 (£ million, Nominal)				
Locations	Direct	Indirect	Induced	Total
UK	425	338	506	1270
Three Counties sub-region	425	85	222	732
Bedfordshire	425	37	138	600
Buckinghamshire		20	25	44
Hertfordshire		29	59	88
London Thameslink Corridor		8	12	20
Luton	425	29	80	533
Central Bedfordshire		5	45	50
Bedford		3	14	17
Aylesbury Vale		3	9	12
Chiltern		2	2	4
Milton Keynes UA		9	11	20
South Buck		2	1	3
Wycombe		4	2	6
Broxbourne		2	2	4
Dacorum		3	8	11
East Hertfordshire		3	5	8
Hertsmere		3	2	5
North Hertfordshire		2	17	19
St Albans		4	14	17
Stevenage		2	4	6
Three Rivers		2	2	4
Watford		4	2	7
Welwyn Hatfield		3	4	7
Barnet		1	2	3
Camden		2	3	5
Islington		1	1	3
City of London		0	2	3
Southwark		1	1	2
Lambeth		1	1	2
Merton		1	0	1
Sutton		0	0	1
Croydon		1	1	1
South Cambridgeshire		1	3	3
Enfield		1	1	2
Haringey		0	1	1
Harrow		0	1	1
East Northamptonshire		0	2	2
Northampton		2	4	5
South Northamptonshire		0	2	2
Wellingborough		0	1	2

Table AB.2 Total employment impact of London Luton Airport, 2013

Employment 2013				
Locations	Direct	Indirect	Induced	Total
UK	9437	7682	10088	27207
Three Counties sub-region	9437	2038	4408	15883
Bedfordshire	9437	943	2781	13161
Buckinghamshire		386	441	827
Hertfordshire		708	1186	1894
London Thameslink Corridor		150	163	313
Luton	9437	751	1598	11786
Central Bedfordshire		120	901	1021
Bedford		73	282	354
Aylesbury Vale		69	154	224
Chiltern		31	33	64
Milton Keynes UA		176	197	372
South Buck		35	20	54
Wycombe		76	37	112
Broxbourne		56	30	86
Dacorum		73	152	225
East Hertfordshire		79	94	173
Hertsmere		63	38	102
North Hertfordshire		51	333	384
St Albans		91	276	367
Stevenage		42	91	133
Three Rivers		45	42	87
Watford		130	42	172
Welwyn Hatfield		78	87	166
Barnet		11	34	45
Camden		35	47	82
Islington		25	15	40
City of London		9	20	28
Southwark		25	12	37
Lambeth		16	16	31
Merton		10	6	16
Sutton		9	4	13
Croydon		11	9	20
South Cambridgeshire		18	52	69
Enfield		10	15	26
Haringey		8	15	23
Harrow		7	16	23
East Northamptonshire		9	35	44
Northampton		41	85	126
South Northamptonshire		10	45	55
Wellingborough		13	25	38

Table AB.3 Total wage impact of London Luton Airport, 2013

Wage 2013 (£ million, Nominal)				
Locations	Direct	Indirect	Induced	Total
UK	356	181	203	740
Three Counties sub-region	356	44	80	481
Luton	356	15	29	401

Table AB.4 Total tax impact of London Luton Airport, 2013

Tax 2013 (£ million, Nominal)				
Locations	Direct	Indirect	Induced	Total
UK	237	122	169	648
Three Counties sub-region	237	30	34	301
Luton	237	10	25	272

Appendix C: The total future economic contribution of London Luton Airport

Table AC.1 Forecast direct Gross Value Added contribution to GDP of London Luton Airport, 2013 to 2030

Direct GVA (£2013 prices)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Baseline scenario	425	457	474	529	552	554	554	554	554	554	554	554	554	554	554	554	554	554
Development scenario	425	457	500	558	619	687	760	781	781	781	781	781	781	781	781	781	781	781

Table AC.2 Forecast direct employment at London Luton Airport, 2013 to 2030

Employment	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Baseline scenario	9437	10113	10327	11420	11791	11659	11468	11282	11092	10869	10642	10433	10220	10009	9805	9614	9429	9259
Development scenario	9437	10113	10896	12044	13208	14460	15746	15924	15656	15342	15022	14726	14426	14128	13841	13570	13310	13070

Table AC.3 Forecast total GDP contribution of London Luton Airport to the UK economy, 2030

GVA (£2013 prices) 2030	Direct	Indirect	Induced	Total
Baseline scenario	554	441	660	1,654
Development scenario	781	622	931	2,335

Table AC.4 Forecast total UK employment contribution of London Luton Airport, 2030

Employment 2030	Direct	Indirect	Induced	Total
Baseline scenario	9,259	7,537	9,898	26,694
Development scenario	13,070	10,639	13,971	37,680

Table AC.5 Forecast total GDP contribution of London Luton Airport to the sub-regional economy, 2030

GVA (£2013 prices)		Direct	Indirect	Induced	Total
Three Counties sub region	2013	425	85	222	732
	Baseline Scenario 2030	554	111	339	1,004
	Development Scenario 2030	781	157	479	1,418
Bedfordshire	2013	425	37	138	600
	Baseline Scenario 2030	554	48	230	832
	Development Scenario 2030	781	68	325	1,175
Buckinghamshire	2013	0	20	25	44
	Baseline Scenario 2030	0	26	32	58
	Development Scenario 2030	0	37	45	82
Hertfordshire	2013	0	29	59	88
	Baseline Scenario 2030	0	37	77	114
	Development Scenario 2030	0	52	108	161

Table AC.6 Forecast total employment contribution of London Luton Airport to the sub-regional economy, 2030

Employment		Direct	Indirect	Induced	Total
Three Counties sub region	2013	9,437	2,038	4,408	15,883
	Baseline Scenario 2030	9,259	1,985	4,778	16,022
	Development Scenario 2030	13,070	2,801	6,745	22,616
Bedfordshire	2013	9,437	943	2,781	13,161
	Baseline Scenario 2030	9,259	931	3,015	13,205
	Development Scenario 2030	13,070	1,314	4,256	18,640
Buckinghamshire	2013	0	386	441	827
	Baseline Scenario 2030	0	380	478	858
	Development Scenario 2030	0	536	674	1,211
Hertfordshire	2013	0	708	1,186	1,894
	Baseline Scenario 2030	0	674	1,286	1,959
	Development Scenario 2030	0	951	1,815	2,765

Appendix D: Occupational analysis

Estimated split of London Luton Airport employees by sector and occupation

The estimated split of employment by sector comes from the 2012 Halcrow study. For each sector, the occupational breakdown has been estimated using data from the 2011 Census on the occupational structure of employment within the respective sector.

The specific steps involved include:

1) Estimate London Luton Airport employment by sector in 2013, drawing on the 2012 Halcrow study
2) Use the Luton 014 SOA (the Super Output Area where London Luton Airport is based) SIC-SOC matrix from the 2011 Census to estimate broad occupation breakdown by sector for the Airport
3) Split out broad occupational groups from step 2 using more detailed 3-digit SOC breakdown for the SOA from the 2011 Census.

Table AD.1 Indicative occupational (SOC 3) structure of London Luton Airport employment

Occupations	London Luton Airport estimated employment		
	2013	2030 (Baseline scenario)	2030 (Development scenario)
111 Chief Executives and Senior Officials	6	5	8
112 Production Managers and Directors	95	93	132
113 Functional Managers and Directors	133	130	184
115 Financial Institution Managers and Directors	7	7	9
116 Managers and Directors in Transport and Logistics	156	154	217
117 Senior Officers in Protective Services	11	10	15
118 Health and Social Services Managers and Directors	6	5	8
119 Managers and Directors in Retail and Wholesale	65	63	89
121 Managers and Proprietors in Agriculture Related Services	0	0	0
122 Managers and Proprietors in Hospitality and Leisure Services	97	96	135
124 Managers and Proprietors in Health and Care Services	4	4	6
125 Managers and Proprietors in Other Services	101	99	139
211 Natural and Social Science Professionals	6	6	8
212 Engineering Professionals	148	145	205
213 Information Technology and Telecommunications Professionals	174	171	241
214 Conservation and Environment Professionals	3	3	4
215 Research and Development Managers	6	6	8
221 Health Professionals	18	18	25
222 Therapy Professionals	3	3	4
223 Nursing and Midwifery Professionals	13	13	18
231 Teaching and Educational Professionals	37	37	52
241 Legal Professionals	16	15	22
242 Business, Research and Administrative Professionals	188	184	260
243 Architects, Town Planners and Surveyors	14	14	20
244 Welfare Professionals	5	5	7

245 Librarians and Related Professionals	6	6	8
246 Quality and Regulatory Professionals	44	43	61
247 Media Professionals	20	20	28
311 Science, Engineering and Production Technicians	136	134	188
312 Draughtspersons and Related Architectural Technicians	8	8	11
313 Information Technology Technicians	56	55	77
321 Health Associate Professionals	6	6	8
323 Welfare and Housing Associate Professionals	14	14	19
331 Protective Service Occupations	108	106	150
341 Artistic, Literary and Media Occupations	35	35	49
342 Design Occupations	21	20	29
344 Sports and Fitness Occupations	21	20	29
351 Transport Associate Professionals	641	629	888
352 Legal Associate Professionals	18	17	24
353 Business, Finance and Related Associate Professionals	118	115	163
354 Sales, Marketing and Related Associate Professionals	262	257	363
355 Conservation and Environmental associate professionals	1	1	1
356 Public Services and Other Associate Professionals	151	148	209
411 Administrative Occupations: Government and Related Organisations	33	32	46
412 Administrative Occupations: Finance	243	238	336
413 Administrative Occupations: Records	236	231	326
415 Other Administrative Occupations	212	208	293
416 Administrative Occupations: Office Managers and Supervisors	32	31	44
421 Secretarial and Related Occupations	132	130	183
511 Agricultural and Related Trades	14	14	20
521 Metal Forming, Welding and Related Trades	14	13	19
522 Metal Machining, Fitting and Instrument Making Trades	61	60	85
523 Vehicle Trades	402	395	557
524 Electrical and Electronic Trades	105	103	145
525 Skilled Metal, Electrical and Electronic Trades Supervisors	19	18	26
531 Construction and Building Trades	123	120	170
532 Building Finishing Trades	39	39	55
533 Construction and Building Trades Supervisors	6	6	8
541 Textiles and Garments Trades	14	13	19
542 Printing Trades	6	6	9
543 Food Preparation and Hospitality Trades	59	58	82
544 Other Skilled Trades	11	11	16
612 Childcare and Related Personal Services	108	106	149
613 Animal Care and Control Services	5	5	7
614 Caring Personal Services	84	82	116
621 Leisure and Travel Services	1828	1794	2532
622 Hairdressers and Related Services	45	44	62
623 Housekeeping and Related Services	24	23	33
624 Cleaning and Housekeeping Managers and Supervisors	23	22	31
711 Sales Assistants and Retail Cashiers	440	431	609
712 Sales Related Occupations	43	42	59
713 Sales Supervisors	49	48	68
721 Customer Service Occupations	297	291	411
722 Customer Service Managers and Supervisors	47	46	65

811 Process Operatives	53	52	73
812 Plant and Machine Operatives	77	76	107
813 Assemblers and Routine Operatives	134	132	186
814 Construction Operatives	32	32	45
821 Road Transport Drivers	209	206	290
822 Mobile Machine Drivers and Operatives	18	18	25
823 Other Drivers and Transport Operatives	326	320	451
911 Elementary Agricultural Occupations	3	3	4
912 Elementary Construction Occupations	13	12	17
913 Elementary Process Plant Occupations	43	42	60
921 Elementary Administration Occupations	39	38	54
923 Elementary Cleaning Occupations	176	172	243
924 Elementary Security Occupations	279	274	387
925 Elementary Sales Occupations	19	19	27
926 Elementary Storage Occupations	142	140	197
927 Other Elementary Services Occupations	147	144	203

Approach to estimating the occupational split of unemployed workers in Luton Borough

Oxford Economics' regional model was used to estimate the number of unemployed individuals in Luton Borough in 2030.

The occupational split of these workers was estimated using 2011 Census data for the occupational structure of the Luton Borough resident employment. However, the occupational structure of the unemployed is likely to differ from that of the employed. Annual Population Survey data was therefore used to estimate the proportional difference between the employed and the unemployed occupational structure at the UK level. This difference was then applied to the estimated occupational breakdown for Luton Borough unemployed.

Appendix E: Detailed results from analysis of flight prices

Table AE.1 Analysis of flights prices

Destination	Luton Price	Average lowest price amongst Airports compared	Luton price rank out of airports compared	Number of airports compared
Monday 09/03/2015				
Morning (00.00 - 11.59)				
Alicante	137	140	3	5
Amsterdam	67	89	3	6
Barcelona	112	124	3	6
Dublin	23	42	2	7
Edinburgh	38	53	3	7
Geneva	117	111	4	6
Glasgow	34	64	2	7
Malaga	213	179	5	6
Afternoon (12.00- 17.59)				
Amsterdam	63	79	2	7
Dublin	39	44	2	6
Murcia	178	181	3	5
Evening (18.00 - 23.59)				
Aberdeen	43	70	1	5
Amsterdam	51	67	1	5
Dublin	33	34	4	6
Edinburgh	33	39	3	7
Glasgow	34	44	2	7
Friday - 05/06/2015				
Morning (00.00 - 11.59)				
Alicante	141	139	4	5
Amsterdam	46	60	1	6
Barcelona	119	99	6	6
Dublin	46	55	2	7
Edinburgh	40	48	2	7
Geneva	35	55	1	4
Glasgow	35	42	2	6
Malaga	137	133	4	6
Afternoon (12.00- 17.59)				
Amsterdam	44	52	2	6
Dublin	65	54	7	7
Murcia	65	75	1	4
Evening (18.00 - 23.59)				
Aberdeen	37	49	1	5

Amsterdam	42	62	1	5
Dublin	55	50	5	7
Edinburgh	37	45	2	7
Glasgow	35	44	2	7
Saturday - 08/08/2015				
Morning (00.00 - 11.59)				
Alicante	193	166	5	5
Amsterdam	52	54	5	7
Barcelona	133	141	4	6
Dublin	28	35	3	7
Edinburgh	73	54	6	6
Geneva	74	72	3	4
Glasgow	40	53	3	6
Malaga	171	156	4	5
Afternoon (12.00- 17.59)				
Amsterdam	43	57	1	5
Dublin	33	36	4	5
Murcia	131	136	1	4
Evening (18.00 - 23.59)				
Dublin	24	34	2	5

Appendix F: Methodology to estimate gain in consumer surplus for Luton passengers

The overall approach was to estimate the generalised cost of travel from Luton and all comparator airports for each Luton passenger based on their ward of residence. The following comparator airports were used: Gatwick, Stansted, Birmingham, East Midlands (Other comparator airports were excluded from the analysis, as the analysis suggested that they were not the second cheapest to Luton for any passengers.)

The generalised cost of travel (GCT) was defined as follows:

Generalised cost of travel = Direct travel costs + Cost of time + Cost of air ticket

Where:

- Direct travel cost = Distance to each airport * 45p per mile (based on HMRC mileage rates, which were sourced here: www.gov.uk/government/publications/rates-and-allowances-travel-mileage-and-fuel-allowances/travel-mileage-and-fuel-rates-and-allowances#approved-mileage-rates-from-2011)
- Cost of time = Travel time to airport and average time of flight* £14 per hour (this value is a weighted average of business and leisure travellers values of time. The business value is based on the Airports Commission - Economy: Transport Economic Efficiency Impacts report: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/372769/AC07_bookmarked.pdf and the leisure value is based on the Airports Commission - Economy: Delay Impacts Assessment Methodology Paper https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/372606/AC08a_tagged.pdf)
- Cost of air ticket = Average fare of flights from each airport, based on the panel of comparable flights used in the fares analysis
- The average GCT for all Luton passengers was then calculated by adding the GCT for all passengers and dividing by the total number of passengers.
- The previous step was then repeated, but using the GCT to each passenger's second cheapest airport.

Sample size and scaling

This analysis was based on a sample of 5.1 million passengers. Aggregate results for the consumer surplus have been scaled to reflect London Luton Airport's total passenger numbers (10.5 million passengers) in 2014.

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ECONOMICS

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS PUT AT THE HABITATS REGULATIONS ASSESSMENT, BIODIVERSITY AND OTHER ENVIRONMENTAL ISSUES HEARING HELD ON 5 JUNE 2019

1. BACKGROUND

1.1. The Issue Specific Hearing 6 (the "Hearing") was held at 02:00pm on 5 June 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2. The Hearing took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") (the "Agenda").

1.3. The format of this summary follows that of the Agenda and only refers to parts of the Agenda where Stone Hill Park Limited ("SHP") made substantive comments.

1.4. Present from SHP was Jamie Macnamara and Iain Mackintosh.

2. AGENDA ITEM 4 – EIA MATTERS

Air Quality

2.1. The Applicant has not assessed the likely worst case effects of its proposed development.

2.2. In SHP's comments on the Applicant's answer to third written question ND.3.9, it is explained that there is a fundamental error in the Azimuth Report [APP-085] that infects the environmental effects assessed in the application (see Appendix 1). In summary, the forecast contained in the Azimuth Report is wholly incompatible with the E-commerce integrator business model (i.e. to import freight to serve the south east of England) set out in the Applicant's recent oral and written submissions. This has a material impact on both the split of import / export tonnages and the fleet mix on which the environmental assessments are based (set out in Appendix 3.3. of the ES [APP-044]).

Fleet Mix

2.3. The Applicant has assumed that 25% of all cargo ATMs (1,456 in Year 2, rising to 4,310 in Year 20), would be ATR-72 integrator feeder **turboprop** aircraft. In previous submissions, SHP's aviation experts have clearly explained that ATR-72s would not be required for the E-commerce integrator model now proposed by the Applicant. The Applicant has not been able to explain what these ATMs would do, where they would fly and what they would carry, despite this issue being raised by SHP in the Need and Operations Hearing on 21 March 2019 and multiple subsequent submissions

2.4. This is critically important as ATR-72 aircraft are by far the smallest aircraft included in the fleet mix having a maximum landing weight on 22 tonnes, compared to an average of c.170 tonnes for the other cargo aircraft included in the fleet mix (see analysis contained in Appendix 1).

2.5. The environmental effects of replacing up to 4,310 ATR-72 ATMs with any other aircraft in the fleet mix (which are jet aircraft rather than turboprop aircraft) would be material, and have not been assessed. For additional context, Part 2 of Appendix 1 of the Noise Mitigation Plan [REP6-022] shows that the ATR-72 aircraft are the quietest of all aircraft shown – they are shown to be either exempt or have the lowest noise quota count of 0.25.

2.6. Another consequence of the E-commerce model is that the split of imports and exports contained within the application documents would be materially incorrect (i.e. the split would need to be heavily weighted towards imports rather than the roughly equal split shown in the application documents) and the ES will have assessed the wrong effects.

2.7. For example, we would refer the ExA to Section 6.4 of Volume 15 – Transport Assessment (Part 2) [APP-061], which sets out the forecast HGV movements. These are based on the import and export tonnages taken from the Azimuth report (see Table 6.3), which are a broadly evenly split. Any change to the split of exports and imports would have a material impact on the Applicant's *"efficient working"* assumption contained in paragraph 6.4.8, such that applying the same assumptions to an import weighted forecast would increase HGV movements, demonstrating that the likely worst case has not been assessed.

Biodiversity

2.8. At the point the application was accepted on 14 August 2018, there were significant gaps in survey data which undermined the validity and robustness of the ES. These gaps were identified prior to submission by both SHP and the Planning Inspectorate and RSP had chosen to submit the Application without addressing those criticisms. The Applicant has made no effort to address this through the examination.

2.9. In its Cover Letter submitted at Deadline 1 [REP1-001], the Applicant enclosed (as Enclosure 1) a *"timeline for the provision of the outstanding ecological survey data required to confirm the worst case ecological impact assessment, in response to the request on page F1 of the Rule 6 letter issued by the ExA on 11 December 2018 ('Rule 6 letter')."*

2.10. The Enclosure 1 set out a timeline for completion of the numerous outstanding surveys, and in section 2.2 Programme it stated *"[I]t is proposed that the survey information gathered, the assessment and any changes to the proposed mitigation are issued to the Examining Authority by May (Deadline 7), so that there is sufficient time for interested parties to comment upon it before the end of the examination."*

2.11. As set out in paragraph 10.5 of SHP's relevant representations [RR-1601] it would not be lawful or appropriate for survey results to be deferred until a later decision making stage;

"Case law (R v Cornwall County Council ex p Hardy[1]) has long established that decision making cannot be taken without appropriate species surveys, since surveys might reveal significant adverse effects to be likely on protected species. The case clearly establishes that it is not lawful or appropriate for survey results to be deferred until a later decision making stage (in this case on discharge of requirements) as the Secretary of State will not be in a position to know whether the ES before him represents the full environmental information required by the EIA Regulations, or whether the proposed mitigation is adequate, before determining the Application."

2.12. As explained in SHP's answer to second written question Ec.2.2 [REP6-053], the Applicant has made no effort meet its commitment to complete the outstanding ecology surveys.

Climate Change

2.13. In the course of the Hearing the Applicant asserted that a benefit of the Applicant's a business model is that transporting freight by air rather than trucking was more sustainable.

2.14. SHP submitted that the effects of transporting freight by air rather than trucking had material adverse environmental consequences, which had not been assessed in the ES. SHP undertook to provide evidence to the examination as part of its Deadline 8 submissions.

2.15. Attached at Appendix 2 is an explanatory note summarising the July 2018 Department of Business, Energy and Industrial Strategy ("BEIS") report setting out the Government's Green House Gas Conversion Factors that provides a methodology for calculating emissions from a range of different activities, including road freight and air freight. In summary, the report demonstrates transporting freight by air is materially more harmful with CO_2 emissions of Airfreight calculated to be **between 5.8 and 27.4 times** higher than trucking freight by road, depending on the length of flight. It is important to note that base data used for the air freight calculations exclude the additional impacts of Radiative Forcing, which the Department recommends are included - Radiative Forcing is the influence of other climate change effects of aviation (such as water vapour and nitrogen oxides) and the Department recommends using a multiplier of 1.9 ensures a holistic view of the additional environmental impacts of airfreight are recorded.

Therefore, in addition to being less economically efficient, the Applicant's purported business model of replacing trucking of freight with transporting freight by air would have materially adverse environmental consequences, which have not been assessed.

Noise

2.16. It is noted that the ExA is considering whether the dDCO should have an SOAEL daytime of 60 dB, with consequential amendments made to the Noise Mitigation Plan. This would be consistent with the Government's Aviation 2050 green paper.

2.17. However, paragraph 3.122 of the green paper that the Government goes further in proposing that for *"airspace changes which lead to significantly increased overflight, to set a new minimum threshold of an increase of 3dB LAeq, which leaves a household in the 54dB LAeq 16hr contour or above as a new eligibility criterion for assistance with noise insulation."* It would seem logical that this lower threshold should apply to an airport that has already been closed for over 5 years. It is noted that other airports, such as London City Airport and Bristol Airport operate schemes at 57 dB LAeq,16h.

2.18. It is also noted that Stansted Airport planning application UTT/18/0460/FUL, which Uttlesford District Council resolved to grant in November 2018, includes a requirement to extend the sound insulation grant scheme to include households in the 57 dB LAeq,16h noise contour. Appended as Appendix 3 are (i) the draft s106 agreement (see schedule 3: Part 1) that secures this, and other obligations; (ii) a graphic from London Stansted Airport setting out the proposed scheme and the

relevant noise contours and (iii) the Uttlesford DC planning committee report dated 30 November 2018.

2.19. The November Uttlesford DC planning committee report notes in paragraph 9.175 that;

"For the purposes of the ES aircraft noise modelling has been produced by the CAA's Environmental Research and Consultancy Department (ERCD), using their Aircraft Noise Contour (ANCON) model (current version 2.3). The ERCD is a specialist body within the CAA with national and international expertise on the assessment of aircraft noise. They produce noise contours for the designated London airports, and they generated the noise contours used by the Airports Commission. Their work is robust, authoritative and also impartial."

It is noted that the Applicant did not use the ERCD or its noise model for the purposes of assessing noise contours, whilst the contours submitted by Five10Twelve and No Night Flights have done so.

2.20. The Noise Contours included in the Applicant's application do not reflect the likely worst case environmental effects, having failed to consider different flight route, fleet mixes and runway usages. As a result, the noise contours are unlikely to reflect a likely worst case.

Noise-Related DCO requirements

2.21. We would refer the ExA to comments in paragraphs 2.1 to 2.16 of SHP's Written Summary of Oral Submissions put at the dDCO Hearing held on 7 June 2019.

2.22. The ES has not properly assessed the likely significant environmental effects of the proposed development. As explained in paragraph 2.12 of the Written Summary of Oral Submissions put at the dDCO Hearing, the DCO would need to include a complex suite of requirements to offer protection to the local community. However, at this late stage in the examination, it is not practical to attempt to determine what these restrictions would need to be, or how they would be monitored, costed and controlled.

APPENDIX 1: FLEET MIX ASSESSED IN THE ASSESSED IN THE ENVIRONMENTAL STATEMENT

The environmental assessments are based on a fleet mix (set out in Appendix 3.3. of the ES [APP-044]), based on the forecasts contained in the Azimuth report [APP-085].

As explained in detail SHP's recent submissions, the forecast contained in the Azimuth report [APP-085] is wholly incompatible with the E-commerce business model set out in the Applicant's recent oral and written submissions. One consequence is the erroneous fleet mix, which would not be appropriate for an import led E-commerce integrator model of the nature explained.

As set out in Appendix 3.3, the environmental assessments assume >25% of forecast cargo ATMs are ATR-72 integrator feeder turboprop aircraft highlighted in the table below

As shown in the table, these aircraft are the smallest and lightest aircraft included in the cargo fleet mix having a maximum landing weight on 22 tonnes. For context, the average maximum landing weight of the other cargo aircraft included in the mix is c.170 tonnes (the largest being 306 tonnes - see analysis contained in Appendix 1 appended to this summary).

These aircraft also generate materially less noise than the other aircraft assessed.

Summary of Fleet Mix from Appendix 3.3. to the ES [APP-044]

Order in Appendix 3.3	Carrier	Aircraft Type	Quota Count - Low	Quota Count - High	Max Landing Weight (Tonnes)
1	Amazon	767-400	0.50	2.00	159
2	Amazon	777-200	0.50	4.00	224
3	Cargolux	747-800	1.00	2.00	306
7	Fedex / DHL	767-300	0.50	2.00	136
8	Fedex / DHL	757-200	0.25	1.00	90
9	Fedex / DHL	330-200	0.50	2.00	180
10	**Fedex / DHL (Feeders)**	**ATR72**	**0.00**	**0.25**	**22**
11	Fresh fish and spider crabs	777-200	0.50	4.00	224
12	Iran Air	777-200	0.50	4.00	224
13	Live animal operations	777-200	0.50	4.00	224
14	Middle Eatsern Airlines	777-200	0.50	4.00	224
15	Pakistan International Airlines	777-200	0.50	4.00	224
16	Postal Services	737-800	0.50	1.00	65
17	Qatar Airways	777-200	0.50	4.00	224
18	Russian airlines	747-400	1.00	8.00	296
19	TAAG Angola airlines	747-400	1.00	8.00	296
20	TAAG Angola airlines	747-800	1.00	2.00	306
21	Other Freight operations	737-300	0.50	1.00	53
22	Military Freighter Moverments	C-130E	0.50	2.00	203
23	Military Freighter Moverments	C17	n/a	n/a	70
24	Humanitarian and Medivac	747-400	1.00	8.00	296
25	Humanitarian and Medivac	747-800	1.00	2.00	306

Notes

1. Only aircraft with assessed flights are included
2. Quota Count numbers taken from Noise Mitigation Plan

APPENDIX 2: ANALYSIS OF EMISSIONS FROM AIR FREIGHT VS. TRUCKING OF FREIGHT

This explanatory note provides analysis from the July 2018 Department for Business, Energy and Industrial Strategy ("BEIS") report *"2018 Government GHG Conversion Factors for Company Reporting"* and associated BEIS Emissions Factors model titled *"Conversion Factors 2018 – Condensed Set"*.

Copies of both documents have been appended to this submission, however both documents are also available via the following links and are more accessible in soft copy;

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/726911/2018_methodology_paper_FINAL_v01-00.pdf

https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018

These documents provides a methodology for calculating emissions from a range of different activities, including road freight and air freight.

The commentary on Freight Land Transport Emissions is given in Section 6 of the main report, whilst Section 8 covers Air Transport Emissions Factors. The relevant data is found in the "Freighting Goods" worksheet of "Conversion Factors 2018 – Condensed Set".

In summary, the analysis shows the following;

- Transporting freight by air rather than road (HGVs) CO_2 emissions be **5.8 – 27.4x** greater per freight tonne kilometre - the level is dependent on the flight stage length. For example, "Short-haul airfreight" has emissions that are **9.15x** the level of trucking freight.
- The BEIS Report further notes that there is uncertainty over the other climate change effects of aviation (such as water vapour, contrails, NOx, etc.). BEIS recommends these effects are accounted for by employing a Radiative Forcing ("RF") multiplier of 1.9 (please refer to paragraphs 8.34-8.38).
- If this multiplier was applied, emissions would be **11 – 52x greater** than for trucking of freight.
- For the purpose of this analysis, when assessing emissions from trucking we have used the "Average Emissions of all HGV's" figure of 0.11kg CO_2 per Tonne Kilometre (see Table 1 below).
- In view of the differences between, domestic, short haul and long haul emissions, we have considered the full range of airfreight distance options (see Table 2 below), which range from 0.66kg – 3.05kg CO_2 per Tonne Kilometre.

Table 1: HGV (All Diesel)

Vehicle Type (size)	Average Laden - Emissions (kg CO_2 per Tonne Km)	Cell Reference in "Freighting Goods" Data Tables
Average of All HGV's	0.11146	R-63

Table 2: Freighter Emissions

Type	Emissions (kg CO_2 per Tonne Km) – Excludes Radiative Forcing	Cell Reference in "Freighting Goods" Data Tables
Domestic, to/from UK	3.05367	J-98
Short haul, to/from UK	1.01957	J-99
Long-haul to/from UK	0.64521	J-100

- **Note on Radiative Forcing:** As set out in paragraphs 8.34-8.38 of the BEIS Report, there is uncertainty over the other climate change effects of aviation (such as water vapour, contrails, NOx, etc.) the exact amount of these additional impacts is currently being researched. BEIS believe that the additional impacts of aviation are great enough that they should be accounted for, this is accomplished in practice by employing a Radiative Forcing ("RF") multiplier that increases the emission factor of aeroplanes by 90%. (i.e. a multiplier of 1.9). The analysis in Table 2 excludes the impact of the Radiative Forcing multiplier.

APPENDIX 3: LONDON STANSTED AIRPORT PLANNING APPPLICATION UTT/18/0460/FUL

This Appendix 3 comprises the following 3 documents;

1. Draft s106 agreement dated 27 March 2019 (see Schedule 3: Part 1 in relation to Noise);
2. graphic from London Stansted Airport setting out the proposed scheme and the relevant noise contours; and
3. the Uttlesford DC planning committee report dated 30 November 2018

Department for
Business, Energy
& Industrial Strategy

2018 GOVERNMENT GHG CONVERSION FACTORS FOR COMPANY REPORTING

Methodology paper for emission factors: final report

July 2018

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1. General Introduction

1.1. Greenhouse gases (GHG) can be measured by recording emissions at source, by continuous emissions monitoring or by estimating the amount emitted using activity data (such as the amount of fuel used) and applying relevant conversion factors (e.g. calorific values, emission factors, etc.).

1.2. These conversion factors allow organisations and individuals to calculate GHG emissions from a range of activities, including energy use, water consumption, waste disposal and recycling, and transport activities. For instance, a conversion factor can be used to calculate the amount of GHG emitted as a result of burning a particular quantity of oil in a heating boiler.

1.3. The 2018 Government Greenhouse Gas Conversion Factors for Company Reporting[1] (hereafter the 2018 GHG Conversion Factors) represent the current official set of UK government emissions factors. These factors are also used in a number of different policies. This paper outlines the methodology used to update and expand the emission factors for the 2018 GHG Conversion Factors.

1.4. Values for the non-carbon dioxide (CO_2) GHGs, methane (CH_4) and nitrous oxide (N_2O), are presented as CO_2 equivalents (CO_2e), using Global Warming Potential (GWP) factors from the Intergovernmental Panel on Climate Change (IPCC)'s fourth assessment report (GWP for CH_4 = 25, GWP for N_2O = 298), consistent with reporting under the United Nations Framework Convention on Climate Change (UNFCCC). Although the IPCC have prepared a newer version since, the methods have not yet been officially accepted for use under the UNFCCC. As this is the basis upon which all emissions are calculated in the UK GHG inventory (GHGI), the 2018 GHG Conversion Factors are therefore consistent with this.

1.5. The GHGI for 2016, on which these 2018 GHG Conversion Factors are based on, is available at: https://uk-air.defra.gov.uk/assets/documents/reports/cat07/1804191054_ukghgi-90-16_Main_Issue1.1_UNFCCC.pdf.

1.6. The 2018 GHG Conversion Factors are for one year, from the end of May 2018, and will continue to be reviewed and updated on an annual basis.

1.7. The GHG Conversion Factors have been provided on the GOV.UK site: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting.

1.8. The purpose of this report is to provide the methodological approach, the key data sources and the assumptions used to define the emission factors provided in the 2018 GHG Conversion Factors. The report aims to expand and compliment the information already provided in the data tables themselves. However, it is not intended to be an exhaustively detailed explanation of every calculation performed (this is not practical/possible), nor is it intended to provide guidance on the practicalities of

[1] Previously known as the 'Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting'.

reporting for organisations. Rather, the intention is to provide an overview with key information so that the basis of the emission factors provided can be better understood and assessed.

1.9. Further information about the 2018 GHG Conversion Factors together with previous methodology papers is available at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting.

Overview of changes since the previous update

1.10. Major changes and updates in terms of methodological approach from the 2017 update version are summarised below. All other updates are essentially revisions of the previous year's data based on new/improved data whilst using existing calculation methodologies (i.e. using a similar methodological approach as for the 2017 update):

a) The emission factors for HGVs and Buses were revised this year as a new technology is developed to enable manufacturers to meet diesel engine emissions standards for NO_x emissions. This technology is known as selective catalytic reduction (SCR) and uses a urea solution to effectively remove NO_x and NO_2 from diesel engines' exhaust gases. Emissions from the consumption of urea in heavy duty vehicles and buses is estimated in the conversion factors for the first time and are included in the estimates for the overall CO_2 emission factors.

b) Improvements were made to the Heat & Steam model to make formulae clearer, more concise and easier to trace which assists the QA process. The previous model included hard coded values that were not clearly documented and now these have been changed so that imported data is clearly labelled. The model uses the same data sets as previous years and when combined with the emission factors from other Conversion Factor Workbooks, they are used to:

   a. Compile a list of emission factors per fuel type contained in the Digest of UK Energy Statistics (DUKES) data.

   b. Determine the amount of each fuel type used for heat to build a fuel mix emission factor which is used to derive emission factors per MWh heat. Previously, the model was calculating the emission factors per MWh power in the same sheet with the heat and power emission factors via the PowerStation displacement and boiler displacement methods. These calculations are still contained in the workbook but since they do not form part of the model's output, they have been relegated to an 'Other methods' methodology section.

   c. Report on: kg CO_2 per kWh heat & steam, kg CO_2e (from CH_4) per kWh heat & steam, kg CO_2e (from N_2O) per kWh heat & steam, kg CO_2e (Total direct) per kWh heat & steam and kg CO_2e (WTT) per kWh heat & steam.

c) There have been a number of revisions to the output factors from the Waste Disposal model as a result of an upgrade and data changes. The emissions factors for glass landfill / green and mixed organics composting had previously been taken directly from published studies using a different methodology to the other waste factors. New factors are now used and are based on a standardised approach using data on transport emissions to and on site, and MELMod (landfill emissions model) factors for the landfill emissions.

d) The Material Use model has also been through a number of revisions due to an upgrade and data changes. Key references for closed loop steel recycling have been

updated and the methodology has been improved. This more recent and improved data directly provides Lifecycle Inventory emissions factors per kg of steel recycled, whereas these were previously derived based on emissions for different grades of recycled steel. In addition, the updated metals recycling factors for construction and demolition have been standardised using the updated closed loop steel recycling factor. The methodology has changed and is now based directly on emissions from metals recycling; previously this had been based on published estimated savings from recycling metals.

e) Conversion factors for Transmission and Distribution losses for Overseas Electricity use are no longer included in the GHG Conversion Factors from 2018. These emission factors are now calculated and published by the IEA (International Energy Agency) and as such are not duplicated here. The main conversion factors for overseas electricity generation were not provided in the UK's GHG Conversion Factors after 2015, due to changes in the IEA's licencing conditions. Users requiring these data can purchase them directly from the IEA[2].

1.11. Additional information is also provided in Appendix 3 of this report on major changes to the values of specific emission factors (i.e. for many factors this is plus or minus 10% compared with the 2017 GHG Conversion Factors, though a lower threshold is used in some cases where a much lower degree of annual variation is expected). Some of these changes are due to the methodological adjustments outlined above and in the later sections of this methodology paper, whist others are due to changes in the underlying source datasets.

1.12. Detailed guidance on how the emission factors provided should be used is contained in the introduction to the 2018 GHG Conversion Factors themselves. This guidance must be referred to before using the emission factors and provides important context for the description of the methodologies presented in this report and in the table footnotes.

1.13. It is important to note that this methodology paper's primary aim is to provide information on the methodology used in creating the Government GHG Conversion Factors for Company Reporting (GCF). It does not provide guidance on the approach or methodology required for GHG reporting.

[2] Available here: http://www.iea.org/bookshop/729-CO2_Emissions_from_Fuel_Combustion

Structure of this methodology paper

1.14. The following Sections 2 to 13 provide methodological summary for the data tables contained in the GCF.

Area covered	Location in this document
Fuel Emission Factors	see Section 2
UK Electricity, Heat and Steam Emission Factors	see Section 3
Refrigerant and Process Emission Factors	see Section 4
Passenger Land Transport Emission Factors	see Sections 5
Freight Land Transport Emission Factors	see Sections 6
Sea Transport Emission Factors	see Section 7
Air Transport Emission Factors	see Section 8
Bioenergy and Water	see Section 9
Overseas Electricity Emission Factors	see Section 10
Hotel Stay	see Section 11
Material Consumption/Use and Waste Disposal	see Section 12
Fuel Properties	see Section 13
Unit Conversions	N/A *

*This report does not provide any methodological description for unit conversions, since these are for standard units, provided as simple supplementary information or guidance.

Table 1: Summary Structure of this Methodology Paper

2. Fuel Emission Factors

Summary of changes since the previous update

2.1. The methodology has been improved to remove a double count of activity data in road transport for (petrol and diesel fuels) for cold starts (N_2O) that was present in the underlying NAEI source data presentation. This has resulted in an increase of around 75% for the N_2O emission factor in the 2018 update, compared to 2017. However, the impact on the overall CO_{2e} emission factor is lower than 1%.

Direct Emissions

2.2. All the fuel conversion factors for direct emissions presented in the 2018 GHG Conversion Factors are based on the emission factors used in the UK GHG Inventory (GHGI) for 2016 (managed by Ricardo Energy & Environment[3]).

2.3. The CO_2 emissions factors are based on the same ones used in the UK GHGI and are essentially independent of application (assuming full combustion). However, emissions of CH_4 and N_2O can vary to some degree for the same fuel depending on the particular use (e.g. emission factors for gas oil used in rail, shipping, non-road mobile machinery or different scales/types of stationary combustion plants can all be different). The figures for fuels in the 2018 GHG Conversion Factors are based on an activity-weighted average of all the different CH_4 and N_2O emission factors from the GHGI.

2.4. The standard emission factors from the GHGI have been converted into different energy and volume units using information on Gross and Net Calorific Values (CV) (see definition of Gross CV and Net CV in the footnote below[4]) from BEIS's Digest of UK Energy Statistics (DUKES) 2017[5].

2.5. There are three tables in the 2018 GHG Conversion Factors, the first of which provides emission factors for gaseous fuels, the second for liquid fuels and the final table provides the emission factors for solid fuels.

2.6. When making calculations based on energy use, it is important to check (e.g. with your fuel supplier) whether these values were calculated on a Gross CV or Net CV basis and use the appropriate factor. Natural gas consumption figures quoted in kWh by suppliers in the UK are generally calculated (from the volume of gas used) on a

[3] UK Greenhouse Gas Inventory for 2016 (Ricardo Energy & Environment), available at: https://uk-air.defra.gov.uk/library/reports?report_id=954.

[4] Gross CV or higher heating value (HHV) is the CV under laboratory conditions. Net CV or lower heating value (LHV) is the useful calorific value in typical real-world conditions (e.g. boiler plant). The difference is essentially the latent heat of the water vapour produced (which can be recovered in laboratory conditions).

[5] Available at: https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes

Gross CV basis[6]. Therefore, the emission factor for energy consumption on a Gross CV basis should be used by default for calculation of emissions from natural gas in kWh, unless your supplier specifically states they have used Net CV basis in their calculations instead.

Indirect/WTT Emissions from Fuels

2.7. These fuel lifecycle emissions (also sometimes referred to as 'Well-To-Tank', or simply WTT, emissions usually in the context of transport fuels) are the emissions 'upstream' from the point of use of the fuel. They result from the extraction, transport, refining, purification or conversion of primary fuels to fuels for direct use by end-users and the distribution of these fuels. They are classed as Scope 3 according to the GHG Protocol.

2.8. Last year a newer report: 'Study on Actual GHG Data for Diesel, Petrol, Kerosene and Natural Gas' by Exergia, EM Lab and COWI for DG Ener (2015), was used to calculate the WTT factors for certain fuels. The same report is used within the 2018 Conversion Factors to calculate the WTT factors for the following fuels:

- Petrol
- Diesel
- Kerosene
- Natural gas
- CNG
- LNG.

2.9. The Exergia et al report does not contain data on the WTT emissions from Coal, Naphtha and LPG and therefore the JRC Well-To-Wheels (2014)[7] study is used for these fuels (being the most recent update to this source).

2.10. For fuels covered by the 2018 GHG Conversion Factors where no fuel lifecycle emission factor was available in either source, these were estimated based on similar fuels, according to the assumptions in Table 4.

2.11. WTT emissions for petrol, diesel and kerosene in the Exergia et al study, used within the 2018 GHG Conversion Factors, are based on:

- Detailed modelling of upstream emissions associated with 35 crude oils used in EU refining, which accounted for 88% of imported oil in 2012.
- Estimates of the emissions associated with transport of these crude oils to EU refineries by sea and pipeline, based on location of ports and refineries.
- Emissions from refining, modelled on a country by country basis, based on the specific refinery types in each country. An EU average is then calculated based on the proportion of each crude oil going to each refinery type.
- An estimate of emissions associated with imported finished products from Russia and the US.

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[6] See information available on National Grid website: http://www2.nationalgrid.com/UK/Industry-information/Gas-transmission-operational-data/calorific-value-description/

[7] "Well-to-Wheels Analysis of Future Automotive Fuels and Powertrains in the European Context" Version 4a, May 2014. Report EUR 26236 EN– 2014. http://iet.jrc.ec.europa.eu/about-jec/

2.12. Emission factors are also calculated for diesel as supplied at public and commercial refuelling stations, by factoring in the WTT component due to biodiesel supplied in the UK as a proportion of the total supply of diesel and biodiesel (2.30% by unit volume, 2.12% by unit energy – see Table 2). These estimates have been made based on BEIS's Quarterly Energy Statistics for Renewables[8].

2.13. Emission factors are also calculated for petrol as supplied at public and commercial refuelling stations, by factoring in the bioethanol supplied in the UK as a proportion of the total supply of petrol and bioethanol (4.46% by unit volume, 2.95% by unit energy – see Table 2). These estimates have also been made based on BEIS's Quarterly Energy Statistics for Renewables.[8].

	Total Sales, millions of litres		Biofuel % Total Sales		
	Biofuel	Conventional Fuel	per unit mass	per unit volume	per unit energy
Diesel/Biodiesel	694.14	29,539	2.44%	2.30%	2.12%
Petrol/Bioethanol	749.43	16,050	4.84%	4.46%	2.95%

Source: Department for Transport, Table RTFO 01: Volumes of fuels by fuel type. Data used here comes from two different versions of the report: Year 8 report 6 (final version) and Year9 report 2, both published in February 2018.

Available at: - https://www.gov.uk/government/collections/biofuels-statistics

Table 2: Liquid biofuels for transport consumption: 4th quarter 2016 – 3rd quarter 2017

2.14. Emissions for natural gas, LNG and CNG in the Exergia et al study, used within the 2018 GHG Conversion Factors, are based on:

- Estimates of emissions associated with supply in major gas producing countries supplying the EU. These include both countries supplying piped gas and countries supplying LNG.
- The pattern of gas supply for each Member State (based on IEA data for natural gas supply in 2012)[9].
- Combining the information on emissions associated with sources of gas, with the data on the pattern of gas supply for each Member State, including the proportion of LNG that is imported.

2.15. A similar methodology was developed for use in the 2018 GHG Conversion Factors, to allow the value calculated for gas supply in the UK in the Exergia et al study to be updated annually. This allows changes in the sources of imported gas, particularly LNG, to be reflected in the emissions value.

2.16. Information on quantities and source of imported gas are available annually from DUKES[10] and can be used to calculate the proportion of gas in UK supply coming from each source. These can then be combined with the Exergia et al emissions factors for gas from each source, to calculate a weighted emissions factor for UK supply.

[9] IEA, 2014. Natural Gas Information 2014.

[10] From Table 4.1 Commodity balances for natural gas and Table 4.5 Natural gas imports and exports, DUKES 2017

2.17. The methodology for calculating the WTT emission factors for natural gas and CNG is different to the other fuels as it considers the increasing share of UK gas supplied via imports of LNG (which have a higher WTT emission factor than conventionally sourced natural gas) in recent years. Table 3 provides a summary of the information on UK imports of LNG and their significance compared to other sources of natural gas used in the UK grid, updated to include the most recent data used in the 2018 update. Small quantities of imported LNG are now re-exported, so a value for **net** imports is used in the methodology. The figures in Table 3 have been used to calculate the revised figures for Natural Gas and CNG WTT emission factors provided in Table 4 below. There was a significant decline in LNG imports in 2016.

Year	LNG % of total natural gas imports (2)	Net Imports as % total UK supply of natural gas (1)	LNG Imports as % total UK supply of natural gas
2010	35.4%	39.3%	19.1%
2011	47.2%	42.0%	29.5%
2012	27.9%	47.2%	17.5%
2013	19.5%	50.1%	12.1%
2014	26.7%	44.7%	15.9%
2015	30.7%	42.0%	18.9%
2016	22.2%	48.5%	13.3%

Source: DUKES 2017, (1) Table 4.1 - Commodity balances and (2) Table 4.5 - Natural gas imports and exports.

Table 3: Imports of LNG into the UK as a share of imports and net total natural gas supply

2.18. The final combined emission factors (in $kgCO_2e/GJ$, Net CV basis) are presented in Table 4. These include WTT emissions of CO_2, N_2O and CH_4 and were converted into other units of energy (e.g. kWh, Therms) and to units of volume and mass using the default Fuel Properties and Unit Conversion factors also provided in the 2018 GHG Conversion Factors alongside the emission factor data tables.

Fuel	Indirect/WTT EF ($kgCO_2e/GJ$, Net CV basis)	Source of Indirect/WTT Emission Factor	Assumptions
Aviation Spirit	18.20	Estimate	Similar to petrol
Aviation turbine fuel[1]	15.00	Exergia, EM Lab and COWI (2015)	Emission factor for kerosene
Burning oil[1]	15.00	Estimate	Assume same as factor for Kerosene, as above

Fuel	Indirect/WTT EF ($kgCO_2e/GJ$, Net CV basis)	Source of Indirect/WTT Emission Factor	Assumptions
CNG[2]	11.41	Exergia, EM Lab and COWI (2015)	Factors in UK % share LNG imports
Coal (domestic)	14.81	JEC WTW (2014)	Emission factor for coal
Coal (electricity generation)	14.81	JEC WTW (2014)	Emission factor for coal
Coal (industrial)	14.81	JEC WTW (2014)	Emission factor for coal
Coal (electricity generation - home produced coal only)	14.81	JEC WTW (2014)	Emission factor for coal
Coking coal	14.81	Estimate	Assume same as factor for coal
Diesel (100% mineral diesel)	17.40	Exergia, EM Lab and COWI (2015)	
Fuel oil[4]	15.00	Estimate	Assume same as factor for kerosene
Gas oil[5]	17.40	Estimate	Assume same as factor for diesel
LPG	8.04	JEC WTW (2014)	
LNG[6]	19.60	Exergia, EM Lab and COWI (2015)	
Lubricants	9.53	Estimate	Based on LPG figure, scaled relative to direct emissions ratio
Marine fuel oil	15.00	Estimate	Assume same as factor for fuel oil
Marine gas oil	17.40	Estimate	Assume same as factor for gas oil
Naphtha	14.10	JEC WTW (2014)	
Natural gas	7.89	Exergia, EM Lab and COWI (2015)	Factors in UK % share LNG imports
Other petroleum gas	6.80	Estimate	Based on LPG figure, scaled relative to direct emissions ratio

Fuel	Indirect/WTT EF ($kgCO_2e/GJ$, Net CV basis)	Source of Indirect/WTT Emission Factor	Assumptions
Petrol (100% mineral petrol)	18.20	Exergia, EM Lab and COWI (2015)	
Petroleum coke	12.21	Estimate	Based on LPG figure, scaled relative to direct emissions ratio
Processed fuel oils - distillate oil	9.18	Estimate	Based on LPG figure, scaled relative to direct emissions ratio
Processed fuel oils - residual oil	9.67	Estimate	Based on LPG figure, scaled relative to direct emissions ratio
Refinery miscellaneous	8.78	Estimate	Based on LPG figure, scaled relative to direct emissions ratio
Waste oils	9.53	Estimate	Based on LPG figure, scaled relative to direct emissions ratio

Notes:

(1) Burning oil is also known as kerosene or paraffin used for heating systems. Aviation Turbine fuel is a similar kerosene fuel specifically refined to a higher quality for aviation.
(2) CNG = Compressed Natural Gas is usually stored at 200 bar in the UK for use as an alternative transport fuel.
(3) Fuel oil is used for stationary power generation. Also use this emission factor for similar marine fuel oils.
(4) Gas oil is used for stationary power generation and 'diesel' rail in the UK. Also use this emission factor for similar marine diesel oil and marine gas oil fuels.
(5) LNG = Liquefied Natural Gas, usually shipped into the UK by tankers. LNG is usually used within the UK gas grid; however, it can also be used as an alternative transport fuel.

Table 4: Basis of the indirect/WTT emissions factors for different fuels

3. UK Electricity, Heat and Steam Emission Factors

Summary of changes since the previous update

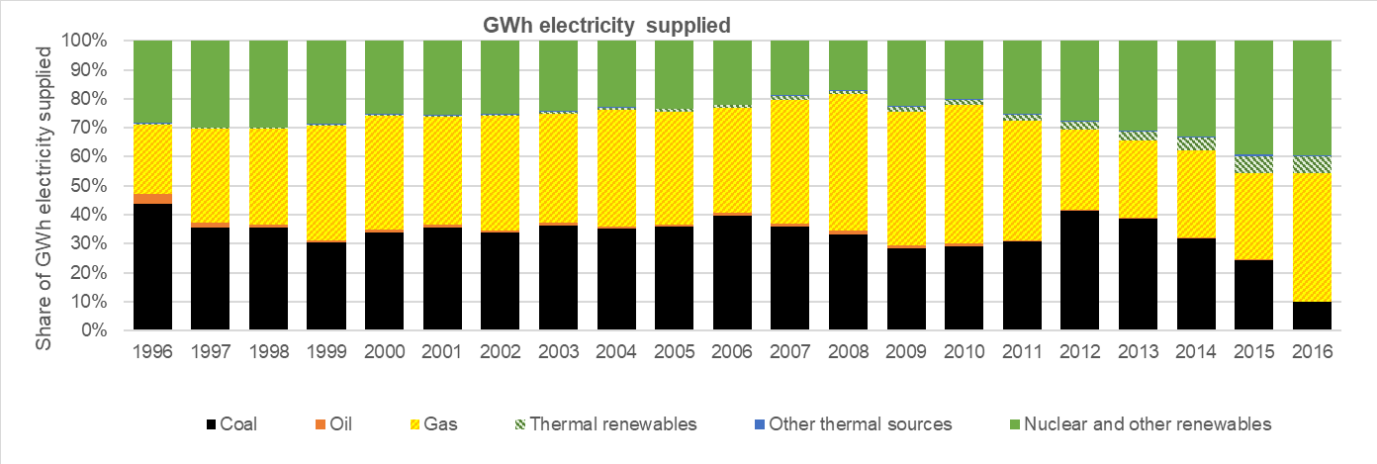
3.1. The Heat & Steam model was updated in 2018 to streamline its processes. The methodology continues to follow the DUKES CHP method for heat to calculate the 2018 GHG conversion factor for heat & steam.

3.2. Additionally, there have been changes to the data that the CHP methodologies depend upon. These comprise changes to DUKES CHP fuel mix, assumptions about the CH_4 and N_2O emissions for certain fuels and changes to the underlying data within NAEI.

Direct Emissions from UK Grid Electricity

3.3. The electricity conversion factors given represent the average CO_2 emission from the UK national grid per kWh of electricity generated, classed as Scope 2 of the GHG Protocol and separately for electricity transmission and distribution losses, classed as Scope 3. The calculations also factor in net imports of electricity via the interconnectors with Ireland, the Netherlands and France. These factors include only direct CO_2, CH_4 and N_2O emissions at UK power stations and from autogenerators (the latter added for the first time in the 2013 GHG Conversion Factors), plus those from the proportion of imported electricity. They do not include emissions resulting from production and delivery of fuel to these power stations (i.e. from gas rigs, refineries and collieries, etc.).

3.4. The UK grid electricity factor changes from year to year as the fuel mix consumed in UK power stations (and autogenerators) changes, and as the proportion of net imported electricity also changes. These annual changes can be large as the factor depends very heavily on the relative prices of coal and natural gas as well as fluctuations in peak demand and renewables. This fluctuation in UK electricity generation mix is illustrated in Figure 1 below.



Notes: The chart presents data for actual years; the emissions factors for a given GHG Conversion Factor update year correspond to the data for the actual year 2 years previous, i.e. the 2018 emission factors are based on 2016 data.

Figure 1: Time series of the mix of UK electricity generation by type

3.5. The UK electricity emission factors provided in the 2018 GHG Conversion Factors are based on emissions from sector 1A1ai (power stations) and 1A2b (autogenerators) in the UK Greenhouse Gas Inventory (GHGI) for 2016 (Ricardo Energy & Environment) according to the amount of CO_2, CH_4 and N_2O emitted per unit of electricity consumed (from DUKES 2017)[11]. These emissions from the GHGI only include autogeneration from coal and natural gas fuels, and do not include emissions for electricity generated and supplied by autogenerators using oil or other thermal non-renewable fuels[12]. In previous updates, this was accounted for by removing this component from the DUKES GWh data. However, since the 2016 update, estimates of the emissions due to these components have been made using standard NAEI emission factors, and information from DUKES Table 5.6, and BEIS's DUKES team on the total fuel use (and shares by fuel type) for this component. An additional correction is made to account for the share of autogeneration electricity that is exported to the grid (~15.4% for the 2016 data year), which varies significantly from year-to-year.

3.6. The UK is a net importer of electricity from the interconnectors with France and Netherlands, and, to a more limited amount, with Ireland according to DUKES (2017). For the 2018 GHG Conversion Factors the total net electricity imports were calculated from DUKES (2017) Table 5.1.2 (Electricity supply, availability and consumption 1970 to 2016). The net shares of imported electricity over the interconnectors are calculated from data from DUKES (2017) Table 5A (Net Imports via interconnectors, GWh).

3.7. An average imported electricity emission factor is calculated from the individual factors for the relevant countries[13] weighted by their respective share of net imports.

[11] DUKES (2017): https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes

[12] Other thermal non-renewable fuels include the following (with ~2017 update % share): blast furnace gas (~32%), chemical waste (~30%), coke oven gas (~5%) and municipal solid waste (MSW, ~35%)

[13] French electricity factor: Rte. Available at: http://www.rte-france.com/en/eco2mix/eco2mix-telechargement-en.

Dutch electricity factor: CBS. Available at: https://www.cbs.nl/nl-nl/achtergrond/2017/06/rendementen-en-co2-emissie-elektriciteitsproductie-2015

Irish electricity factor, SAEI. Available at: http://www.seai.ie/Energy-Data-Portal/Emission_Factors/

This average electricity emission factor – including losses – is used to account for the net import of electricity, as it will also have gone through the relevant countries' distribution systems. Note that this method effectively reduces the UK's electricity emission factors as the resulting average net imported electricity emission factor is lower than that for the UK. This is largely due to the fact that France's electricity generation is much less carbon-intensive than that of the UK, and accounts for the largest share of the net imports.

3.8. The source data and calculated emissions factors are summarised in the following Table 5, Table 6 and Table 7. Time series source data and emission factors are fixed/locked from the 2017 GHG Conversion Factor update onwards and have been highlighted in light grey. The tables provide the data and emission factors against the relevant data year. Table 5 also provides a comparison of how the data year reads across to the GHG conversion factors update / reporting year to which the data and emission factors are applied, which is two years ahead of the data year. For example, the most recent emission factor for the 2018 GHG Conversion Factors is based on a data year of 2016.

3.9. A full-time series of data using the most recently available GHGI and DUKES datasets for all years is also provided in Appendix 1 of this report. This is provided for purposes **other than company reporting**, where a fully consistent data time series is desirable, e.g. for policy impact analysis. This dataset also reflects the changes in the methodological approach implemented for the 2016 update, and is applied across the whole-time series.

Data Year	Applied to Reporting Year*	Electricity Generation (1) GWh	Total Grid Losses (2) %	UK electricity generation emissions (3), ktonne		
				CO_2	CH_4	N_2O
1990	1992	290,666	8.08%	204,614	2.671	5.409
1991	1993	293,743	8.27%	201,213	2.499	5.342
1992	1994	291,692	7.55%	189,327	2.426	5.024
1993	1995	294,935	7.17%	172,927	2.496	4.265
1994	1996	299,889	9.57%	168,551	2.658	4.061
1995	1997	310,333	9.07%	165,700	2.781	3.902
1996	1998	324,724	8.40%	164,875	2.812	3.612
1997	1999	324,412	7.79%	152,439	2.754	3.103
1998	2000	335,035	8.40%	157,171	2.978	3.199
1999	2001	340,218	8.25%	149,036	3.037	2.772
2000	2002	349,263	8.38%	160,927	3.254	3.108
2001	2003	358,185	8.56%	171,470	3.504	3.422
2002	2004	360,496	8.26%	166,751	3.490	3.223
2003	2005	370,639	8.47%	177,044	3.686	3.536
2004	2006	367,883	8.71%	175,963	3.654	3.414

Data Year	Applied to Reporting Year*	Electricity Generation (1) GWh	Total Grid Losses (2) %	UK electricity generation emissions (3), ktonne		
				CO_2	CH_4	N_2O
2005	2007	370,977	7.25%	175,086	3.904	3.550
2006	2008	368,314	7.21%	184,517	4.003	3.893
2007	2009	365,252	7.34%	181,256	4.150	3.614
2008	2010	356,887	7.45%	176,418	4.444	3.380
2009	2011	343,418	7.87%	155,261	4.450	2.913
2010	2012	348,812	7.32%	160,385	4.647	3.028
2011	2013	330,128	7.88%	148,153	4.611	3.039
2012	2014	320,470	8.04%	161,903	5.258	3.934
2013	2015	308,955	7.63%	146,852	4.468	3.595
2014*	2016	297,897	8.30%	126,358	4.769	2.166
2015	2017	296,959	8.55%	106,209	7.567	2.136
2016	2018	297,203	7.85%	84,007	7.856	1.532

Notes:

(1) **From 1990-2013**: Based upon calculated total for centralised electricity generation (GWh supplied) from DUKES Table 5.5 Electricity fuel use, generation and supply for year 1990 to 2014. The total is consistent with UNFCCC emissions reporting categories 1A1ai+1A2d includes (according to Table 5.5 categories) GWh supplied (gross) from all 'Major power producers'; plus, GWh supplied from thermal renewables + coal and gas thermal sources, hydro-natural flow and other non-thermal sources from 'Other generators'.

* **From 2014 onwards**: based on the **total** for **all** electricity generation (GWh supplied) from DUKES Table 5.6, with a reduction of the total for autogenerators based on unpublished data from the BEIS DUKES team on the share of this that is actually exported to the grid (~15% in 2016 data year).

(2) Based upon calculated net grid losses from data in DUKES Table 5.1.2 (long term trends, only available online).

(3) **From 1990-2013**: Emissions from UK centralised power generation (including Crown Dependencies only) listed under UNFCC reporting category 1A1a and autogeneration - exported to grid (UK Only) listed under UNFCC reporting category 1A2f from the UK Greenhouse Gas Inventory for 2012 (Ricardo-AEA, 2014) for data years 1990-2012, for the GHGI for 2013 (Ricardo-AEA, 2015) for the 2013 data year.

* **From 2014 onwards**: Excludes emissions from Crown Dependencies and also includes an accounting (estimate) for autogeneration emissions not specifically split out in the NAEI, consistent with the inclusion of the GWh supply for these elements also from 2014 onwards. Data is from the GHGI (Ricardo Energy & Environment, 2018) for the 2016 data year.

Table 5: Base electricity generation emissions data

Data Year	Emission Factor, kgCO_2e / kWh												% Net Electricity Imports
	For electricity GENERATED (supplied to the grid)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
1990	0.70395	0.00019	0.00577	0.70991	0.05061	0.00001	0.00042	0.05104	0.7658	0.00021	0.00628	0.77229	**3.85%**
1991	0.685	0.00018	0.00564	0.69081	0.04318	0.00001	0.00033	0.04352	0.74675	0.00019	0.00615	0.75309	**5.18%**
1992	0.64907	0.00017	0.00534	0.65458	0.05678	0.00002	0.00042	0.05722	0.70205	0.00019	0.00578	0.70801	**5.29%**
1993	0.58632	0.00018	0.00448	0.59098	0.05101	0.00002	0.00037	0.0514	0.6316	0.00019	0.00483	0.63662	**5.25%**
1994	0.56204	0.00019	0.0042	0.56643	0.04471	0.00002	0.0003	0.04502	0.62154	0.00021	0.00464	0.62639	**5.22%**
1995	0.53394	0.00019	0.0039	0.53803	0.03813	0.00001	0.00024	0.03839	0.58721	0.00021	0.00429	0.5917	**4.97%**
1996	0.50774	0.00018	0.00345	0.51137	0.04182	0.00002	0.00026	0.0421	0.55432	0.0002	0.00376	0.55828	**4.80%**
1997	0.46989	0.00018	0.00297	0.47304	0.03816	0.00002	0.00022	0.0384	0.50961	0.00019	0.00322	0.51302	**4.76%**
1998	0.46912	0.00019	0.00296	0.47226	0.04084	0.00002	0.00024	0.04111	0.51211	0.0002	0.00323	0.51555	**3.51%**
1999	0.43806	0.00019	0.00253	0.44077	0.04375	0.00002	0.00027	0.04404	0.47745	0.00020	0.00275	0.48041	**3.94%**
2000	0.46076	0.0002	0.00276	0.46372	0.04083	0.00002	0.00024	0.04109	0.50293	0.00021	0.00301	0.50616	**3.82%**
2001	0.47872	0.00021	0.00296	0.48189	0.04398	0.00002	0.00027	0.04427	0.52354	0.00022	0.00324	0.52701	**2.78%**
2002	0.46256	0.0002	0.00277	0.46554	0.04487	0.00002	0.00027	0.04516	0.50418	0.00022	0.00302	0.50742	**2.24%**
2003	0.47767	0.00021	0.00296	0.48084	0.03621	0.00002	0.00023	0.03646	0.52187	0.00023	0.00323	0.52533	**0.57%**
2004	0.47831	0.00021	0.00288	0.4814	0.03831	0.00002	0.00025	0.03857	0.52395	0.00023	0.00315	0.52733	**1.97%**
2005	0.47196	0.00022	0.00297	0.47515	0.03884	0.00002	0.00024	0.0391	0.50883	0.00024	0.0032	0.51226	**2.16%**
2006	0.50098	0.00023	0.00328	0.50448	0.03883	0.00002	0.00023	0.03908	0.53993	0.00025	0.00353	0.54371	**1.97%**
2007	0.49625	0.00024	0.00307	0.49956	0.03838	0.00002	0.00022	0.03863	0.53555	0.00026	0.00331	0.53911	**1.37%**
2008	0.49433	0.00026	0.00294	0.49752	0.03611	0.00002	0.00021	0.03634	0.53414	0.00028	0.00317	0.53759	**2.91%**
2009	0.45211	0.00027	0.00263	0.45501	0.03783	0.00002	0.00024	0.03809	0.49074	0.0003	0.00285	0.49389	**0.80%**
2010	0.4598	0.00028	0.00269	0.46277	0.05061	0.00001	0.00042	0.05104	0.49613	0.0003	0.0029	0.49933	**0.73%**
2011	0.44877	0.00029	0.00285	0.45192	0.04318	0.00001	0.00033	0.04352	0.48715	0.00032	0.0031	0.49056	**1.76%**

Data Year	Emission Factor, kgCO_2e / kWh												% Net Electricity Imports
	For electricity GENERATED (supplied to the grid)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
2012	0.5052	0.00034	0.00381	0.50935	0.04418	0.00003	0.00033	0.04454	0.54938	0.00037	0.00414	0.55389	**3.40%**
2013	0.4753	0.0004	0.0035	0.4791	0.0392	0.0000	0.0003	0.0396	0.5146	0.0004	0.0038	0.5187	**4.10%**
2014	0.42417	0.00040	0.00217	0.42673	0.03837	0.00004	0.00020	0.03860	0.46254	0.00044	0.00236	0.46534	**6.44%**
2015	0.35766	0.00064	0.00214	0.36044	0.03343	0.00006	0.00020	0.03369	0.39108	0.00070	0.00234	0.39412	**6.59%**
2016	0.28266	0.00066	0.00154	0.28486	0.02409	0.00006	0.00013	0.02428	0.30675	0.00072	0.00167	0.30913	5.57%

Notes: * From 1990-2013 the emission factor used was for French electricity only, and is as published in previous methodology papers. The methodology was updated from 2014 onwards with new data on the contribution of electricity from the other interconnects, hence these figures are based on a weighted average emission factor of the emission factors for France, the Netherlands and Ireland, based on the % share supplied.

Time series data in light grey is locked/fixed for the purposes of company reporting and has not been updated in the database in the 2018 GHG Conversion Factors update.

Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) / (1 - %Electricity Total Grid LOSSES)

Emission Factor (Electricity LOSSES) = Emission Factor (Electricity CONSUMED) - Emission Factor (Electricity GENERATED)

⇒ Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) + Emission Factor (Electricity LOSSES),

Table 6: Base electricity generation emission factors (excluding imported electricity)

Data Year	Emission Factor, $kgCO_2e$ / kWh												% Net Elec Imports
	For electricity GENERATED (supplied to the grid, plus imports)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
1990	0.6812	0.00019	0.00558	0.68697	0.05985	0.00002	0.00049	0.06036	0.74106	0.0002	0.00607	0.74733	**3.85%**
1991	0.65616	0.00017	0.0054	0.66174	0.05915	0.00002	0.00049	0.05966	0.71532	0.00019	0.00589	0.72139	**5.18%**
1992	0.62005	0.00017	0.0051	0.62532	0.05061	0.00001	0.00042	0.05104	0.67066	0.00018	0.00552	0.67636	**5.29%**
1993	0.55913	0.00017	0.00428	0.56358	0.04318	0.00001	0.00033	0.04352	0.60232	0.00018	0.00461	0.6071	**5.25%**
1994	0.53633	0.00018	0.00401	0.54051	0.05678	0.00002	0.00042	0.05722	0.59311	0.0002	0.00443	0.59773	**5.22%**
1995	0.5113	0.00018	0.00373	0.51521	0.05101	0.00002	0.00037	0.0514	0.56231	0.0002	0.0041	0.56661	**4.97%**
1996	0.48731	0.00017	0.00331	0.4908	0.04471	0.00002	0.0003	0.04502	0.53202	0.00019	0.00361	0.53582	**4.80%**
1997	0.45112	0.00017	0.00285	0.45414	0.03813	0.00001	0.00024	0.03839	0.48925	0.00019	0.00309	0.49253	**4.76%**
1998	0.45633	0.00018	0.00288	0.45939	0.04182	0.00002	0.00026	0.0421	0.49816	0.0002	0.00314	0.5015	**3.51%**
1999	0.42438	0.00018	0.00245	0.427	0.03816	0.00002	0.00022	0.0384	0.46254	0.0002	0.00267	0.46541	**3.94%**
2000	0.44628	0.00019	0.00267	0.44914	0.04084	0.00002	0.00024	0.04111	0.48712	0.00021	0.00292	0.49024	**3.82%**
2001	0.46725	0.0002	0.00289	0.47034	0.04375	0.00002	0.00027	0.04404	0.511	0.00022	0.00316	0.51438	**2.78%**
2002	0.45378	0.0002	0.00272	0.4567	0.04083	0.00002	0.00024	0.04109	0.49461	0.00022	0.00296	0.49779	**2.24%**
2003	0.47537	0.00021	0.00294	0.47853	0.04398	0.00002	0.00027	0.04427	0.51936	0.00023	0.00322	0.5228	**0.57%**
2004	0.47033	0.00021	0.00283	0.47337	0.04487	0.00002	0.00027	0.04516	0.51521	0.00022	0.0031	0.51853	**1.97%**
2005	0.46359	0.00022	0.00291	0.46673	0.03621	0.00002	0.00023	0.03646	0.49981	0.00023	0.00314	0.50318	**2.16%**
2006	0.49263	0.00022	0.00322	0.49608	0.03831	0.00002	0.00025	0.03857	0.53094	0.00024	0.00347	0.53465	**1.97%**
2007	0.49054	0.00024	0.00303	0.49381	0.03884	0.00002	0.00024	0.0391	0.52939	0.00025	0.00327	0.53291	**1.37%**
2008	0.48219	0.00026	0.00286	0.48531	0.03883	0.00002	0.00023	0.03908	0.52102	0.00028	0.00309	0.52439	**2.91%**
2009	0.44917	0.00027	0.00261	0.45205	0.03838	0.00002	0.00022	0.03863	0.48755	0.00029	0.00284	0.49068	**0.80%**
2010	0.45706	0.00028	0.00267	0.46002	0.03611	0.00002	0.00021	0.03634	0.49317	0.0003	0.00289	0.49636	**0.73%**
2011	0.44238	0.00029	0.00281	0.44548	0.03783	0.00002	0.00024	0.03809	0.4802	0.00031	0.00305	0.48357	**1.76%**

Data Year	Emission Factor, $kgCO_2e$ / kWh												% Net Elec Imports
	For electricity GENERATED (supplied to the grid, plus imports)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
2012	0.49023	0.00033	0.00369	0.49426	0.04287	0.00003	0.00032	0.04322	0.5331	0.00036	0.00402	0.53748	**3.40%**
2013	0.4585	0.00035	0.00334	0.46219	0.03786	0.00003	0.00028	0.03816	0.49636	0.00038	0.00362	0.50035	**4.10%**
2014	0.40957	0.00039	0.00209	0.41205	0.03705	0.00003	0.00019	0.03727	0.44662	0.00042	0.00228	0.44932	**6.44%**
2015	0.34885	0.00062	0.00209	0.35156	0.03261	0.00006	0.00020	0.03287	0.38146	0.00068	0.00229	0.38443	**6.59%**
2016	0.28088	0.00066	0.00153	0.28307	0.02394	0.00006	0.00013	0.02413	0.30482	0.00072	0.00166	0.3072	**5.57%**

Notes: * From 1990-2013 the emission factor used was for French electricity only. The methodology was updated from 2014 onwards with new data on the contribution of electricity from the other interconnects, hence these figures are based on a weighted average emission factor of the emission factors for France, the Netherlands and Ireland, based on the % share supplied.

Time series data in light grey is locked/fixed for the purposes of company reporting and has not been updated in the database in 2018 GHG Conversion Factors update.

Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) / (1 - %Electricity Total Grid LOSSES)

Emission Factor (Electricity LOSSES) = Emission Factor (Electricity CONSUMED) - Emission Factor (Electricity GENERATED)

⇒ Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) + Emission Factor (Electricity LOSSES)

Table 7: Base electricity generation emissions factors (including imported electricity)

Indirect/WTT Emissions from UK Grid Electricity

3.10. In addition to the GHG emissions resulting directly from the generation of electricity, there are also indirect/WTT emissions resulting from the production, transport and distribution of the fuels used in electricity generation (i.e. indirect/WTT/ fuel lifecycle emissions as included in the Fuels WTT tables). The average fuel lifecycle emissions per unit of electricity generated will be a result of the mix of different sources of fuel / primary energy used in electricity generation.

3.11. Average WTT emission factors for electricity have been calculated using the corresponding fuels WTT emission factors and data on the total fuel consumption by type of generation from Table 5.6, DUKES, 2017. The data used in these calculations are presented in Table 8, Table 9 and Table 10, together with the final WTT emission factors for electricity. As for the direct emission factors presented in the previous section, earlier years (those prior to the current update) are based on data reported in previous versions of DUKES and following the convention set from 2015 data year, historic time series factors/data have not been updated. The relevant time series source data and emission factors that are fixed/locked have therefore been highlighted in light grey and are unchanged since the last update (i.e. in 2017).

Data Year	Fuel Consumed in Electricity Generation, GWh					
	Coal	Fuel Oil	Natural Gas	Other thermal (excl. renewables)	Other generation	Total
1990 to 1995	N/A	N/A	N/A	N/A	N/A	N/A
1996	390,938	45,955	201,929	16,066	243,574	898,462
1997	336,614	25,253	251,787	16,066	257,272	886,992
1998	347,696	17,793	267,731	16,046	268,184	917,450
1999	296,706	17,920	315,548	16,187	256,159	902,520
2000	333,429	18,023	324,560	15,743	228,045	919,800
2001	367,569	16,545	312,518	12,053	249,422	958,107
2002	344,552	14,977	329,442	12,343	244,609	945,923
2003	378,463	13,867	323,926	17,703	241,638	975,597
2004	364,158	12,792	340,228	16,132	228,000	961,309
2005	378,846	15,171	331,658	21,877	233,705	981,257
2006	418,018	16,665	311,408	18,038	224,863	988,991
2007	382,857	13,491	355,878	14,613	189,813	956,652
2008	348,450	18,393	376,810	13,074	167,638	924,366
2009	286,820	17,597	359,303	11,551	213,450	888,721
2010	297,290	13,705	373,586	9,322	202,893	896,796
2011	302,729	10,514	307,265	8,913	232,146	861,567
2012	399,253	9,076	214,146	12,926	230,227	865,628
2013	365,697	6,849	202,325	15,198	239,526	829,594
2014	280,452	6,167	218,395	19,934	275,426	800,374
2015	212,336	7,192	212,976	23,050	323,693	779,248

Data Year	Fuel Consumed in Electricity Generation, GWh					
	Coal	Fuel Oil	Natural Gas	Other thermal (excl. renewables)	Other generation	Total
2016	87,669	6,790	298,077	25,319	325,774	743,630

Source: For the latest 2016 data year, Table 5.6, Digest of UK Energy Statistics (DUKES) 2017 (BEIS, 2017), available at: https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes#2015. Earlier years are based on data reported in previous versions of DUKES and following the new convention set from 2013 update (2011 data year), historic time series factors/data (i.e. prior to the very latest year) have not been updated.

Table 8: Fuel Consumed in electricity generation (GWh), by year

Data Year	Fuel Consumed in Electricity Generation, % Total					
	Coal	Fuel Oil	Natural Gas	Other thermal (excl. renewables)	Other generation	Total
1990	43.50%	5.10%	22.50%	1.80%	27.10%	100.00%
1991	38.00%	2.80%	28.40%	1.80%	29.00%	100.00%
1992	37.90%	1.90%	29.20%	1.70%	29.20%	100.00%
1993	32.90%	2.00%	35.00%	1.80%	28.40%	100.00%
1994	36.30%	2.00%	35.30%	1.70%	24.80%	100.00%
1995	38.40%	1.70%	32.60%	1.30%	26.00%	100.00%
1996	36.40%	1.60%	34.80%	1.30%	25.90%	100.00%
1997	38.80%	1.40%	33.20%	1.80%	24.80%	100.00%
1998	37.90%	1.30%	35.40%	1.70%	23.70%	100.00%
1999	38.60%	1.50%	33.80%	2.20%	23.80%	100.00%
2000	42.30%	1.70%	31.50%	1.80%	22.70%	100.00%
2001	40.00%	1.40%	37.20%	1.50%	19.80%	100.00%
2002	37.70%	2.00%	40.80%	1.40%	18.10%	100.00%
2003	32.30%	2.00%	40.40%	1.30%	24.00%	100.00%
2004	33.20%	1.50%	41.70%	1.00%	22.60%	100.00%
2005	35.10%	1.20%	35.70%	1.00%	26.90%	100.00%
2006	46.10%	1.00%	24.70%	1.50%	26.60%	100.00%
2007	43.50%	5.10%	22.50%	1.80%	27.10%	100.00%
2008	38.00%	2.80%	28.40%	1.80%	29.00%	100.00%
2009	37.90%	1.90%	29.20%	1.70%	29.20%	100.00%
2010	32.90%	2.00%	35.00%	1.80%	28.40%	100.00%
2011	36.30%	2.00%	35.30%	1.70%	24.80%	100.00%
2012	46.12%	1.05%	24.74%	1.49%	26.60%	100.00%
2013	44.08%	0.83%	24.39%	1.83%	28.87%	100.00%
2014	35.04%	0.77%	27.29%	2.49%	34.41%	100.00%
2015	27.25%	0.92%	27.33%	2.96%	41.54%	100.00%
2016	11.79%	0.91%	40.08%	3.40%	43.81%	100.00%

Notes: Calculated from figures in Table 8.

Table 9: Fuel consumed in electricity generation as a % of the Total, by year

Data Year	Indirect/WTT Emissions as % Direct CO_2 Emissions, by fuel							
	Coal	Fuel Oil	Natural Gas	Other thermal (excl. renewables)	Other generation	Weighted Average	Direct CO_2 ((kg CO_2/ kWh)	Calc Indirect /WTT (kg CO_2e/ kWh
1990	16.50%	18.90%	10.40%	12.50%	14.70%	**14.70%**	0.6812	0.10012
1991	16.50%	18.90%	10.40%	12.50%	14.70%	**14.70%**	0.65616	0.09644
1992	16.50%	18.90%	10.40%	12.50%	14.70%	**14.70%**	0.62005	0.09113
1993	16.50%	18.90%	10.40%	12.50%	14.70%	**14.70%**	0.55913	0.08218
1994	16.50%	18.90%	10.40%	12.50%	14.70%	**14.70%**	0.53633	0.07883
1995	16.50%	18.90%	10.40%	12.50%	14.70%	**14.70%**	0.5113	0.07515
1996	16.50%	18.90%	10.40%	12.50%	14.70%	**14.70%**	0.48731	0.07162
1997	16.50%	18.90%	10.40%	12.50%	14.10%	**14.10%**	0.45112	0.06345
1998	16.50%	18.90%	10.40%	12.50%	14.00%	**14.00%**	0.45633	0.06372
1999	16.50%	18.90%	10.40%	12.50%	13.50%	**13.50%**	0.42438	0.0573
2000	16.50%	18.90%	10.40%	12.50%	13.60%	**13.60%**	0.44628	0.06079
2001	16.50%	18.90%	10.40%	12.50%	13.80%	**13.80%**	0.46725	0.06452
2002	16.50%	18.90%	10.40%	12.50%	13.60%	**13.60%**	0.45378	0.06184
2003	16.50%	18.90%	10.40%	12.50%	13.80%	**13.80%**	0.47537	0.06545
2004	16.50%	18.90%	10.40%	12.50%	13.60%	**13.60%**	0.47033	0.06413
2005	16.50%	18.90%	10.40%	12.50%	13.70%	**13.70%**	0.46359	0.06368
2006	16.50%	18.90%	10.40%	12.50%	14.00%	**14.00%**	0.49263	0.06888
2007	16.50%	18.90%	10.40%	12.50%	13.60%	**13.60%**	0.49054	0.06694
2008	16.50%	18.90%	10.40%	12.50%	13.50%	**13.50%**	0.48219	0.06492
2009	16.50%	18.90%	12.40%	12.50%	14.30%	**14.30%**	0.44917	0.06423
2010	16.50%	18.90%	13.90%	12.50%	15.10%	**15.10%**	0.45706	0.069
2011	16.50%	18.90%	15.30%	12.50%	15.90%	**15.90%**	0.44238	0.07033
2012	16.40%	18.80%	13.45%	12.59%	15.35%	**15.35%**	0.49023	0.07527
2013	16.38%	18.92%	12.62%	12.59%	15.02%	**15.02%**	0.4585	0.0689
2014	16.38%	18.45%	13.61%	12.59%	15.11%	**15.11%**	0.40957	0.06188
2015	16.38%	19.01%	16.03%	12.59%	16.07%	**16.07%**	0.34885	0.05605
2016	16.38%	18.99%	14.63%	12.59%	14.95%	14.95%	0.28088	0.04198

Notes: Indirect/WTT emissions as % direct CO_2 emissions is based on information for specific fuels. Weighted average is calculated from the figures for fuels from both Table 9 and Table 10.

Table 10: Indirect/WTT emissions share for fuels used for electricity generation and the calculated average indirect/WTT emission factor, by year

Emission Factors for the Supply of Purchased Heat or Steam

3.12. Updated emission factors for the supply of purchased heat or steam have been provided for the 2018 GHG Conversion Factors. These conversion factors represent the average emission from the heat and steam supplied by the UK CHPQA scheme[14] operators for a given year. This factor changes from year to year, as the fuel mix consumed changes and is therefore updated annually. No statistics are available that would allow the calculation of UK national average emission factors for the supply of heat and steam from non-CHP operations.

3.13. CHP (Combined Heat and Power) simultaneously produces both heat and electricity, and there are several conventions used to allocate emissions between these products. At the extremes, emissions could be allocated wholly to heat or wholly to electricity, or in various proportions in-between. The GHG Conversion Factors uses the 1/3 : 2/3 DUKES method (Method 1) to determine emissions from heat. This method, together with the alternative boiler displacement and power displacement methods, is described below. It is important to note that since the GHG Conversion Factor for heat is based on the DUKES method. Methods 2 and 3 are provided for information only.

3.14. To determine the amount of fuel attributed to CHP heat (qualifying heat output, or 'QHO'), it is necessary to apportion the total fuel to the CHP scheme to the separate heat and electricity outputs. This then enables the fuel, and therefore emissions, associated with the QHO to be determined. There are three possible methodologies for apportioning fuel to heat and power, which include:

a. **Method 1:** 1/3 : 2/3 Method (DUKES)

b. **Method 2:** Boiler Displacement Method

c. **Method 3:** Power Station Displacement Method

The basis of each method is described in the following sub-sections.

Method 1: 1/3 : 2/3 Method (DUKES)

3.15. Under the UK's Climate Change Agreements (CCAs)[15], this method, which is used to apportion fuel use to heat and power, assumes that twice as many units of fuel are required to generate each unit of electricity than are required to generate each unit of heat. This follows from the observation that the efficiency of the generation of electricity (at electricity only generating plant) varies from as little as 25% to 50%, while the efficiency of the generation of heat in fired boilers ranges from 50% to about 90%.

[14] See https://www.gov.uk/guidance/combined-heat-power-quality-assurance-programme

[15] Climate Change Agreements (CCAs) are agreements between UK energy intensive industries and UK Government, whereby industry undertakes to make challenging, but achievable, improvements in energy efficiency in exchange for a reduction in the Climate Change Levy (CCL).

3.16. Mathematically, Method 1 can be represented as follows:

$$Heat\_Energy = \left(\frac{Total\ Fuel\ Input}{(2 \times Electricity\_Output) + Heat\_Output} \right) \times Heat\_Output$$

$$Electricity\_Energy = \left(\frac{2 \times Total\ Fuel\ Input}{(2 \times Electricity\_Output) + Heat\_Output} \right) \times Electricity\_Output$$

Where:

- 'Total Fuel Input (TFI)' is the total fuel to the prime mover.
- 'Heat Output' is the useful heat generated by the prime mover.
- 'Electricity Output' is the electricity (or the electrical equivalent of mechanical power) generated by the prime mover.
- 'Heat Energy' is the fuel to the prime mover apportioned to the heat generated.
- 'Electricity Energy' is the fuel to the prime mover apportioned to the electricity generated.

3.17. This method is used only in the UK for accounting for primary energy inputs to CHP where the CHP generated heat and electricity is used within a facility with a CCA.

Method 2: Boiler Displacement Method

3.18. Under this convention it is assumed that the heat generated by the CHP displaces heat raised by a boiler with an efficiency of 81% on a GCV basis (90% NCV basis[16]), but that the boiler uses the same fuel mix as the actual fuel mix to the CHP to determine the CO_2 emissions.

3.19. Mathematically, Method 2 can be represented as follows:

$$Heat\_Energy = \left(\frac{Heat\_Output}{0.81} \right)$$

Where: the Heat Energy and Heat Output are as defined for Method 1, above.

3.20. This method has wider understanding within the European Union and has the advantage that it would be compatible with other allocation methodologies for heat.

3.21. Carbon emission factors for Heat and Electricity are calculated according to this method as follows:

CO_2 emission from Fuel for Boiler

$$= \left(\frac{QHO}{0.81} \right) * FuelMixCO2Factor$$

CHP Heat EF = CO_2 emission from Fuel for Boiler / QHO

$$= \left(\frac{FuelMixCO2Factor}{0.81} \right)$$

[16] Annex II, EU Decision (2011/877/EU) establishing harmonised efficiency reference values for separate production of electricity and heat.

CO_2 emission from Fuel for Electricity

$$= \left\{ TFI - \left(\frac{QHO}{0.81} \right) \right\} * FuelMixCO2Factor$$

3 - CHP Electricity EF

$$= \left\{ \left\{ \mathrm{TFI} - \left(\frac{\mathrm{QHO}}{0.81} \right) \right\} * \mathrm{FuelMixCO2Factor} \right\} / \mathrm{QPO}$$

Where: the QHO is the (Qualifying) Heat Output; EF = emission factor.

Method 3: Power Station Displacement Method

3.22. Under this convention it is assumed that the electricity generated by the CHP displaces electricity generated by conventional power only plant with an agreed efficiency (using the UK's fossil fuel fired power stations annual efficiencies, taken into consideration the transmission and distribution losses). This establishes the fuel for electricity and the balance of the fuel to the prime mover is then assumed to be for the generation of heat.

3.23. Mathematically, Method 3 can be represented by:

$$Heat\ Energy = Total\ Fuel\ Input - \left(\frac{Electricity\_Output}{Power\_Stations\_Efficiency} \right)$$

Where: Heat Energy, Total Fuel Input and Electricity Output are defined for Method 1, above.

3.24. This method raises the question of which power generation efficiency to use. For comparison in this analysis we have used the power generation efficiency of gas fired power stations, which has been taken to be 49.5% on a GCV basis[17].

3.25. Carbon emission factors for Heat and Electricity are calculated according to this method as follows:

CO_2 emission from Fuel for Boiler

$$= \left\{ TFI - \left(\frac{ElectricityOutput}{0.495} \right) \right\} * FuelmixCO2Factor$$

CHP Heat emission factor = CO_2 emission from Fuel for Boiler / QHO CO_2 emission from Fuel for Electricity

$$= \left(\frac{QPO}{0.495} \right) * FuelmixCO2Factor$$

CHP Electricity Emission factor

$$= \left(\frac{FuelmixCO2Factor}{0.495} \right)$$

[17] Digest of UK Energy Statistics (DUKES) 2017, Chapter 5, Table 5.10. Plant loads, demands and efficiency in 2016.

Calculation of CO_2 Emissions Factor for CHP Fuel Input, FuelMixCO_2factor

3.26. The value FuelMixCO_2factor referred to above is the carbon emission factor per unit fuel input to a CHP scheme. This factor is determined using fuel input data provided by CHP scheme operators to the CHPQA programme, which is held in confidence.

The value for FuelMixCO_2factor is determined using the following expression:

$$\text{FuelMixCO2factor} = \frac{\sum(\text{Fuel Input} \times \text{Fuel CO2 Emissions Factor})}{\text{TFI}}$$

Where:

- FuelMixCO_2factor is the composite emissions factor (in tCO_2/MWh thermal fuel input) for a scheme
- Fuel Input is the fuel input (in MWh thermal) for a single fuel supplied to the prime mover
- Fuel CO_2 Emissions factor is the CO_2 emissions factor (in tCO_2/MWh_{th}) for the fuel considered.
- TFI is total fuel input (in MWh thermal) for all fuels supplied to the prime mover.

3.27. Fuel inputs and emissions factors are evaluated on a Gross Calorific Value (Higher Heating Value) basis. The following Table 11 provides the individual fuel types considered under the CHPQA scheme and their associated emissions factors, consistent with other reporting.

Fuel	CO_2 Emissions Factor ($kgCO_2/kWh_{th}$)
Biodiesel, bioethanol etc	0.00
Biomass (such as woodchips, chicken litter etc)	0.00
Blast furnace gas	1.01
Coal and lignite	0.32
Coke oven gas	0.14
Domestic refuse (raw)	0.12
Ethane	0.18
Fuel oil	0.27
Gas oil	0.25
Methane	0.18
Mixed refinery gases	0.25
Natural gas	0.18
Other Biogas (e.g. gasified woodchips)	0.00
Other gaseous waste	0.18
Other liquid waste (non-renewable)	0.19
Other liquid waste (renewable)	0.00
Other solid waste	0.23
Sewage gas	0.00

Fuel	CO_2 Emissions Factor ($kgCO_2/kWh_{th}$)
Waste exhaust heat from high temperature processes	0.00
Waste heat from exothermic chemical reactions	0.00
Other waste heat	0.00
Wood Fuels (woodchips, logs, wood pellets etc)	0.00
Fuel cells	0.18
Syngas / Other Biogas (e.g. gasified woodchips)	0.00
Other Industrial By-Product gases	0.18
Hospital waste	0.23

Sources: Defra/BEIS GHG Conversion Factors for Company Reporting (2017 update) and National Atmospheric Emissions Inventory (NAEI).

Note: For waste derived fuels the emission factor can vary significantly according to the waste mix. Therefore, if you have site-specific data it is recommended that you use that instead of the waste derived fuel emissions factors in this table.

Table 11: Fuel types and associated emissions factors used in determination of FuelMixCO_2factor

3.28. The 1/3 : 2/3 method (Method 1) was used to calculate the new heat/steam emission factors provided in the Heat and Steam tables of the 2018 GHG Conversion Factors. This is shown in Table 12. It is important to note that the conversion factors update year is two years ahead of the data year. For example, the most recent emission factor for the 2018 GHG Conversion Factors is based on the data year of 2016 in the table.

3.29. While not used in the 2018 GHG conversion factors, the factor for heat from CHP and power from CHP was calculated using the other two CHP methods and the DUKES power method. These are: 0.22012 CO_2/kWh heat (Boiler displacement), 0.19233 CO_2/kWh heat (Power station displacement), 0.37236 CO_2/kWh power (DUKES method), 0.30401 CO_2/kWh power (Boiler displacement), 0.35997 CO_2/kWh power (power station displacement).

Data Year	$KgCO_2$/kWh supplied heat/steam
	Method 1 (DUKES: 2/3rd - 1/3rd)
2001	0.23770
2002	0.22970
2003	0.23393
2004	0.22750
2005	0.22105
2006	0.23072
2007	0.23118
2008	0.22441

Data Year	$KgCO_2$/kWh supplied heat/steam
	Method 1 (DUKES: 2/3rd - 1/3rd)
2009	0.22196
2010	0.21859
2011	0.21518
2012	0.20539
2013	0.20763
2014	0.20245
2015	0.19564
2016	0.18618

Table 12: Heat/Steam CO_2 emission factor for DUKES 1/3 2/3 method.

Calculation of Non-CO_2 and Indirect/WTT Emissions Factor for Heat and Steam

3.30. CH_4 and N_2O emissions have been estimated relative to the CO_2 emissions, based upon activity weighted average values for each CHP fuel used (using relevant average fuel emission factors from the NAEI). Where fuels are not included in the NAEI, the value for the closest/most similar alternative fuel was utilised instead. There have been some updates to the assumptions here in the 2018 update, although the overall impacts are not significant.

3.31. Indirect/WTT GHG emission factors have been estimated relative to the CO_2 emissions, based upon activity weighted average indirect/WTT GHG emission factor values for each CHP fuel used (see Indirect/WTT Emissions from Fuels from Fuels section for more information). Where fuels are not included in the set of indirect/WTT GHG emission factors provided in the 2018 GHG Conversion Factors, the value for the closest/most similar alternative fuel was utilised instead.

3.32. The complete final emission factors for supplied heat or steam utilised are presented in the 'Heat and Steam' tables of the 2018 GHG Conversion Factors, and are counted as Scope 2 emissions under the GHG Protocol.

3.33. For district heating systems, the location of use of the heat will often be some distance from the point of production and therefore there are distribution energy losses. These losses are typically around 5%, which need to be factored into the calculation of overall GHG emissions where relevant and are counted as Scope 3 emissions under the GHG Protocol (similar to the treatment of transmission and distribution losses for electricity).

4. Refrigerant and Process Emission Factors

Summary of changes since the previous update

4.1. There are no major changes for the refrigerant factors in the 2018 update.

Global Warming Potentials of Greenhouse Gases

4.2. Although revised GWP values have since been published by the IPCC in the Fifth Assessment Report (2014), the conversion factors in the Refrigerant tables incorporate (GWP) values relevant to reporting under UNFCCC, as published by the IPCC in its Fourth Assessment Report that is required to be used in inventory reporting.

Greenhouse Gases Listed in the Kyoto Protocol

4.3. Mixed/Blended gases: GWP values for refrigerant blends are calculated on the basis of the percentage blend composition (e.g. the GWP for R404a that comprises of 44% HFC125[18], 52% HFC143a and 4% HFC134a is [3500 x 0.44] + [4470 x 0.52] + [1430x 0.04] = 3922). A limited selection of common blends is presented in the Refrigerant tables.

Other Greenhouse Gases

4.4. CFCs and HCFCs[19]: Not all refrigerants in use are classified as GHGs for the purposes of the UNFCCC and Kyoto Protocol (e.g. CFCs, HCFCs). These gases are controlled under the Montreal Protocol and as such GWP values are also listed in the provided tables.

[18] HFC: Hydrofluorocarbon

[19] CFCs: Chlorofluorocarbons; HCFCs: Hydrochlorofluorocarbons

5. Passenger Land Transport Emission Factors

Summary of changes since the previous update

5.1. The emission factors for buses (and other heavy-duty vehicles) were revised this year to account for new technology being deployed on new vehicles to enable manufacturers to meet the most recent diesel engine emissions standards for NO_x emissions. This technology uses a urea solution (also known as 'AdBlue') to effectively reduce NO_x from diesel engines' exhaust gases. Emissions resulting from the consumption of urea in buses is estimated in the conversion factors for the first time in 2018 and are included in the estimates for the overall CO_2 emission factors.

5.2. For hybrid cars, a revision has been made to the underlying SMMT (Society of Motor Manufacturers & Traders) source dataset used in the derivation of passenger car emission factors, which has resulted in increased factors for (non-plug-in) hybrid cars in some cases.

Direct Emissions from Passenger Cars

Emission Factors for Petrol and Diesel Passenger Cars by Engine Size

5.3. SMMT (Society for Motor Manufacturers and Traders)[20] provides numbers of registrations and averages of the NEDC[21] gCO_2/km figures for new vehicles registered from 1997 to 2017[22]. The dataset represents a good indication of the relative NEDC gCO_2/km by size category. Table 13 presents the 2001-2017 average CO_2 emission factors and number of vehicle registrations.

[20] SMMT is the Society of Motor Manufacturers and Traders that represents the UK auto industry. http://www.smmt.co.uk/

[21] NEDC = New European Driving Cycle, which is used in the type approval of new passenger cars.

[22] The SMMT gCO_2/km dataset for 1997 represented around 70% of total registrations, which rose to about 99% by 2000 and essentially all vehicles thereafter.

Vehicle Type	Engine size	Size label	NEDC gCO_2 per km	Total no. of registrations	% Total
Petrol car	< 1.4 l	Small	126.9	13,055,579	55%
	1.4 - 2.0 l	Medium	165.3	8,999,251	38%
	> 2.0 l	Large	249.4	1,479,185	6%
Average petrol car		**All**	**154.4**	**23,534,015**	**100%**
Diesel car	<1.7 l	Small	110.9	5,308,184	33%
	1.7 - 2.0 l	Medium	139.0	7,346,311	46%
	> 2.0 l	Large	171.7	3,401,926	21%
Average diesel car		**All**	**140.4**	**16,056,421**	**100%**

Table 13: Average CO_2 emission factors and total registrations by engine size for 2001 to 2017 (based on data sourced from SMMT)

5.4. For the 2018 GHG Conversion Factors update, the SMMT data have been used in conjunction with DfT's ANPR (Automatic Number Plate Recognition) data to weight the emission factors to account for the age and activity distribution of the UK vehicle fleet in 2015 (the ANPR dataset is only updated in the NAEI on a bi-annual basis)).

5.5. The ANPR data have been collected annually (since 2007) over 256 sites in the UK on different road types (urban and rural major/minor roads, and motorways) and regions. Measurements are made at each site on one weekday (8am-2pm and 3pm-9pm) and one-half weekend day (either 8am-2pm or 3pm-9pm) each year in June and are currently available for 2007, 2008, 2009, 2010, 2011, 2013, 2014 and 2015. Data are not available for 2016, as this dataset is only updated on a bi-annual basis for the NAEI, therefore for the 2018 GHG Conversion Factors the 2015 data have been used. There are approximately 1.4 -1.7 million observations recorded from all the sites each year, and they cover various vehicle and road characteristics such as fuel type, age of vehicle, engine sizes, vehicle weight and road types.

5.6. Data for the UK car fleet were extracted from the 2015 ANPR dataset and categorised according to their engine size, fuel type and year of registration. The 2018 GHG Conversion Factors' emission factors for petrol and diesel passenger cars were subsequently calculated based upon the equation below:

$$2018 \text{ update } gCO_2/km = \Sigma \left(gCO_2/km_{yr\ reg} \times \frac{ANPR_{yr\ reg}}{ANPR_{total\ 2015}} \right)$$

5.7. A limitation of the NEDC (New European Driving Cycle – used in vehicle type approval) is that it takes no account of further 'real-world' effects that can have a significant impact on fuel consumption. These include use of accessories (air con, lights, heaters etc.), vehicle payload (only driver +25kg is considered in tests, no passengers or further luggage), poor maintenance (tyre under inflation, maladjusted tracking, etc.), gradients (tests effectively assume a level road), weather, more aggressive/harsher driving style, etc. It is therefore desirable to uplift NEDC based data to bring it closer to anticipated 'real-world' vehicle performance.

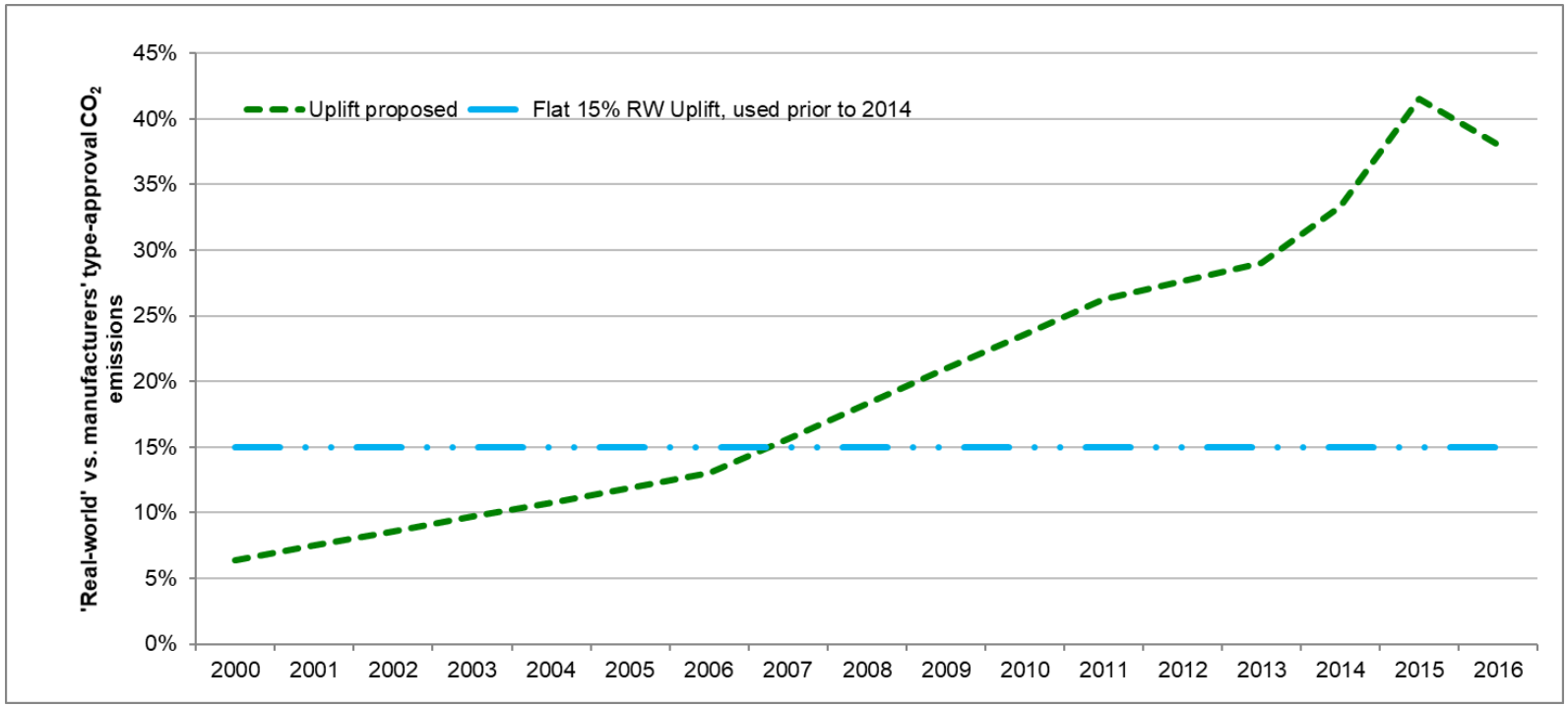
5.8. An uplift factor over NEDC based gCO_2/km factors is applied to take into account the combined 'real-world' effects on fuel consumption. The uplift applied varies over time and is based on work performed by ICCT (2017)[23]; this study used data on almost 1.1 million vehicles from fourteen data sources and eight countries, covering the fuel consumption/CO_2 from actual real-world use and the corresponding type-approval values. The values used are based on average data from the two UK-based sources analysed in the ICCT study, as summarised in Table 14 below, and illustrated in Figure 2 alongside the source data/chart reproduced from the ICCT (2017) report. This was an update of the previous report used for the 2017 update to the GHG Conversion Factors. The methodology for the revised approach was also agreed with DfT upon its introduction in 2014.

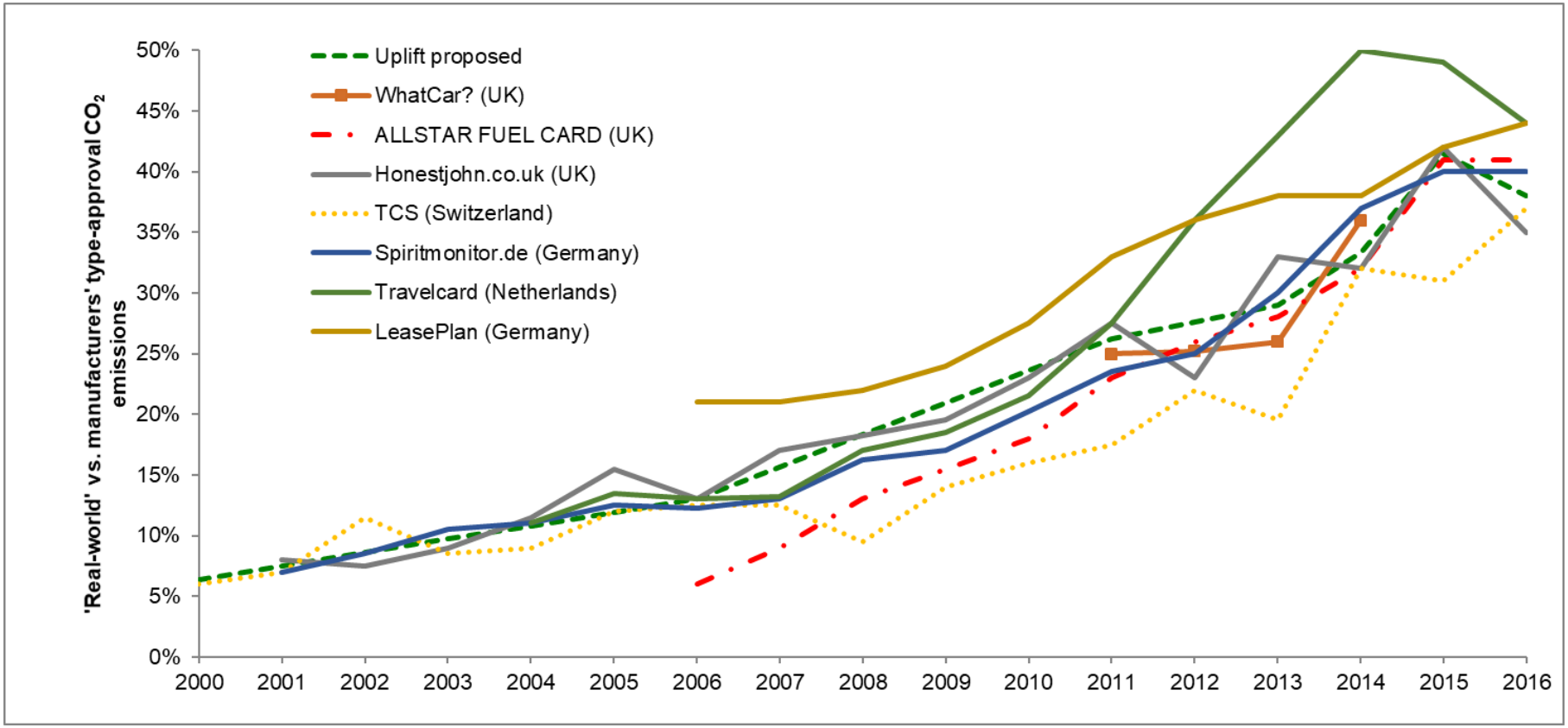
[23] Report by the ICCT, November 2017, FROM LABORATORY TO ROAD: A 2017 update of official and 'real-world' fuel consumption and CO_2 values for passenger cars in Europe, available at: https://www.theicct.org/sites/default/files/publications/Lab-to-road-2017_ICCT-white%20paper_06112017_vF.pdf.

Data year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
RW uplift %	8.60%	9.70%	10.8%	11.9%	13.0%	15.6%	18.3%	21.0%	23.6%	26.2%	27.6%	29.0%	33.3%	41.5%	38.0%

Table 14: Average GCF 'real-world' uplift for the UK, applied to the NEDC-based gCO_2/km data

5.9. The above uplifts have been applied to the ANPR weighted SMMT gCO_2/km to give the new 'Real-World' 2018 GHG Conversion Factors, to take into account the 'real-world' impacts on fuel consumption not captured by drive cycles such as the NEDC in type-approval. The final average equivalent uplift averaged across all vehicles was 20.9% on top of NEDC gCO_2/km.





Notes: In the above charts a y-axis value of 0% would mean no difference between the CO_2 emissions per km experienced in 'real-world' driving conditions and those from official type-approval testing.

Figure 2: Updated GCF 'Real world' uplift values for the UK based on ICCT (2017)

5.10. Figures for the aggregated average emission factors by engine type and fuel type (as well as the overall average) were calculated based on weighting by the relative mileage of the different categories. This calculation utilised data from the UK GHG Inventory on the relative % total mileage by petrol and diesel cars. Overall for petrol and diesel, this split in total annual mileage was 50.5% petrol and 49.5% diesel, and can be compared to the respective total registrations of the different vehicle types for 2011-2017, which were 59.4% petrol and 40.6% diesel.

5.11. Emission factors for CH_4 and N_2O have been updated for all vehicle classes and are based on the emission factors from the NAEI. The emission factors used in the NAEI are based on COPERT 4 version 11[24].

5.12. The final 2018 emission factors for petrol and diesel passenger cars by engine size are presented in the 'Passenger vehicles' and 'business travel- land' tables of the 2018 GHG Conversion Factors.

Hybrid, LPG and CNG Passenger Cars

5.13. The methodology used in the 2018 update for small, medium and large hybrid petrol/diesel electric cars is similar to that used previously, and is calculated in a similar way to conventional petrol and diesel vehicles. The emission factors are based on datasets with numbers of registrations and averages of the NEDC gCO_2/km figures from SMMT for new hybrid vehicles registered between 2011 and 2017. In previous years, the SMMT source dataset used in the derivation of passenger car emission factors included plug-in hybrid cars with in the hybrid category. A small revision to this dataset was made in 2018 to exclude these data (as these vehicles are now captured separately), which has resulted in increased factors in some cases.

5.14. Due to the significant size and weight of the LPG and CNG fuel tanks it is assumed only medium and large sized vehicles are available. In the 2018 GHG Conversion Factors, CO_2 emission factors for CNG and LPG medium and large cars are derived by multiplying the equivalent petrol EF by the ratio of CNG (and LPG) to petrol emission factors on a unit energy (Net CV) basis. For example, for a Medium car run on CNG:

$$\mathrm{gCO_2/km_{CNG\ Medium\ car}} = \mathrm{gCO_2/km_{Petrol\ Medium\ car}} \times \frac{\mathrm{gCO_2/kWh_{CNG}}}{\mathrm{gCO_2/kWh_{Petrol}}}$$

5.15. For the 2018 GHG Conversion Factors, the emission factors for CH_4 and N_2O were updated, but the methodology remains unchanged. These are based on the emission factors from the NAEI (produced by Ricardo Energy & Environment) and are presented together with an overall total emission factors in the 'Passenger vehicles' and 'business travel- land' tables of the 2018 GHG Conversion Factors.

Plug-in Hybrid Electric and Battery Electric Passenger Cars (xEVs)

5.16. Since the number of electric vehicles (xEVs[25]) in the UK fleet is rapidly increasing (and will continue to increase in the future), at least for passenger cars and vans,

[24] COPERT 4 is a software tool used world-wide to calculate air pollutant and greenhouse gas emissions from road transport, see: http://emisia.com/products/copert-4.

[25] xEVs is a generic term used to refer collectively to battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), range-extended electric vehicles (REEVs, or ER-EVs, or REX) and fuel cell electric vehicles (FCEVs).

there is a need for specific emission factors for such vehicles to complement emission factors for vehicles fuelled primarily by petrol, diesel, natural gas or LPG.

5.17. Consequently, for the first time in the 2018 GHG Conversion Factors, new emission factors were developed for these vehicle types. The methodology, data sources and key assumptions utilised in the development of these emission factors for xEVs were discussed and agreed with the DfT.

5.18. These emission factors are currently presented in a number of data tables in the GHG Conversion Factors workbook, according the type / 'Scope' of the emission component. The following tables / worksheets, shown in Table 15, are required for BEVs (battery electric vehicles) and PHEVs (plug-in hybrid electric vehicles), and related REEVs (range-extended electric vehicles). Since there are still relatively few models available on the market, all PHEVs and REEVs are grouped into a single category. There are not yet meaningful numbers of fuel cell electric vehicles (FCEVs) in use, so these are not included at this time.

5.19. Table 15 provides an overview of the GHG Conversion Factor tables that have been developed for the reporting of emissions from electric vehicles, which aligns with current reporting. Whilst most emission factors could be accommodated by simply extending existing tables for cars and vans, two new tables (marked NEW) were needed to account for emissions resulting from electricity consumption, and these were added in the 2017 GHG Conversion Factors.

Emission component	Emissions Scope and Reporting Worksheet	Plug-in hybrid electric vehicles (PHEVs)	Battery electric vehicles (BEVs)
Direct emissions from use of petrol or diesel	**Scope 1:** • Passenger vehicles • Delivery vehicles	Yes	(Zero emissions)
Emissions resulting from electricity use: (a) Electricity Generation (b) Electricity Transmission & Distribution losses	**(a) Scope 2:** • UK electricity for EVs [NEW in 2017 update] **(b) Scope 3:** • UK electricity T&D for EVs [NEW in 2017 update]	Yes	Yes
Upstream emissions from use of liquid fuels and electricity	**Scope 3:** • WTT- pass vehs & travel-land • WTT- delivery vehs & freight	Yes	Yes
Total GHG emissions for all components for not directly owned /controlled assets	**Scope 3:** • Business travel- land • Freighting goods • Managed assets- vehicles	Yes	Yes

Note:

- **Scope 1 (direct) emissions** are those from activities owned or controlled by your organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces and vehicles; and emissions from chemical production in owned or controlled process equipment.
- **Scope 2 (energy indirect) emissions** are those released into the atmosphere that are associated with consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of an organisation's energy use, but occur at sources the organisation does not own or control.
- **Scope 3 (other indirect) emissions** are a consequence of your actions that occur at sources an organisation does not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by an organisation, waste disposal, materials or fuels an organisation's purchases. Deciding if emissions from a vehicle, office or factory that you use are Scope 1 or Scope 3 may depend on how organisations define their operational boundaries. Scope 3 emissions can be from activities that are upstream or downstream of an organisation. More information on Scope 3 and other aspects of reporting can be found in the Greenhouse Gas Protocol Corporate Standard.

Table 15: Summary of emissions reporting and tables for new electric vehicle emission factors

Data inputs, sources and key assumptions

5.20. A number of data inputs and assumptions were needed in order to calculate the final GHG conversion factors for electric cars and vans. The following table, Table 16, provides a summary of the key data inputs needed, the key data sources and other assumptions used for the calculation of the final xEV emission factors.

5.21. The calculation of UK fleet average emission factors for electric vehicles is based upon data obtained from the EEA CO_2 monitoring databases for cars and vans, which are publicly available[26] [27]. This database provides details by manufacturer and vehicle type (and by EU member state) on the annual number of registrations and test cycle performance for average CO_2 emissions (gCO_2/km) and electrical energy consumption (Wh/km, for plug-in vehicles). This allows for the classification of vehicles into market segments and also the calculation of registrations weighted average performance figures. The xEV models included in the current database (which covers registrations up to the end of 2016) and their allocation to different market segments, is provided in Table 16. For the purposes of calculating the corresponding emission factors for the tables split by car 'size' category, it is assumed segments A and B are 'Small' cars, segments C and D are 'Medium' cars and all other segments are 'Large' cars.

Make	Model	Segment	Segment Name	BEV	PHEV
Audi	A3	C	Lower Medium	-	Yes
Audi	Q7	H	Dual Purpose	-	Yes
BMW	I3	B	Supermini	Yes	-
BMW	I3 REEV	B	Supermini	-	Yes
BMW	I8	G	Specialist Sports	-	Yes
BMW	Series 2	C	Lower Medium	-	Yes
BMW	Series 3	D	Upper Medium	-	Yes
BMW	Series 5	E	Executive	-	-
BMW	X5	H	Dual Purpose	-	Yes
BYD	E6Y	C	Lower Medium	Yes	-
Chevrolet	Volt	C	Lower Medium	-	Yes

[26] https://www.eea.europa.eu/data-and-maps/data/co2-cars-emission-14

[27] https://www.eea.europa.eu/data-and-maps/data/vans-10

Make	Model	Segment	Segment Name	BEV	PHEV
Citroen	C-Zero	A	Mini	Yes	-
Ford	Focus	C	Lower Medium	Yes	-
Hyundai	Ioniq	C	Lower Medium	Yes	-
Kia	Optima	D	Upper Medium	-	Yes
Kia	Soul	B	Supermini	Yes	-
Mahindra	E20PLUS	C	Lower Medium	Yes	-
McLaren	P1	G	Specialist Sports	-	Yes
Mercedes-Benz	B Class	C	Lower Medium	Yes	-
Mercedes-Benz	C Class	D	Upper Medium	-	Yes
Mercedes-Benz	E Class	E	Executive	-	Yes
Mercedes-Benz	GL	H	Dual Purpose	-	Yes
Mercedes-Benz	S Class	F	Luxury Saloon	-	Yes
Mia	Mia	A	Mini	Yes	-
Mitsubishi	I-MIEV	A	Mini	Yes	-
Mitsubishi	Outlander	H	Dual Purpose	-	Yes
Nissan	e-NV200	I	Multi Purpose Vehicle	Yes	-
Nissan	Leaf	C	Lower Medium	Yes	-
Opel	Ampera	D	Upper Medium	-	Yes
Peugeot	Ion	A	Mini	Yes	-
Porsche	918	G	Specialist Sports	-	Yes
Porsche	Cayenne	H	Dual Purpose	-	Yes
Porsche	Panamera	F	Luxury Saloon	-	Yes
Renault	Fluence Z.E.	D	Upper Medium	Yes	-
Renault	Kangoo	I	Multi Purpose Vehicle	Yes	-
Renault	Zoe	C	Lower Medium	Yes	-
Smart	ForTwo	A	Mini	Yes	-
Tesla	Model S	F	Luxury Saloon	Yes	-
Tesla	Model X	H	Dual Purpose	Yes	-
Tesla	Roadster	G	Specialist Sports	Yes	-
Think	ThinkCity	A	Mini	Yes	-
Toyota	Prius	C	Lower Medium	-	Yes
Volkswagen	E-Up	A	Mini	Yes	-
Volkswagen	Golf	C	Lower Medium	Yes	Yes
Volkswagen	Passat	D	Upper Medium	-	Yes
Volvo	V60	D	Upper Medium	-	Yes
Volvo	XC90	H	Dual Purpose	-	Yes

Notes: Only includes models with registrations in the UK fleet up to the end of 2016.

Table 16: xEV car models and their allocation to different market segments

5.22. During the course of the derivation of the emission factors, a number of discrepancies were found in the EEA CO_2 monitoring database for the gCO_2/km and Wh/km data for certain models, which were then updated based on other sources of official NEDC type-approval data, for example from manufacturer's websites and the Green Car Guide[28].

5.23. Consistent with the approach used for the calculation of emission factors for conventionally fuelled passenger cars, the gCO_2/km and Wh/km figures from type approval with NEDC need adjusting to account for real-world performance (charging losses are already accounted for under the type approval methodology[29]). A number of assumptions are therefore made in order to calculate adjusted 'Real-World' energy consumption and emission factors, consistent with the approach for conventionally fuelled passenger cars. These assumptions were discussed and agreed with DfT.

5.24. A further complication for PHEVs is that the real-world electric range is lower than that calculated on the standard regulatory testing protocol, which also needs to be accounted for in the assumption of the average share of total km running on electricity. Figure 3 provides an illustration of the utility function used to calculate the share of electric km based on the electric range of a PHEV. Real-World factors for average gCO_2/km and Wh/km for PHEVs are therefore further adjusted based on the ratio of calculated electric shares of total km under Test-Cycle and Real-World conditions.

5.25. The key assumptions used in the calculation of adjusted Real-World gCO_2/km and Wh/km figures are summarised in Table 17. The calculated real-world figures for individual vehicle models are used to calculate the final registrations-weighted average factors for different vehicle segments/sizes. These are then combined with other GHG Conversion Factors to calculate the final set of emission factors for different Scopes/reporting tables (i.e. as summarised in earlier Table 15).

Data type	Raw data source / assumption	Other notes
Numbers of registrations of different vehicle types/models	Reported for GB by vehicle make/model in EEA CO_2 monitoring databases: • Data for 2010-2016 for cars • Data for 2012-2016 for vans	This data is used in conjunction with CO_2/km and Wh/km data to calculate registrations-weighted average figures by market segment or vehicle size category.
CO_2 emissions from petrol or diesel fuel use per km (test-cycle)	As for registrations	Zero for BEVs. For PHEVs the emission factors are for the average share of km driven in charge-sustaining mode / average liquid fuel consumption per km

[28] https://www.greencarguide.co.uk/

[29] www.vda.de/dam/vda/publications/2014/facts-and-arguments-about-fuel-consumption.pdf

Data type	Raw data source / assumption	Other notes
Wh electricity consumption per km (test-cycle)	As for registrations	Average electricity consumption per average km (i.e. factoring in for PHEVs that only a fraction of total km will be in electric mode).
Test-Cycle to Real-World conversion for gCO_2 / km	Assumption based on literature, consistent with source used for the car EFs for conventional powertrains.	An uplift of **35%** is applied to the test-cycle emission component.
Test-Cycle to Real-World conversion for Wh per km	Assumption based on best available information on the average difference between test-cycle and real-world performance	An uplift of **40%** is applied to the test-cycle electrical energy consumption component. This is consistent with the uplift currently being used in analysis for the EC DG CLIMA, developed/agreed with the EC's JRC.
Electric range for PHEVs under Test-Cycle conditions	Available from various public sources for specific models	Values representative of the models currently available on the market are used, i.e. generally between 30-50km. The notable exception is the BMW i3 REX, which was 200km up to 2015.
Electric range for PHEVs under Real-World conditions	Calculated based on Test-Cycle electric range and Test-Cycle to Real-World conversion for Wh per km	Calculated based on Test-Cycle electric range and Test-Cycle to Real-World conversion for Wh/km
Share of electric km on Test-Cycle	Calculated using the standard formula used in type-approval*: **Electric km %** = 1 – (25 / (25 + Electric km range))	Uses Test-Cycle electric range in km
Share of electric km in Real-World conditions	Calculated using standard formula*: **Electric km %** = 1 – (25 / (25 + Electric km range))	Uses Real-World electric range in km
Loss factor for electric charging	N/A	Charging losses are already accounted for under the type approval testing protocol in the Wh/km dataset.

Data type	Raw data source / assumption	Other notes
GHG emission factors for electricity consumption	UK electricity emission factors (kgCO_2e / kWh): • Electricity generated • Electricity T&D • WTT electricity generated • WTT electricity T&D	From the UK GHG Conversion Factors model outputs for UK Electricity
CH_4, N_2O and WTT CO_2e emissions from petrol /diesel use	Calculated based on derived Real-World g/km for petrol /diesel.	Calculation uses GHG Conversion Factors for petrol/diesel: uses ratio of direct CO_2 emission component to CH_4, N_2O or WTT CO_2e component for petrol/diesel.

Notes: * the result of this formula is illustrated in Figure 3 below.

Table 17: Summary of key data elements, sources and key assumptions used in the calculation of GHG conversion factors for electric cars and vans

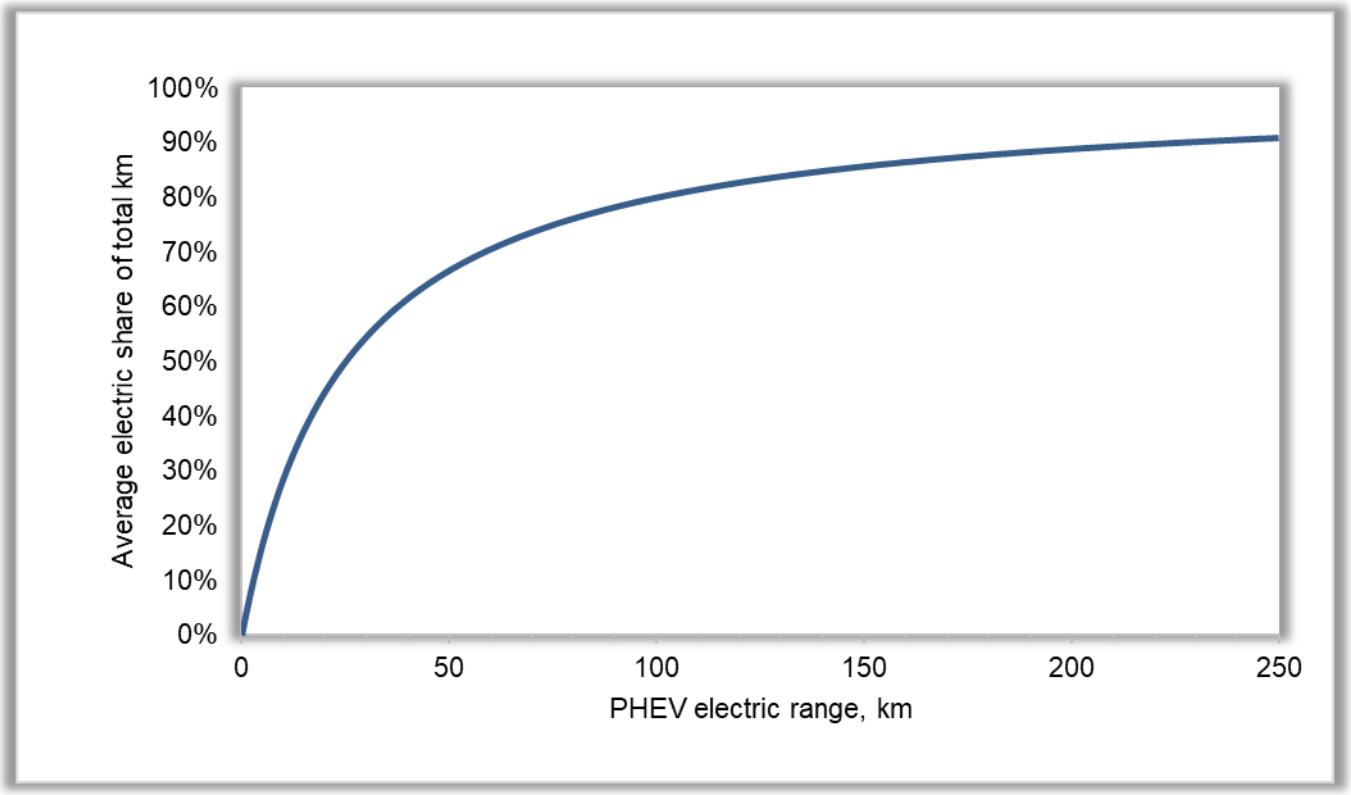


Figure 3: Illustration of the relationship of electric range to average electric share of total km for PHEVs assumed in the calculations

Emission Factors by Passenger Car Market Segments

5.26. For the 2018 GHG Conversion Factors, the market classification split (according to SMMT classifications) was derived using detailed SMMT data on new car registrations between 2011 and 2017 split by fuel[30], presented in Table 18, and again combining this with information extracted from the 2015 ANPR dataset. These data were then uplifted to take into account 'real-world' impacts, consistent with the methodology used to derive the car engine size emission factors. The supplementary market segment based emission factors for passenger cars are presented in the 'Passenger vehicles' and 'business travel- land' tables of the 2018 GHG Conversion Factors.

5.27. Emission factors for CH_4 and N_2O were also updated for all car classes. These figures are based on the emission factors from the UK GHG Inventory. The emission factors used in the NAEI are now based on COPERT 4 version 11[31]. The factors are presented together with the overall total emission factors in the tables of the 2018 GHG Conversion Factors.

5.28. As a final additional step, an accounting for biofuel use has been included in the calculation of the final passenger car emission factors.

Fuel Type	Market Segment	Example Model	2001 to 2017		
			gCO_2/km	# registrations	% Total
Diesel	A. Mini	Smart ForTwo	90.4	8,531	0.1%
	B. Super Mini	VW Polo	106.8	1,896,272	11.81%
	C. Lower Medium	Ford Focus	118.3	4,796,196	29.87%
	D. Upper Medium	Toyota Avensis	136.3	3,623,841	22.57%
	E. Executive	BMW 5-Series	143.3	1,346,631	8.39%
	F. Luxury Saloon	Bentley Continental GT	177.2	78,147	0.49%
	G. Specialist Sports	Mercedes SLK	135.3	115,036	0.72%
	H. Dual Purpose	Land Rover Discovery	164.5	2,884,603	17.97%
	I. Multi Purpose	Renault Espace	147.1	1,307,165	8.14%
	All	**Total**	**140.4**	**16,056,422**	**100%**
Petrol	A. Mini	Smart ForTwo	113.0	860,929	3.65%
	B. Super Mini	VW Polo	129.6	11,513,671	48.80%
	C. Lower Medium	Ford Focus	153.4	6,272,207	26.58%
	D. Upper Medium	Toyota Avensis	183.6	2,018,160	8.55%
	E. Executive	BMW 5-Series	210.9	529,511	2.24%

[30] This data was provided by EST and is based on detailed data sourced from SMMT on new car registrations.

[31] COPERT 4 is a software tool used world-wide to calculate air pollutant and greenhouse gas emissions from road transport, see: http://emisia.com/products/copert-4.

Fuel Type	Market Segment	Example Model	2001 to 2017		
			gCO_2/km	# registrations	% Total
	F. Luxury Saloon	Bentley Continental GT	292.2	91,849	0.39%
	G. Specialist Sports	Mercedes SLK	211.3	796,413	3.38%
	H. Dual Purpose	Land Rover Discovery	212.0	751,592	3.19%
	I. Multi Purpose	Renault Espace	168.8	759,966	3.22%
	All	**Total**	**154.4**	**23,594,298**	**100%**
Unknown Fuel (Diesel + Petrol)	A. Mini	Smart ForTwo	111.8	869,460	2.19%
	B. Super Mini	VW Polo	125.0	13,409,943	33.82%
	C. Lower Medium	Ford Focus	136.3	11,068,403	27.91%
	D. Upper Medium	Toyota Avensis	149.5	5,642,001	14.23%
	E. Executive	BMW 5-Series	157.2	1,876,142	4.73%
	F. Luxury Saloon	Bentley Continental GT	227.3	169,996	0.43%
	G. Specialist Sports	Mercedes SLK	194.0	911,449	2.30%
	H. Dual Purpose	Land Rover Discovery	171.4	3,636,195	9.17%
	I. Multi Purpose	Renault Espace	154.5	2,067,131	5.21%
	All	**Total**	**147.0**	**39,650,720**	**100%**

Table 18: Average car CO_2 emission factors and total registrations by market segment for 2001 to 2017 (based on data sourced from SMMT)

Direct Emissions from Taxis

5.29. The emission factors for black cabs are based on data provided by Transport for London (TfL)[32] on the testing of emissions from black cabs using real-world London Taxi cycles, and an average passenger occupancy of 1.5 (average 2.5 people per cab, including the driver, from LTI, 2007 – a more recent source has not yet been identified). This methodology accounts for the significantly different operational cycle of black cabs/taxis in the real world when compared to the NEDC (official vehicle type-approval) values, which significantly increases the emission factor (by ~40% vs NEDC).

5.30. The emission factors (per passenger km) for regular taxis were estimated on the basis of the average type-approval CO_2 factors for medium and large cars, uplifted by the same factor as for black cabs (i.e. 40%, based on TfL data) to reflect the difference between the type-approval figures and those operating a real-world taxi cycle (i.e. based on different driving conditions to average car use), plus an assumed average passenger occupancy of 1.4 (CfIT, 2002[33]).

5.31. Emission factors per passenger km for taxis and black cabs are presented in the 'business travel- land' tables of the 2018 GHG Conversion Factors. The base emission factors per vehicle km are also presented in the 'business travel- land' tables of the 2018 GHG Conversion Factors.

5.32. Emission factors for CH_4 and N_2O have been updated for all taxis for the 2018 update. These figures are based on the emission factors for diesel cars from the latest UK GHG Inventory and are presented together with the overall total emission factors in the tables of the 2018 GHG Conversion Factors.

5.33. It should be noted that the current emission factors for taxis still don't take into account emissions spent from "cruising" for fares. Currently robust data sources do not exist that could inform such an "empty running" factor. If suitably robust sources are identified in the future, the methodology for taxis may be revisited and revised in a future update to account for this.

[32] The data was provided by TfL in a personal communication and is not available in a public TfL source.

[33] Obtaining the best value for public Subsidy of the bus industry, a report by L.E.K. Consulting LLP for the UK Commission for Integrated Transport, 14 March 2002. Appendix 10.5.1: Methodology for settlements with <25k population. Available at: http://webarchive.nationalarchives.gov.uk/20110304132839/http://cfit.independent.gov.uk/pubs/2002/psbi/lek/index.htm

Direct Emissions from Vans/Light Goods Vehicles (LGVs)

5.34. Average emission factors by fuel, for light good vehicles (LGVs: N1 vehicles, vans up to 3.5 tonnes gross vehicle weight) and by size class (I, II or III) are presented in Table 19 and in the "delivery vehicles" section of the 2018 GHG Conversion Factors. These have been updated for this year's update. The data set used to allocate different vehicles to each class is based on reference weight (approximately equivalent to kerb weight plus 60kg) from an extraction from the SMMT MVRIS (Motor Vehicle Registration Information System) data set used in previous work for the DfT. The assumed split of petrol van stock between size classes uses the split of registrations from this dataset.

5.35. Emission factors for petrol and diesel LGVs are based upon emission factors and vehicle km from the NAEI for 2016. These emission factors are further uplifted by 15% to represent 'real-world' emissions (i.e. also factoring in typical vehicle loading versus unloaded test-cycle based results), consistent with the previous approach used for cars, and agreed with DfT in the absence of a similar time-series dataset of 'real-world' vs type-approval emissions from vans (see earlier section on passenger cars). In a future update, it is envisaged this uplift will be further reviewed.

5.36. In the 2018 GHG Conversion Factors, CO_2 emission factors for CNG and LPG vans are calculated from the emission factors for conventionally fuelled vans using the same methodology as for passenger cars. The average van emission factor is calculated on the basis of the relative NAEI vehicle km for petrol and diesel LGVs for 2016, as presented in Table 19.

5.37. Emission factors for CH_4 and N_2O were also updated for all van classes, based on the emission factors from the UK GHG Inventory.

5.38. As a final additional step, an accounting for biofuel use has been included in the calculation of the final LGVs emission factors.

Van fuel	Van size	Direct gCO_2e per km				vkm	Capacity
		CO_2	CH_4	N_2O	Total	% split	Tonnes
Petrol (Class I)	Up to 1.305 tonne	232.2	0.28	0.87	233.3	38.37%	0.64
Petrol (Class II)	1.305 to 1.740 tonne	258.7	0.28	0.87	259.9	48.63%	0.72
Petrol (Class III)	Over 1.740 tonne	312.7	0.28	0.87	313.8	13.00%	1.29
Petrol (average)	**Up to 3.5 tonne**	**255.6**	**0.28**	**0.87**	**256.7**	**0.00%**	**0.76**
Diesel (Class I)	Up to 1.305 tonne	150.5	0.01	1.85	152.4	6.18%	0.64
Diesel (Class II)	1.305 to 1.740 tonne	237.9	0.01	1.85	239.7	25.74%	0.98
Diesel (Class III)	Over 1.740 tonne	279.0	0.01	1.85	280.8	68.08%	1.29
Diesel (average)	**Up to 3.5 tonne**	**260.4**	**0.01**	**1.85**	**262.3**	**0.00%**	**1.17**
LPG	Up to 3.5 tonne	273.5	0.06	1.04	274.6		1.17
CNG	Up to 3.5 tonne	247.4	1.40	1.04	249.9		1.17
Average		**260.3**	**0.00**	**1.80**	**262.1**		**1.16**

Table 19: New emission factors for vans for the 2018 GHG Conversion Factors

Plug-in Hybrid Electric and Battery Electric Vans (xEVs)

5.39. As outlined earlier for cars, since the number of electric cars and vans (xEVs[34]) in the UK fleet is rapidly increasing, there is now a need to include specific emission factors for such vehicles to complement the existing emission factors for other vehicle types.

5.40. The methodology, data sources and key assumptions utilised in the development of the emission factors for xEVs are the same for vans as that outlined earlier for cars. These were discussed and agreed with DfT.

5.41. It should be noted that only models with registrations in the UK fleet up to the end of 2016 are included in the model. Notes: Only includes models with registrations in the UK fleet up to the end of 2016

5.42. Table 20 provides a summary of the vans models registered into the UK market by the end of 2016 (the most recent data year for the source EEA CO_2 monitoring database at the time of the development of the 2018 GHG Conversion Factors). At this point there are only battery electric vehicle (BEV) models available in the vans marketplace.

Make	Model	Van Segment	BEV	PHEV
Citroen	Berlingo	Class II	Yes	-
Ford	Transit connect	Class III	Yes	-
Mercedes-Benz	Vito	Class III	Yes	-
Mia	Mia	Class I	Yes	-
Nissan	E-nv200	Class II	Yes	-
Peugeot	Partner	Class II	Yes	-
Renault	Kangoo	Class II	Yes	-
Tata	Ace	Class I	Yes	-

Notes: Only includes models with registrations in the UK fleet up to the end of 2016

Table 20: xEV van models and their allocation to different size categories

5.43. All other methodological details are as already outlined for xEV passenger cars.

[34] xEVs is a generic term used to refer collectively to battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), range-extended electric vehicles (REEVs, or ER-EVs, or REX) and fuel cell electric vehicles (FCEVs).

Direct Emissions from Buses

5.44. The 2015 and earlier updates used data from DfT from the Bus Service Operators Grant (BSOG) in combination with DfT bus activity statistics (vehicle km, passenger km, average passenger occupancy) to estimate emission factors for local buses. DfT holds very accurate data on the total amount of money provided to bus service operators under the scheme, which provides a fixed amount of financial support per unit of fuel consumed. Therefore, the total amount of fuel consumed (and hence CO_2 emissions) could be calculated from this, which when combined with DfT statistics on total vehicle km, bus occupancy and passenger km allows the calculation of emission factors[35].

5.45. From the 2016 update onwards, it was necessary to make some methodological changes to the calculations due to changes in the scope/coverage of the underlying DfT datasets, which include:

- BSOG datasets are now only available for commercial services, and not also for local authority supported services.
- BSOG datasets are now only available for England, outside of London: i.e. datasets are no longer available for London, due to a difference in how funding for the city is managed/provided, nor for other parts of the UK.

5.46. In the 2018 update, an additional calculation was also added to the emission factors for buses to account for additional direct CO_2 emissions resulting from the use of a technology developed to enable manufacturers to meet recent diesel engine emissions standards for NO_x, known as selective catalytic reduction (SCR). This technology uses a urea solution (also known as 'AdBlue') to effectively remove NO_x and NO_2 from diesel engines' exhaust gases; this process occurs over a specially formulated catalyst. Urea solution is injected into the vehicles' exhaust system before harmful NO_x emissions are generated from the tail pipe. When the fuel is burnt, urea solution is injected into the SCR catalyst to convert the NO_x into a less harmful mixture of nitrogen and water vapour; small amounts of carbon dioxide are also produced as a result of this reaction. Emissions from the consumption of urea in buses have been estimated in the conversion factors for the first time for the 2018 update (consistent with the methodology also applied in the UK NAEI for this component) and are included in the estimates for overall CO_2 emission factors for buses. A summary of the key assumptions used in the calculation of emissions from urea is provided in the following Table 21. These are based on assumptions in the EMEP/EEA Emissions Inventory Guidebook.

	CO_2 EF for urea consumption ($kgCO_2$/kg urea solution)[1]	Percentage of vehicles using urea	Urea consumption rate as a percentage of fuel consumed by vehicles using urea
Euro IV	0.238	75%	4%
Euro V	0.238	75%	6%

[35] The robustness of the BSOG data has reduced over the years because of the changes to the way BSOG is paid to operators and local authorities. Approximations have been made in recent update years where data was not available (based on previous year data) and a revised methodology has commenced from 2016.

	CO_2 EF for urea consumption ($kgCO_2$/kg urea solution)[1]	Percentage of vehicles using urea	Urea consumption rate as a percentage of fuel consumed by vehicles using urea
Euro VI	0.238	100%	3.5%

Notes: [1]Assumes 32.5% (by mass) aqueous solution of urea

Table 21: Key assumptions used in the calculation of CO_2 emissions from Urea (aka 'AdBlue') use

5.47. Briefly, the main calculation for local buses can be summarised as follows:

a) Total fuel consumption (Million litres) = Total BSOG (£million) / BSOG fuel rate (p/litre) x 100
b) Total bus passenger-km (Million pkm) = Total activity (Million vkm) x Average bus occupancy (#)
c) Average fuel consumption (litres/pkm) = Total fuel consumption / Total bus passenger-km
d) **Average bus emission factor** = Average fuel consumption x Fuel Emission Factor ($kgCO_2e$/litre) + Average Emission Factor from Urea Use

5.48. Whilst the overall fundamental approach used in the 2017 and 2018 updates, apart from the urea addition, is similar to that previously used (i.e. as outlined above), the scope of coverage of the underlying data is different, which has resulted in step-change in emission factors for non-London local buses. In addition, since no BSOG data is available for London any more, the emission factors for London buses are taken directly from TfL's environmental reporting. Overall average emission factors for all local buses are estimated from DfT statistics on the relative passenger-km activity for London and non-London local buses[36].

5.49. As a final additional step, an accounting for biofuel use has been included in the calculation of the final bus emission factors.

5.50. Emission factors for coach services were estimated based on figures from National Express, who provide the majority of scheduled coach services in the UK.

5.51. Emission factors for CH_4 and N_2O are based on the emission factors from the UK GHG Inventory. These factors are also presented together with an overall total factor in Table 22.

5.52. Table 22 gives a summary of the 2018 GHG Conversion Factors and average passenger occupancy. It should also be noted that fuel consumption and emission factors for individual operators and services will vary significantly depending on the local conditions, the specific vehicles used and on the typical occupancy achieved.

[36] DfT Bus statistics, Table BUS0302b "Passenger kilometres on local bus services by metropolitan area status and country: Great Britain, annual from 2004/05", available at: https://www.gov.uk/government/statistical-data-sets/bus03-passenger-distance-travelled

Bus type	Average passenger occupancy	gCO_2e per passenger km			
		CO_2	CH_4	N_2O	Total
Local bus (not London)	9.50	119.07	0.04	0.96	120.07
Local London bus	19.29	71.62	0.02	0.47	72.11
Average local bus	**11.91**	**100.17**	**0.03**	**0.77**	**100.97**
Coach	17.56*	27.58	0.02	0.41	28.01

Notes: Average load factors/passenger occupancy mainly taken from DfT Bus statistics, Table BUS0304 "Average bus occupancy on local bus services by metropolitan area status and country: Great Britain, annual from 2004/05". * Combined figure based on data from DfT for non-local buses and coaches combined calculated based on an average of the last 5 years for which this was available (up to 2007). Actual occupancy for coaches alone is likely to be significantly higher.

Table 22: Emission factors for buses for the 2018 GHG Conversion Factors

Direct Emissions from Motorcycles

5.53. Data from type approval is not currently readily available for motorbikes and CO_2 emission measurements were only mandatory in motorcycle type approval from 2005.

5.54. For the practical purposes of the GHG Conversion Factors, emission factors for motorcycles are split into 3 categories:

- Small motorbikes (mopeds/scooters up to 125cc);
- Medium motorbikes (125-500cc); and
- Large motorbikes (over 500cc).

5.55. Since the 2009 update the emission factors have been calculated based on a large dataset kindly provided by Clear (2008)[37], based on a mix of magazine road test reports and user reported data. A summary is presented in Table 23, with the corresponding complete emission factors developed for motorcycles presented in the 'Passenger vehicles' tables of the 2018 GHG Conversion Factors. The total average has been calculated weighted by the relative number of registrations of each category in 2008 according to DfT licencing statistics for 2016[38]. In the absence of newer information, the methodology and dataset are unchanged for the 2018 GHG Conversion Factors.

5.56. These emission factors are based predominantly upon data derived from real-world riding conditions (rather than test-cycle based data) and therefore likely to be more representative of typical in-use performance. The average difference between the factors based on real-world observed fuel consumption and other figures based upon test-cycle data from ACEM[39] (+9%) is smaller than the corresponding differential

[37] Dataset of motorcycle fuel consumption compiled by Clear (http://www.clear-offset.com/) for the development of its motorcycle CO_2 model used in its carbon offsetting products.

[38] DfT Vehicle Licencing Statistics, Table VEH0306 "Licensed motorcycles by engine size, Great Britain, annually: 1994 to 2016", available at: https://www.gov.uk/government/collections/vehicles-statistics

[39] The European Motorcycle Manufacturers Association

previously used to uplift cars and vans test cycle data to real-world equivalents (+15%).

5.57. Emission factors for CH_4 and N_2O were updated for the 2018 GHG Conversion Factors based on the emission factors from the 2016 UK GHG Inventory (Ricardo Energy & Environment, 2018). These factors are also presented together with overall total emission factors in the tables of the 2018 GHG Conversion Factors.

CC Range	Model Count	Number	Av. gCO_2/km	Av. MPG*
Up to 125cc	24	58	85.0	76.2
125cc to 200cc	3	13	77.8	83.2
200cc to 300cc	16	57	93.1	69.5
300cc to 400cc	8	22	112.5	57.5
400cc to 500cc	9	37	122.0	53.1
500cc to 600cc	24	105	139.2	46.5
600cc to 700cc	19	72	125.9	51.4
700cc to 800cc	21	86	133.4	48.5
800cc to 900cc	21	83	127.1	50.9
900cc to 1000cc	35	138	154.1	42.0
1000cc to 1100cc	14	57	135.6	47.7
1100cc to 1200cc	23	96	136.9	47.3
1200cc to 1300cc	9	32	136.6	47.4
1300cc to 1400cc	3	13	128.7	50.3
1400cc to 1500cc	61	256	132.2	48.9
1500cc to 1600cc	4	13	170.7	37.9
1600cc to 1700cc	5	21	145.7	44.4
1700cc to 1800cc	3	15	161.0	40.2
1800cc to 1900cc	0	0		0.0
1900cc to 2000cc	0	0		0.0
2000cc to 2100cc	1	5	140.9	46.0
<125cc	**24**	**58**	**85.0**	**76.2**
126-500cc	**36**	**129**	**103.2**	**62.7**
>500cc	**243**	**992**	**137.2**	**47.2**
Total	303	1179	116.2	55.7

Note: Summary data based on data provided by Clear (www.clear-offset.com) from a mix of magazine road test reports and user reported data. * MPG has been calculated from the supplied gCO_2/km dataset, using the fuel properties for petrol from the latest conversion factors dataset.

Table 23: Summary dataset on CO_2 emissions from motorcycles based on detailed data provided by Clear (2008)

Direct Emissions from Passenger Rail

5.58. Emission factors for passenger rail services have been updated and provided in the "Business travel – land" section of the 2018 GHG Conversion Factors. These include updates to the national rail, international rail (Eurostar), light rail schemes and the London Underground. Emission factors for CH_4 and N_2O emissions were also updated in the 2018 GHG Conversion Factors. These factors are based on the assumptions outlined in the following paragraphs.

International Rail (Eurostar)

5.59. The international rail factor is based on a passenger-km weighted average of the emission factors for the following Eurostar routes: London-Brussels, London-Paris, London-Marne Le Vallee (Disney), London-Avignon and the ski train from London-Bourg St Maurice[40]. The emission factors were provided by Eurostar for the 2018 update, together with information on the basis of the electricity figures used in their calculation.

5.60. The methodology applied in calculating the Eurostar emission factors currently uses 3 key pieces of information:

a) Total electricity use by Eurostar trains on the UK and France/Belgium track sections;

b) Total passenger numbers (and therefore calculated passenger km) on all Eurostar services;

c) Emission factors for electricity (in $kgCO_2$ per kWh) for the UK and France/Belgium journey sections. These are based on the UK grid average electricity from the GHG Conversion Factors and the France/Belgium grid averages from the last freely available version of the IEA CO_2 Emissions from Fuel Combustion highlights dataset (from 2013).

5.61. The new figure from Eurostar is 12.157 gCO_2/pkm.

5.62. CH_4 and N_2O emission factors have been estimated from the corresponding emission factors for electricity generation, proportional to the CO_2 emission factors.

National Rail

5.63. The national rail factor refers to an average emission per passenger kilometre for diesel and electric trains in 2016-17. The factor is sourced from information from the Office of the Rail Regulator's National rail trends for 2016-17 (ORR, 2017)[41]. This has been calculated based on total electricity and diesel consumed by the railways for the year (sourced from ATOC), and the total number of passenger kilometres (from National Rail Trends).

5.64. CH_4 and N_2O emission factors have been estimated from the corresponding emissions factors for electricity generation and diesel rail (from the UK GHG Inventory), proportional to the CO_2 emission factors. The emission factors were calculated based on the relative passenger km proportions of diesel and electric rail provided by DfT for 2006-7 (since no newer datasets are available from DfT).

[40] Although there are now also direct Eurostar routes to Lyon and Marseille, information relating to these routes has not been provided in 2018.

[41] Available from the ORR's website at: http://dataportal.orr.gov.uk/browsereports/9

Light Rail

5.65. The light rail factors were based on an average of factors for a range of UK tram and light rail systems, as detailed in Table 24.

5.66. Figures for the London Overground and Croydon Tramlink for 2016/17 are based on figures kindly provided by TfL, adjusted to the new 2018 grid electricity CO_2 emission factor.

5.67. The factors for Midland Metro, Tyne and Wear Metro, Manchester Metrolink and Sheffield Supertram were calculated based on annual passenger km data from DfT's Light rail and tram statistics[42] and the new 2018 grid electricity CO_2 emission factor.

5.68. The factor for the Glasgow Underground was calculated based on the annual passenger km data from DfT's Glasgow Underground statistics, and the new 2018 grid electricity CO_2 emission factor.

5.69. The average emission factor for light rail and tram was estimated based on the relative passenger km of the eight different rail systems (see Table 24).

5.70. CH_4 and N_2O emission factors have been estimated from the corresponding emissions factors for electricity generation, proportional to the CO_2 emission factors.

	Type	Electricity use	gCO_2e per passenger km				Million pkm
		kWh/pkm	CO_2	CH_4	N_2O	Total	
DLR (Docklands Light Rail)	Light Rail	0.105	31.95	0.07	0.17	32.20	656.80
Glasgow Underground	Light Rail	0.164	50.08	0.12	0.27	50.47	35.35
Midland Metro	Light Rail	0.135	41.24	0.10	0.22	41.56	65.60
Tyne and Wear Metro	Light Rail	0.351	107.00	0.25	0.58	107.83	329.70
London Overground	Light Rail	0.075	22.94	0.05	0.12	23.12	1,294.39
London Tramlink	Tram	0.212	64.66	0.15	0.35	65.17	153.56
Manchester Metrolink	Tram	0.078	23.91	0.06	0.13	24.09	395.30
Sheffield Supertram	Tram	0.350	106.69	0.25	0.58	107.52	81.80
Average* or Total		**0.129**	**39.35**	**0.09**	**0.21**	**39.65**	**3,013**

Notes: * Weighted by relative passenger km

Table 24: GHG emission factors, electricity consumption and passenger km for different tram and light rail services

[42] DfT Light rail and tram statistics, https://www.gov.uk/government/collections/light-rail-and-tram-statistics

London Underground

5.71. The London Underground rail factor was provided from DfT, which was based on the 2018 UK electricity emission factor, so was therefore adjusted to be consistent with the 2018 grid electricity CO_2 emission factor.

5.72. CH_4 and N_2O emission factors have been estimated from the corresponding emissions factors for electricity generation, proportional to the CO_2 emission factors.

Indirect/WTT Emissions from Passenger Land Transport

Cars, Vans, Motorcycles, Taxis, Buses and Ferries

5.73. Indirect/WTT emission factors for cars, vans, motorcycles, taxis, buses and ferries include only emissions resulting from the fuel lifecycle (i.e. production and distribution of the relevant transport fuel). These indirect/WTT emission factors were derived using simple ratios of the direct CO_2 emission factors and the indirect/WTT emission factors for the relevant fuels from the “Fuels” section and the corresponding direct CO_2 emission factors for vehicle types using these fuels in the “Passenger vehicles”, “Business travel – land” and “Business travel – air” sections in the 2018 GHG Conversion Factors.

Rail

5.74. Indirect/WTT emission factors for international rail (Eurostar), light rail and the London Underground were derived using a simple ratio of the direct CO_2 emission factors and the indirect/WTT emission factors for grid electricity from the “UK Electricity” section and the corresponding direct CO_2 emission factors for vehicle types in the “Passenger vehicles”, “Business travel – land” and “Business travel – air” sections in the GHG Conversion Factors.

5.75. The emission factors for National rail services are based on a mixture of emissions from diesel and electric rail. Indirect/WTT emission factors were therefore calculated from corresponding estimates for diesel and electric rail combined using relative passenger km proportions of diesel and electric rail provided by DfT for 2006-7 (no newer similar dataset is available).

6. Freight Land Transport Emission Factors

Summary of changes since the previous update

6.1. The emission factors for Heavy Goods Vehicles were revised this year to account for additional CO_2 emissions resulting from the use of urea by NO_x exhaust emissions control systems in newer vehicles, in a similar way to the emission factors for Buses, as discussed in Section 5.

Direct Emissions from Heavy Goods Vehicles (HGVs)

6.2. The HGV factors are based on road freight statistics from the Department for Transport (DfT, 2018)[43] for Great Britain (GB), from a survey on different sizes of rigid and articulated HGVs in the fleet in 2016. The statistics on fuel consumption figures (in miles per gallon) have been estimated by DfT from the survey data. For the 2018 GHG Conversion Factors, these are combined with test data from the European ARTEMIS project showing how fuel efficiency, and therefore the CO_2 emissions, varies with vehicle load.

6.3. The miles per gallon (MPG) figures in Table RFS0141 of DfT (2018) are converted to gCO_2 per km factors using the standard fuel conversion factor for diesel in the 2018 GHG Conversion Factors tables. Table RFS0117 of DfT (2018) shows the percent loading factors are on average between 36-65% in the UK HGV fleet. Figures from the ARTEMIS project show that the effect of load becomes proportionately greater for heavier classes of HGVs. In other words, the relative difference in fuel consumption between running an HGV completely empty or fully laden is greater for a large >33t HGV than it is for a small <7.5t HGV. From analysis of the ARTEMIS data, it was possible to derive the figures in Table 25 showing the change in CO_2 emissions for a vehicle completely empty (0% load) or fully laden (100% load) on a weight basis compared with the emissions at half-load (50% load). The data show the effect of load is symmetrical and largely independent of the HGVs Euro emission classification and type of drive cycle. So, for example, a >17t rigid HGV emits 18% more CO_2 per kilometre when fully laden and 18% less CO_2 per kilometre when empty relative to emissions at half-load.

6.4. The refrigerated/temperature-controlled HGVs included a 19.3% and 16.1% uplift which is applied to rigid and arctic refrigerated/temperature-controlled HGVs respectively. The refrigerated/temperature-controlled average factors have a 18% uplift applied. This is based on average data for different sizes of refrigerated HGV from Tassou et al (2009)[44].This accounts for the typical additional energy needed to

[43] "Transport Statistics Bulletin: Road Freight Statistics July 2016 to June 2017, (DfT, 2018). Available at: https://www.gov.uk/government/statistics/road-freight-statistics-july-2016-to-june-2017

[44] *Food transport refrigeration – Approaches to reduce energy consumption and environmental impacts of road transport*, by S.A. Tassou, G. De-Lille, and Y.T. Ge. Applied Thermal Engineering, Volume 29, Issues 8–9, June 2009, Pages 1467–1477. Available at: http://www.sciencedirect.com/science/article/pii/S135943110800286X

power refrigeration equipment in such vehicles over similar non-refrigerated alternatives[45].

	Gross Vehicle Weight (GVW)	% change in CO_2 emissions
Rigid	<7.5t	± 8%
	7.5-17t	± 12.5%
	>17 t	± 18%
Articulated	<33t	± 20%
	>33t	± 25%

Source: EU-ARTEMIS project

Table 25: Change in CO_2 emissions caused by +/- 50% change in load from average loading factor of 50%

6.5. Using these loading factors, the CO_2 factors derived from the DfT survey's MPG data, each corresponding to different average states of HGV loading, were corrected to derive the 50% laden CO_2 factor shown for each class of HGV. These are shown in the final factors presented in sections "Delivery vehicles" and "Freighting goods" of the 2018 GHG Conversion Factors.

6.6. The loading factors in Table 25 were then used to derive corresponding CO_2 factors for 0% and 100% loadings in the above sections. Because the effect of vehicle loading on CO_2 emissions is linear with load (according to the ARTEMIS data), then these factors can be linearly interpolated if a more precise figure on vehicle load is known. For example, an HGV running at 75% load would have a CO_2 factor halfway between the values for 50% and 100% laden factors.

6.7. It might be surprising to see that the CO_2 factor for a >17t rigid HGV is greater than for a >33t articulated HGV. However, these factors merely reflect the estimated MPG figures from DfT statistics that consistently show worse MPG fuel efficiency, on average, for large rigid HGVs than large articulated HGVs once the relative degree of loading is taken into account. This is likely to be a result of the usage pattern for different types of HGVs where large rigid HGVs may spend more time travelling at lower, more congested urban speeds, operating at lower fuel efficiency than articulated HGVs which spend more time travelling under higher speed, free-flowing traffic conditions on motorways where fuel efficiency is closer to optimum. Under the drive cycle conditions more typically experienced by large articulated HGVs, the CO_2 factors for large rigid HGVs may be lower than indicated in "Delivery vehicles" and "Freighting goods" of the 2018 GHG Conversion Factors. Thus, the factors in "Delivery vehicles" and "Freighting goods", linked to the DfT (2018) statistics on MPG (estimated by DfT from the survey data) reflect each HGV class's typical usage pattern on the GB road network.

6.8. UK average factors for all rigid and articulated HGVs are also provided in sections "Delivery vehicles" and "Freighting goods" of the 2018 GHG Conversion Factors if the

[45] 'Reduction and Testing of Greenhouse Gas (GHG) Emissions from Heavy Duty Vehicles – Lot 1: Strategy', a report for EC DG CLIMA by AEA Technology plc and Ricardo, February 2011. Available at: https://ec.europa.eu/clima/sites/clima/files/transport/vehicles/docs/ec_hdv_ghg_strategy_en.pdf

user requires aggregate factors for these main classes of HGVs, perhaps because the weight class of the HGV is not known. Again, these factors represent averages for the GB HGV fleet in 2016. These are derived directly from the mpg values for rigid and articulated HGVs in Table RFS0141of DfT (2018).

6.9. At a more aggregated level, factors for all HGVs are still representing the average MPG for all rigid and articulated HGV classes in Table RFS0141 of DfT (2018). This factor should be used if the user has no knowledge of or requirement for different classes of HGV and may be suitable for analysis of HGV CO_2 emissions in, for example, inter-modal freight transport comparisons.

6.10. The conversion factors included in “Delivery vehicles” in the 2018 GHG Conversion Factors are provided in distance units to enable CO_2 emissions to be calculated from the distance travelled by the HGV in km multiplied by the appropriate conversion factor for the type of HGV and, if known, the extent of loading.

6.11. For comparison with other freight transport modes (e.g. road vs. rail), the user may require CO_2 factors in tonne km (tkm) units. The “Freighting goods” section of the 2018 GHG Conversion Factors also provides such factors for each weight class of rigid and articulated HGV, for all rigid and for all articulated aggregated for all HGVs. These are derived from the fleet average gCO_2 per vehicle km factors in “Delivery vehicles”. The average tonne freight lifted figures are derived from the tkm and vehicle km (vkm) figures given for each class of HGV in Tables RFS0119 and RFS0109, respectively (DfT, 2018). Dividing the tkm by the vkm figures gives the average tonnes freight lifted by each HGV class. For example, a rigid HGV >3.5 - 7.5t has an average load of 49%. The 2018 GHG Conversion Factors, include factors in tonne km (tkm) for all loads (0%, 50%, 100% and average).

6.12. A tkm is the distance travelled multiplied by the weight of freight carried by the HGV. So, for example, a HGV carrying 5 tonnes freight over 100 km has a tkm value of 500 tkm. The CO_2 emissions are calculated from these factors by multiplying the number of tkm the user has for the distance and weight of the goods being moved by the CO_2 conversion factor in “Freighting goods” of the 2018 GHG Conversion Factors for the relevant HGV class.

6.13. Emission factors for CH_4 and N_2O have been updated for all HGV classes. These are based on the emission factors from the 2015 UK GHG Inventory. CH_4 and N_2O emissions are assumed to scale relative to vehicle class/CO_2 emissions for HGVs. These factors are presented with an overall total factor in sections “Delivery vehicles” and “Freighting goods” of the 2018 GHG Conversion Factors.

6.14. In the 2018 update, an additional calculation was added to the emission factors to account for the urea (aka ‘AdBlue’) use by newer HGVs for control of NOx exhaust emissions (in SCR systems) similar to that for Buses. Therefore, emissions from the consumption of urea in HGVs are estimated in the conversion factors for the first time and are included in the estimates for overall CO_2 emission factors.

Direct Emissions from Vans/Light Goods Vehicles (LGVs)

6.15. Emission factors for light good vehicles (LGVs, vans up to 3.5 tonnes), were calculated based on the emission factors per vehicle-km in the earlier section on passenger land transport.

6.16. The typical / average capacities and average payloads agreed with DfT that are used in the calculation of van emission factors per tonne km are presented in Table 26. These are based on quantitative assessment of a van database used by Ricardo Energy & Environment previously in a variety of policy assessments for DfT.

Van fuel	Van size, Gross Vehicle Weight	Vkm % split	Av. Capacity tonnes	Av. Payload tonnes
Petrol (Class I)	Up to 1.305 tonne	38.37%	0.64	0.24
Petrol (Class II)	1.305 to 1.740 tonne	48.63%	0.72	0.26
Petrol (Class III)	Over 1.740 tonne	13.00%	1.29	0.53
Petrol (average)	**Up to 3.5 tonne**		**0.76**	**0.31**
Diesel (Class I)	Up to 1.305 tonne	6.18%	0.64	0.24
Diesel (Class II)	1.305 to 1.740 tonne	25.74%	0.98	0.36
Diesel (Class III)	Over 1.740 tonne	68.08%	1.29	0.53
Diesel (average)	**Up to 3.5 tonne**		**1.17**	**0.47**
LPG (average)	Up to 3.5 tonne		1.17	0.47
CNG (average)	Up to 3.5 tonne		1.17	0.47
Average (unknown fuel)			**1.16**	**0.47**

Table 26: Typical van freight capacities and estimated average payload

6.17. The average load factors assumed for different vehicle types used to calculate the average payloads in Table 26 are summarised in Table 27, on the basis of DfT statistics from a survey of company owned vans.

Average van loading	Utilisation of vehicle volume capacity				
	0-25%	26-50%	51-75%	76-100%	Total
Mid-point for van loading ranges	12.5%	37.5%	62.5%	87.5%	
Proportion of vehicles in the loading range					
Up to 1.8 tonnes	45%	25%	18%	12%	**100%**
1.8 – 3.5 tonnes	36%	28%	21%	15%	**100%**
All LGVs	38%	27%	21%	14%	**100%**
Estimated weighted average % loading					
Up to 1.8 tonnes					**36.8%**
1.8 – 3.5 tonnes					**41.3%**
All LGVs					**40.3%**

Notes: Based on information from Table 24, TSG/UW, 2008[46]

Table 27: Utilisation of vehicle capacity by company-owned LGVs: annual average 2003 – 2005 (proportion of total vehicle kilometres travelled)

6.18. Emission factors for CH_4 and N_2O have been updated for all van classes in the 2018 GHG Conversion Factors. These are based on the emission factors from the UK GHG Inventory. N_2O emissions are assumed to scale relative to vehicle class/CO_2 emissions for diesel vans.

6.19. Emission factors per tonne km are calculated from the average load factors for the different weight classes in combination with the average freight capacities of the different vans in Table 26 and the earlier emission factors per vehicle-km in the "Delivery vehicles" and "Freighting goods" sections of the 2018 GHG Conversion Factors.

Direct Emissions from Rail Freight

6.20. The data, used to update the rail freight emission factors for the 2018 GHG Conversion Factors, was provided by the Office of the Rail Regulator's (ORR, 2017)[47]. This factor is presented in "Freighting goods" in the 2018 GHG Conversion Factors. There have been no further updates to the methodology in the 2018 update.

6.21. The factor can be expected to vary with rail traffic route, speed and train weight. Freight trains are hauled by electric and diesel locomotives, but the vast majority of freight is carried by diesel rail and correspondingly CO_2 emissions from diesel rail freight are over 96% of the total for 2016-17 (ORR, 2017).

6.22. Traffic-, route- and freight-specific factors are not currently available, though these would present a more appropriate means of comparing modes (e.g. for bulk aggregates, intermodal, other types of freight). The rail freight CO_2 factor will be reviewed and updated if data become available relevant to rail freight movement in the UK.

6.23. CH_4 and N_2O emission factors have been estimated from the corresponding emissions for diesel rail from the UK GHG Inventory, proportional to the CO_2 emissions. The emission factors were calculated based on the relative passenger km proportions of diesel and electric rail provided by DfT for 2006-7 in the absence of more suitable tonne km data for freight.

Indirect/WTT Emissions from Freight Land Transport

Vans and HGVs

6.24. Indirect/WTT emission factors for Vans and HGVs include only emissions resulting from the fuel lifecycle (i.e. production and distribution of the relevant transport fuel).

[46] TSG/UW, 2008. "Using official data sources to analyse the light goods vehicle fleet and operations in Britain" a report by Transport Studies Group, University of Westminster, London, November 2008. Available at: http://www.greenlogistics.org/SiteResources/61debf21-2b93-4082-ab15-84787ab75d26_LGV%20activity%20report%20(final)%20November%202008.pdf

[47] Available from the ORR's website here: https://dataportal.orr.gov.uk/displayreport/html/html/31212a97-cf7a-42d5-9fe3-a134b5c08b6a

These indirect/WTT emission factors were derived using simple ratios of the direct CO_2 emission factors and the indirect/WTT emission factors for the relevant fuels and the corresponding direct CO_2 emission factors for vehicle types using these fuels.

Rail

6.25. The emission factors for freight rail services are based on a mixture of emissions from diesel and electric rail. Indirect/WTT emission factors were therefore calculated in a similar way to the other freight transport modes, except for combining indirect/WTT emission factors for diesel and electricity into a weighted average for freight rail using relative CO_2 emissions from traction energy for diesel and electric freight rail provided from ORR in Table 2.101 Sustainable development: Estimates of passenger and freight energy consumption and CO_2e emissions (2016).

7. Sea Transport Emission Factors

Summary of changes since the previous update

7.1. There are no major changes for the shipping factors in the 2018 update.

Direct Emissions from RoPax Ferry Passenger Transport and freight

7.2. Direct emission factors from RoPax passenger ferries and ferry freight transport is based on information from the Best Foot Forward (BFF) work for the Passenger Shipping Association (PSA) (BFF, 2007)[48]. No new methodology or updated dataset has been identified for the 2018 GHG Conversion Factors.

7.3. The BFF study analysed data for mixed passenger and vehicle ferries (RoPax ferries) on UK routes supplied by PSA members. Data provided by the PSA operators included information by operating route on: the route/total distance, total passenger numbers, total car numbers, total freight units and total fuel consumption.

7.4. From the information provided by the operators, figures for passenger km, tonne km and CO_2 emissions were calculated. CO_2 emissions from ferry fuels were allocated between passengers and freight on the basis of tonnages transported, taking into account freight, vehicles and passengers. Some of the assumptions included in the analysis are presented in the following table.

Assumption	Weight, tonnes	Source
Average passenger car weight	1.250	MCA, 2007[49]
Average weight of passenger + luggage, total	0.100	MCA, 2007[49]
Average Freight Unit*, total	22.173	BFF, 2007[50]
Average Freight Load (per freight unit)*, tonnes	13.624	RFS 2005, 2006[51]

Notes: Freight unit includes weight of the vehicle/container as well as the weight of the actual freight load

Table 28: Assumptions used in the calculation of ferry emission factors

7.5. CO_2 emissions are allocated to passengers based on the weight of passengers + luggage + cars relative to the total weight of freight including freight vehicles/containers. For the data supplied by the 11 (out of 17) PSA operators this equated to just under 12% of the total emissions of the ferry operations. The emission factor for passengers was calculated from this figure and the total number of

[48] BFF, 2007. "Carbon emissions of mixed passenger and vehicle ferries on UK and domestic routes", Prepared by Best Foot Forward for the Passenger Shipping Association (PSA), November 2007.

[49] Maritime and Coastguard Agency, Marine Guidance Note MGN 347 (M), available at: http://www.dft.gov.uk/mca/mcga07-home/shipsandcargoes/mcga-shipsregsandguidance/marinenotices/mcga-mnotice.htm?textobjid=82A572A99504695B

[50] This is based on a survey of actual freight weights at 6 ferry ports. Where operator-specific freight weights were available, these were used instead of the average figure.

[51] Average of tonnes per load to/from UK derived from Table 2.6 of Road Freight Statistics 2005, Department for Transport, 2006.

passenger km, and is presented in the "Business travel – sea" section of the 2018 GHG Conversion Factors. A further split has been provided between foot-only passengers and passengers with cars in the 2018 GHG Conversion Factors, again on a weight allocation basis.

7.6. CO_2 emissions are allocated to freight based on the weight of freight (including freight vehicles/containers) relative to the total weight of passengers + luggage + cars. For the data supplied by the 11 (out of 17) PSA operators, this equated to just over 88% of the total emissions of the ferry operations. The emission factor for freight was calculated from this figure and the total number of tonne km (excluding the weight of the freight vehicle/container), and is presented in "Freighting goods" in the 2018 GHG Conversion Factors tables.

7.7. It is important to note that this emission factor is relevant only for ferries carrying passengers and freight and that emission factors for passenger only ferries are likely to be significantly higher. No suitable dataset has yet been identified to enable the production of a ferry emission factor for passenger-only services (which were excluded from the BFF (2007) work).

7.8. CH_4 and N_2O emission factors have been estimated from the corresponding emissions for shipping from the 2016 UK GHG Inventory, proportional to the CO_2 emissions.

Direct Emissions from Other Marine Freight Transport

7.9. CO_2 emission factors for the other representative ships (apart from RoPax ferries discussed above) are now based on information from Table 9-1 of the IMO (2009)[52] report on GHG emissions from ships. The figures in "Freighting goods" of the 2018 GHG Conversion Factors represent international average data (i.e. including vessel characteristics and typical loading factors), as UK-specific datasets are not available.

7.10. CH_4 and N_2O emission factors have been estimated from the corresponding emissions for shipping from the 2016 UK GHG Inventory, proportional to the CO_2 emissions.

Indirect/WTT Emissions from Sea Transport

7.11. Indirect/WTT emissions factors for ferries and ships include only emissions resulting from the fuel lifecycle (i.e. production and distribution of the relevant transport fuel). These indirect/WTT emission factors were derived using simple ratios of the direct CO_2 emission factors and the indirect/WTT emission factors for the relevant fuels and the corresponding direct CO_2 emission factors for ferries and ships using these fuels.

[52] "Prevention of Air Pollution from Ships, Second IMO GHG Study 2009. Update of the 2000 IMO GHG Study, Final report covering Phase 1 and Phase 2", Table 9-1 − Estimates of CO_2 efficiency for cargo ships, International Maritime Organisation, 2009. Available at: https://www.transportenvironment.org/docs/mepc59_ghg_study.pdf

8. Air Transport Emission Factors

Summary of changes since the previous update

8.1. There are no major changes for the aviation factors in the 2018 update.

Passenger Air Transport Direct CO_2 Emission Factors

8.2. Emission factors for non-UK international flights were calculated in a similar way to the main UK flight emission factors, using DfT data on flights between different regions by aircraft type, and emission factors calculated using the EUROCONTROL small emitters tool. Average passenger load factors (79.6%) were taken from IATA (2018) statistics[53].

8.3. The 2018 update of the average factors (presented at the end of this section) has been calculated using the same updated data source as in 2015, 2016 and 2017. The EUROCONTROL small emitters tool was used as the basis for calculating the CO_2 emissions factors resulting from fuel burn over average flights for different aircraft. The principal advantages of the source are:

- The tool is based on a methodology designed to estimate the fuel burn for an entire flight, it is updated on a regular basis in order to improve when possible its accuracy, and has been validated using actual fuel consumption data from airlines operating in Europe.
- The tool covers a wide range of aircraft, including many newer (and more efficient) aircraft increasingly used in flights to/from the UK, and also variants in aircraft families.
- The tool is approved for use for flights falling under the EU ETS via the Commission Regulation (EU) No. 606/2010.

8.4. A full summary of the representative aircraft selection and the main assumptions influencing the emission factor calculation is presented in Table 29. Key features of the calculation methodology, data and assumptions include:

- A wide variety of representative aircraft have been used to calculate emission factors for domestic, short- and long-haul flights;
- Average seating capacities, load factors and proportions of passenger km by the different aircraft types (subsequently aggregated to totals for domestic, short- and long-haul flights) have all been calculated from detailed UK Civil Aviation Authority (CAA, 2017) statistics for UK registered airlines for the year 2016 (the most recent complete dataset available at the time of calculation), split by aircraft and route type (Domestic, European Economic Area, other International)[54];
- Freight transported on passenger services has also been taken into account (with the approach taken summarised in the following section). Accounting for freight makes a significant difference to long-haul factors.

[53] http://www.iata.org/pressroom/pr/Pages/2018-03-08-01.aspx

[54] This dataset was provided by DfT for the purposes of the Conversion Factors calculations, and provides a breakdown by both aircraft and route type, which is unavailable in publicly available sources, e.g. Annual Airline Statistics available from the CAA's website at: http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&pageid=1&sglid=1

	Av. No. Seats	Av. Load Factor	Proportion of passenger km	Emissions Factor, $kgCO_2/vkm$	Av. flight length, km
Domestic Flights					
AIRBUS A319	149	78%	34%	16.2	367
AIRBUS A320-100/200	172	74%	21%	17.0	350
AIRBUS A321	200	70%	4%	19.0	396
ATR72 200/500/600	72	61%	1%	5.5	311
BOEING 737-700	152	67%	1%	13.9	463
BOEING 737-800	189	82%	6%	19.2	288
BOEING 767-300ER/F	259	71%	1%	29.8	349
BOMBARDIER DASH 8 Q400	77	67%	22%	7.1	380
EMB ERJ175 (170-200)	82	66%	1%	10.6	415
EMBRAER ERJ190	99	67%	3%	13.2	388
EMBRAER ERJ195	117	62%	1%	16.0	323
SAAB 2000	37	70%	2%	6.8	363
SAAB FAIRCHILD 340	28	70%	2%	3.9	296
Sikorsky Aircraft S-92	16	87%	1%	3.7	371
Weighted average	**136**	**74%**	**100%*(total)**	**11.2**	**361**
Short-haul Flights					
AIRBUS A319	149	80%	14%	10.8	1386
AIRBUS A320-100/200	175	76%	28%	10.9	1728
AIRBUS A321	210	75%	10%	12.7	1805
AIRBUS A330-300	295	70%	0%	24.3	1577
ATR72 200/500/600	69	68%	0%	4.5	969
AVROLINER RJ85	94	64%	0%	12.3	771
BOEING 737-300	147	85%	1%	11.8	1492
BOEING 737-700	139	78%	1%	10.4	1540
BOEING 737-800	188	85%	37%	11.0	2022
BOEING 737-900	184	80%	2%	11.6	1932
BOEING 757-200	199	76%	2%	15.0	1722
BOEING 757-300	280	88%	0%	16.5	2080
BOEING 767-300ER/F	289	75%	1%	20.5	1887
BOEING 787-800 DREAMLINER	315	94%	0%	19.9	2372
BOMBARDIER DASH 8 Q400	78	65%	0%	6.0	763
EMB ERJ175 (170-200)	88	67%	0%	8.1	1054
EMBRAER ERJ195	106	70%	1%	10.2	1429
Fokker F28	72	78%	0%	10.7	1198
Weighted average	**180**	**80%**	**100%*(total)**	**11.2**	**1,677**

	Av. No. Seats	Av. Load Factor	Proportion of passenger km	Emissions Factor, $kgCO_2/vkm$	Av. flight length, km
Long-haul Flights					
AIRBUS A310	247	83%	0%	18.5	5002
AIRBUS A320-100/200	180	90%	1%	10.2	3149
AIRBUS A321	174	71%	0%	11.8	3607
AIRBUS A330-200	275	77%	5%	21.0	6332
AIRBUS A330-300	281	72%	5%	21.7	6577
AIRBUS A340-300	267	66%	1%	25.2	6905
AIRBUS A340-600	308	77%	2%	31.5	6702
AIRBUS A350-900	310	84%	0%	23.7	6926
AIRBUS A380-800	495	73%	17%	47.0	6802
BOEING 737-800	167	76%	1%	10.4	3599
BOEING 747-400	354	79%	15%	38.0	7685
BOEING 757-200	170	69%	2%	14.4	5746
BOEING 767-300ER/F	224	64%	4%	19.1	5477
BOEING 767-400	245	68%	1%	20.7	5838
BOEING 777-200	258	71%	14%	25.5	6813
BOEING 777-300	342	72%	14%	28.8	6374
BOEING 777-300ER	308	73%	4%	30.8	7328
BOEING 787-800 DREAMLINER	253	77%	9%	18.4	6670
BOEING 787-900 DREAMLINER	254	78%	6%	19.9	7035
Weighted average	**324**	**74%**	**100%**	**27.2**	**6,523**

Notes: Figures on seats, load factors, % tkm and av. flight length have been calculated from 2017 CAA statistics for UK registered airlines for the different aircraft types. Figures of $kgCO_2/vkm$ were calculated using the average flight lengths in the EUROCONTROL small emitters tool. * 100% denotes the pkm share of the aircraft included in the assessment - as listed in the table. The aircraft listed in the table above account for 94% of domestic pkm, 94% of short-haul pkm and 95% of long-haul pkm.

Table 29: Assumptions used in the calculation of revised average CO_2 emission factors for passenger flights for 2018

8.5. **Allocating flights into short- and long-haul:** Domestic flights are those that start and end in the United Kingdom, which are simple to categorise. However, allocating flights into short- and long-haul is more complicated. In earlier versions of the GHG Conversion Factors it was suggested at a crude level to assign all flights <3700km to short haul and all >3700km to long-haul (on the basis of the maximum range of a Boeing 737). However, this approach was relatively simplistic, difficult to apply without detailed flight distance calculations, and was not completely consistent with CAA statistical dataset used to define the emission factors.

8.6. The current preferred definition is to assume that all fights to 'Europe' (or those of similar distance, up to a 3,700km maximum) are short-haul, and those that are to

non-European destinations (or for flights over 3,700km) should be counted as long-haul. Some examples of such 'long-haul' flights have been provided in the following Table 30 (as previously provided within the 2012 Annexes in the old format). The methodology has been unchanged since 2013, and it is up to the users of the GHG Conversion Factors to use their best judgement on which category to allocate particular flights into.

Area	Destination Airport	Distance, km
Short-haul		
Europe	Amsterdam, Netherlands	400
Europe	Prague (Ruzyne), Czech Rep	1,000
Europe	Malaga, Spain	1,700
Europe	Athens, Greece	2,400
Average (CAA statistics)		**1,366**
Long-haul		
North Africa	Abu Simbel/Sharm El Sheikh, Egypt	3,300
Southern Africa	Johannesburg/Pretoria, South Africa	9,000
Middle East	Dubai, UAE	5,500
North America	New York (JFK), USA	5,600
North America	Los Angeles California, USA	8,900
South America	Sao Paulo, Brazil	9,400
Indian sub-continent	Bombay/Mumbai, India	7,200
Far East	Hong Kong	9,700
Australasia	Sydney, Australia	17,000
Average (CAA statistics)		**6,823**

Notes: Distances based on International Passenger Survey (Office for National Statistics) calculations using airport geographic information. Average distances calculated from CAA statistics for all flights to/from the UK in 2013

Table 30: Illustrative short- and long- haul flight distances from the UK

8.7. A new set of aviation factors was added for international flights between non-UK destinations in the 2015 update. This relatively high-level analysis allows users to choose a different factor for passenger air travel if flying between countries outside of the UK. All factors presented are for direct (non-stop) flights only. This analysis was only possible for passenger air travel and so international freight factors are assumed to be equal to the current UK long haul air freight factors[55].

Taking Account of Freight

8.8. Freight, including mail, are transported by two types of aircraft – dedicated cargo aircraft which carry freight only, and passenger aircraft which carry both passengers

[55] Please note - The international factors included are an average of short and long-haul flights which explains the difference between the UK factors and the international ones.

and their luggage, as well as freight. The CAA data show that almost all freight carried by passenger aircraft is done on scheduled long-haul flights. In fact, the quantity of freight carried on scheduled long-haul passenger flights is nearly 8 times higher than the quantity of freight carried on scheduled long-haul cargo services. The apparent importance of freight movements by passenger services creates a complicating factor in calculating emission factors. Given the significance of air freight transport on passenger services there were good arguments for developing a method to divide the CO_2 between passengers and freight, which was developed for the 2008 update, and has also been applied in subsequent updates.

8.9. The CAA data provides a split of tonne km for freight and passengers (plus luggage) by airline for both passenger and cargo services. This data may be used as a basis for an allocation methodology. There are essentially three options, with the resulting emission factors presented in Table 31:

a. **No Freight Weighting:** Assume all the CO_2 is allocated to passengers on these services.

b. **Freight Weighting Option 1:** Use the CAA tonne km (tkm) data directly to apportion the CO_2 **between passengers and freight**. However, in this case, the derived emission factors for freight are significantly higher than those derived for dedicated cargo services using similar aircraft.

c. **Freight Weighting Option 2:** Use the CAA tkm data modified to treat freight on a more equivalent/consistent basis to dedicated cargo services. This takes into account the additional weight of equipment specific to passenger services (e.g. seats, galleys, etc.) in the calculations.

Freight Weighting:	None		Option 1: Direct		Option 2: Equivalent	
Mode	Passenger tkm % of total	gCO_2 /pkm	Passenger tkm % of total	gCO_2 /pkm	Passenger tkm % of total	gCO_2 /pkm
Domestic flights	100%	144.9	99.77%	144.6	99.77%	144.6
Short-haul flights	100%	80.2	98.70%	78.7	98.70%	78.7
Long-haul flights	100%	122.1	65.71%	79.5	85.13%	103.1

Table 31: CO_2 emission factors for alternative freight allocation options for passenger flights based on 2018 GHG Conversion Factors

8.10. The basis of the freight weighting **Option 2** is to take account of the supplementary equipment (such as seating, galley) and other weight for passenger aircraft compared to dedicated cargo aircraft in the allocation. In comparing the freight capacities of the cargo configuration compared to passenger configurations, we may assume that the difference represents the tonne capacity for passenger transport. This will include the weight of passengers and their luggage (around 100 kg per passenger according to IATA), plus the additional weight of seating, the galley, and other airframe adjustments necessary for passenger service operations. The derived weight per passenger seat used in the calculations for the 2018 GHG Conversion Factors were calculated for the specific aircraft used and are on average over twice the weight per passenger and their luggage alone. In the **Option 2** methodology the derived ratio for

different aircraft types were used to upscale the CAA passenger tonne km data, increasing this as a percentage of the total tonne km – as shown in Table 31.

8.11. It does not appear that there is a distinction made (other than in purely practical size/bulk terms) in the provision of air freight transport services in terms of whether something is transported by dedicated cargo service or on a passenger service. The related calculation of freight emission factors (discussed in a later section) leads to very similar emission factors for both passenger service freight and dedicated cargo services for domestic and short-haul flights. This is also the case for long-haul flights under freight weighting **Option 2**, whereas under **Option 1** the passenger service factors are substantially higher than those calculated for dedicated cargo services. It therefore seems preferable to treat freight on an equivalent basis by utilising freight weighting **Option 2**.

8.12. **Option 2** was selected as the preferred methodology to allocate emissions between passengers and freight for the 2008 and subsequent GHG Conversion Factors.

8.13. Validation checks using the derived emission factors calculated using the EUROCONTROL small emitters tool and CAA flights data have shown a very close comparison in derived CO_2 emissions with those from the UK GHG Inventory (which is scaled using actual fuel supplied).

8.14. The final average emission factors for aviation are presented in Table 32. The figures in Table 32 DO NOT include the 8% uplift for Great Circle distance NOR the uplift to account for additional impacts of radiative forcing which are applied to the emission factors provided in the 2018 GHG Conversion Factor data tables.

Mode	Factors for 2018	
	Load Factor%	gCO_2/pkm
Domestic flights	73.7%	144.6
Short-haul flights	79.9%	78.7
Long-haul flights	74.0%	103.1

Notes: Load factors based on data provided by DfT that contains detailed analysis of CAA statistics for the year 2016

Table 32: Final average CO_2 emission factors for passenger flights for 2018 GHG Conversion Factors (excluding distance and RF uplifts)

Taking Account of Seating Class Factors

8.15. The efficiency of aviation per passenger km is influenced not only by the technical performance of the aircraft fleet, but also by the occupancy/load factor of the flight. Different airlines provide different seating configurations that change the total number of seats available on similar aircraft. Premium priced seating, such as in First and Business class, takes up considerably more room in the aircraft than economy seating and therefore reduces the total number of passengers that can be carried. This in turn raises the average CO_2 emissions per passenger km.

8.16. There is no agreed data/methodology for establishing suitable scaling factors representative of average flights. However, in 2008 a review was carried out of the seating configurations from a selection of 16 major airlines and average seating configuration information from Boeing and Airbus websites. This evaluation was used to form a basis for the seating class based emission factors provided in Table 33, together with additional information obtained either directly from airline websites or

from other specialist websites that had already collated such information for most of the major airlines.

8.17. For long-haul flights, the relative space taken up by premium seats can vary by a significant degree between airlines and aircraft types. The variation is at its most extreme for First class seats, which can account for from 3 to over 6 times[56] the space taken up by the basic economy seating. Table 33 shows the seating class based emission factors, together with the assumptions made in their calculation. An indication is also provided of the typical proportion of the total seats that the different classes represent in short- and long-haul flights. The effect of the scaling is to lower the economy seating emission factor in relation to the average, and increase the business and first class factors.

8.18. The relative share in the number of seats by class for short-haul and long-haul flights was updated/revised in 2015 using data provided by DfT's aviation team, following checks conducted by them on the validity of the current assumptions based on more recent data.

Flight type	Cabin Seating Class	Load Factor%	gCO_2 /pkm	Number of economy seats	% of average gCO_2/pkm	% Total seats
Domestic	**Weighted average**	**73.7%**	**144.6**	**1.00**	**100.0%**	**100.0%**
Short-haul	**Weighted average**	**79.9%**	**78.7**	**1.02**	**100.0%**	**100.0%**
	Economy class	79.9%	77.4	1.00	98.4%	96.7%
	First/Business class	79.9%	116.2	1.50	147.5%	3.3%
Long-haul	**Weighted average**	**74.0%**	**103.1**	**1.31**	**100.0%**	**100.0%**
	Economy class	74.0%	78.9	1.00	76.6%	83.0%
	Economy+ class	74.0%	126.3	1.60	122.5%	3.0%
	Business class	74.0%	228.9	2.90	222.1%	11.9%
	First class	74.0%	315.7	4.00	306.3%	2.0%

Notes: Load factors based on data provided by DfT that contains detailed analysis of CAA statistics for the year 2016

Table 33: CO_2 emission factors by seating class for passenger flights for 2018 GHG Conversion Factors (excluding distance and RF uplifts)

Freight Air Transport Direct CO_2 Emission Factors

8.19. Air Freight, including mail, are transported by two types of aircraft – dedicated cargo aircraft which carry freight only, and passenger aircraft which carry both passengers and their luggage, as well as freight.

8.20. Data on freight movements by type of service are available from the Civil Aviation Authority (CAA, 2017). These data show that almost all freight carried by passenger aircraft is done on scheduled long-haul flights and accounts approximately for 89% of all long-haul air freight transport. How this freight carried on long-haul passenger services is treated has a significant effect on the average emission factor for all freight services.

[56] For the first class sleeper seats/beds frequently used in long-haul flights.

8.21. The next section describes the calculation of emission factors for freight carried by cargo aircraft **only** and then the following sections examine the impact of freight carried by passenger services and the overall average for all air freight services.

Emission Factors for Dedicated Air Cargo Services

8.22. Following the further development of emission factors for passenger flights and discussions with DfT and the aviation industry, revised average emission factors for dedicated air cargo were developed for previous updates. These have been updated for the 2018 update for the GHG Conversion Factors – presented in Table 34. As with the passenger aircraft methodology the factors presented here do not include the distance or radiative forcing uplifts applied to the emission factors provided in the 2018 GHG Conversion Factor data tables.

Mode	Revised factors for 2018	
	Load Factor%	$kgCO_2$ /tkm
Domestic flights	46.3%	2.9
Short-haul flights	76.1%	0.9
Long-haul flights	75.0%	0.8

Notes: Load factors based on Annual UK Airlines Statistics by Aircraft Type – CAA 2012 (Equivalent datasets after this are unavailable due to changes to CAA's confidentiality rules)

Table 34: Revised average CO_2 emission factors for dedicated cargo flights for 2018 GHG Conversion Factors (excluding distance and RF uplifts)

8.23. The updated factors have been calculated in the same basic methodology as for the passenger flights, which was updated in 2015 to use the aircraft specific fuel consumption /emission factors calculated using the EUROCONTROL small emitters tool[57]. A full summary of the representative aircraft selection and the main assumptions influencing the emission factor calculation are presented in Table 35. The key features of the calculation methodology, data and assumptions for the GHG Conversion Factors include:

a. A wide variety of representative aircraft have been used to calculate emission factors for domestic, short- and long-haul flights;

b. Average freight capacities, load factors and proportions of tonne km by the different airlines/aircraft types have been calculated from CAA (Civil Aviation Authority) statistics for UK registered airlines for the year 2016 (the latest available complete dataset).

[57] The EUROCONTROL small emitters tool is available at: https://www.eurocontrol.int/articles/small-emitters-tool

	Average Cargo Capacity, tonnes	Av. Load Factor	Proportion of tonne km	EF, $kgCO_2$ /vkm	Av. flight length, km
Domestic Flights					
BAE ATP	8.0	47%	8.5%	6.81	231
BAE 146-200/QT	10.0	34%	0.0%	0.00	173
BOEING 737-300	15.2	45%	62.8%	26.33	155
BOEING 757-200	23.2	56%	6.2%	23.41	155
BOEING 747-8 (FREIGHTER)	126.9	19%	0.0%	0.00	173
BOEING 767-300ER/F	58.0	46%	22.5%	26.16	512
Average	**24.7**	**46%**	**100% (total)**	**22.70**	**379**
Short-haul Flights					
BAE ATP	8.0	43%	0.2%	5.58	502
BOEING 757-200	22.0	77%	71.3%	16.04	748
BOEING 747-8 (FREIGHTER)	124.3	33%	0.8%	54.81	619
BOEING 767-300ER/F	30.8	76%	27.7%	20.53	1892
Average	**25.2**	**76%**	**100% (total)**	**17.05**	**1,432**
Long-haul Flights					
BAE ATP	8.0	16%	0.0%	5.87	390
BOEING 757-200	21.6	79%	17.5%	15.22	1294
BOEING 747-8 (FREIGHTER)	129.4	73%	24.8%	37.79	4653
BOEING 767-300ER/F	29.6	75%	57.7%	19.20	5098
Average	**53.0**	**75%**	**100% (total)**	**19.39**	**4,381**

Notes: Figures on cargo, load factors, % tkm and av. flight length have been calculated from CAA statistics for UK registered airlines for different aircraft in the year 2016. Figures of $kgCO_2$/vkm were calculated using the average flight lengths in the EUROCONTROL small emitters tool.

Table 35: Assumptions used in the calculation of average CO_2 emission factors for dedicated cargo flights for the 2018 GHG Conversion Factors

Emission Factors for Freight on Passenger Services

8.24. The CAA data provides a similar breakdown for freight on passenger services as it does for cargo services. As already discussed earlier, the statistics give tonne-km data for passengers and for freight. This information has been used in combination with the assumptions for the earlier calculation of passenger emission factors to calculate the respective total emission factor for freight carried on passenger services. These emission factors are presented in the following Table 36 with the two different allocation options for long-haul services. The factors presented here do not include the distance or radiative forcing uplifts applied to the emission factors provided in the 2018 GHG Conversion Factor data tables (discussed later).

Freight Weighting: Mode	% Total Freight tkm		Option 1: Direct		Option 2: Equivalent	
	Passenger Services (PS)	Cargo Services	PS Freight tkm, % total	Overall $kgCO_2$ /tkm	PS Freight tkm, % total	Overall $kgCO_2$ /tkm
Domestic flights	5.1%	94.9%	0.2%	2.8	0.2%	2.8
Short-haul flights	24.1%	75.9%	1.3%	0.9	1.3%	0.9
Long-haul flights	85.9%	14.1%	34.3%	1.3	14.9%	0.6

Table 36: Air freight CO_2 emission factors for alternative freight allocation options for passenger flights for 2018 GHG Conversion Factors (excluding distance and RF uplifts)

8.25. CAA statistics include excess passenger baggage in the 'freight' category, which would under **Option 1** result in a degree of under-allocation to passengers. **Option 2** therefore appears to provide the more reasonable means of allocation.

8.26. **Option 2** was selected as the preferred methodology for freight allocation for the 2008 update, when this analysis was originally performed. The same methodology has been applied in subsequent updates and is included in all of the presented emission factors for 2018.

Average Emission Factors for All Air Freight Services

8.27. Table 37 presents the final average air freight emission factors for all air freight for the 2018 GHG Conversion Factors. The emission factors have been calculated from the individual factors for freight carried on passenger and dedicated freight services, weighted according to their respective proportion of the total air freight tonne km. The factors presented here do not include the distance or radiative forcing uplifts applied to the emission factors provided in the 2018 GHG Conversion Factor data tables (discussed later).

Mode	% Total Air Freight tkm		All Air Freight $kgCO_2$/tkm
	Passenger Services	Cargo Services	
Domestic flights	5.1%	94.9%	2.8
Short-haul flights	24.1%	75.9%	0.9
Long-haul flights	85.9%	14.1%	0.6

Notes: % Total Air Freight tkm based on CAA statistics for 2016 (T0.1.6 All Services)

Table 37: Final average CO_2 emission factors for all air freight for 2018 GHG Conversion Factors (excluding distance and RF uplifts)

Air Transport Direct Emission Factors for CH_4 and N_2O

Emissions of CH_4

8.28. Total emissions of CO_2, CH_4 and N_2O are calculated in detail and reported at an aggregate level for aviation as a whole are reported from the UK GHG inventory. Therefore, the relative proportions of total CO_2 and CH_4 emissions from the UK GHG inventory for 2016 (see Table 38) were used to calculate the specific CH_4 emission factors per passenger km or tonne-km relative to the corresponding CO_2 emission

factors. The resulting air transport emission factors for the 2018 GHG Conversion Factors are presented in Table 39 for passengers and Table 40 for freight.

	CO_2		CH_4		N_2O	
	Mt CO_2e	% Total CO_2e	Mt CO_2e	% Total CO_2e	Mt CO_2e	% Total CO_2e
Aircraft - domestic	1.63	98.98%	0.0013	0.08%	0.015	0.94%
Aircraft - international	33.66	99.06%	0.0022	0.01%	0.318	0.94%

Table 38: Total emissions of CO_2, CH_4 and N_2O for domestic and international aircraft from the UK GHG inventory for 2016

Emissions of N_2O

8.29. Similar to those for CH_4, emission factors for N_2O per passenger-km or tonne-km were calculated on the basis of the relative proportions of total CO_2 and N_2O emissions from the UK GHG inventory for 2016 (see Table 38), and the corresponding CO_2 emission factors. The resulting air transport emission factors for the 2018 GHG Conversion Factors are presented in Table 39 for passengers and Table 40 for freight. The factors presented here do not include the distance or radiative forcing uplifts applied to the emission factors provided in the 2018 GHG Conversion Factor data tables (discussed later).

Air Passenger Mode	Seating Class	CO_2 gCO_2/pkm	CH_4 gCO_2e/pkm	N_2O gCO_2e/pkm	Total GHG gCO_2e/pkm
Domestic flights	**Average**	**144.6**	**0.1**	**1.4**	**146.1**
Short-haul flights	**Average**	**78.7**	**0.0**	**0.7**	**79.5**
	Economy	77.4	0.0	0.7	78.2
	First/Business	116.2	0.0	1.1	117.3
Long-haul flights	**Average**	**103.1**	**0.0**	**1.0**	**104.1**
	Economy	78.9	0.0	0.7	79.7
	Economy+	126.3	0.0	1.2	127.5
	Business	228.9	0.0	2.2	231.1
	First	315.7	0.0	3.0	318.7
International flights (non-UK)	**Average**	**88.6**	**0.0**	**0.8**	**89.5**
	Economy	67.9	0.0	0.6	68.5
	Economy+	108.6	0.0	1.0	109.6
	Business	196.8	0.0	1.9	198.7
	First	271.5	0.0	2.6	274.1

Notes: Totals may vary from the sums of the components due to rounding in the more detailed dataset.

Table 39: Final average CO_2, CH_4 and N_2O emission factors for all air passenger transport for 2018 GHG Conversion Factors (excluding distance and RF uplifts)

Air Freight Mode	CO_2 $kgCO_2/tkm$	CH_4 $kgCO_2e/tkm$	N_2O $kgCO_2e/tkm$	Total GHG $kgCO_2e/tkm$
Passenger Freight				
Domestic flights	1.6040	0.0013	0.0152	1.6205
Short-haul flights	0.9727	0.0001	0.0092	0.9820
Long-haul flights	0.5712	0.0000	0.0054	0.5766
Dedicated Cargo				
Domestic flights	2.8932	0.0023	0.0274	2.9229
Short-haul flights	0.9349	0.0001	0.0088	0.9438
Long-haul flights	0.7568	0.0000	0.0072	0.7640
All Air Freight				
Domestic flights	2.8275	0.0023	0.0268	2.8565
Short-haul flights	0.9440	0.0001	0.0089	0.9530
Long-haul flights	0.5974	0.0000	0.0057	0.6031

Notes: Totals may vary from the sums of the components due to rounding in the more detailed dataset.

Table 40: Final average CO_2, CH_4 and N_2O emission factors for air freight transport for 2018 GHG Conversion Factors (excluding distance and RF uplifts)

Indirect/WTT Emission Factors from Air Transport

8.30. Indirect/WTT emissions factors for air passenger and air freight services include only emissions resulting from the fuel lifecycle (i.e. production and distribution of the relevant transport fuel). These indirect/WTT emission factors were derived using simple ratios of the direct CO_2 emission factors and the indirect/WTT emission factors for aviation turbine fuel (kerosene) and the corresponding direct CO_2 emission factors for air passenger and air freight transport in sections “Business travel – air” and “Freighting goods”.

Other Factors for the Calculation of GHG Emissions

Great Circle Flight Distances

8.31. We wish to see standardisation in the way that emissions from flights are calculated in terms of the distance travelled and any uplift factors applied to account for circling and delay. However, we acknowledge that a number of methods are currently used.

8.32. A 9% uplift factor has previously been used in the UK Greenhouse Gas Inventory to scale up Great Circle distances (GCD) for flights between airports to take into account indirect flight paths and delays, etc. This factor (also provided previously with previous GHG Conversion Factors) comes from the IPCC Aviation and the global Atmosphere 8.2.2.3, which states that 9-10% should be added to take into account non-direct routes (i.e. not along the straight line great circle distances between destinations) and delays/circling. DfT has indicated (in discussions with their Aviation team) that recent analysis for DfT has suggested that a lower uplift of 8% is more appropriate for flights arriving and departing from the UK and this is the factor that has been used since the 2014 update, and therefore also in the 2018 GHG Conversion Factors.

8.33. It is not practical to provide a database of origin and destination airports to calculate flight distances in the GHG Conversion Factors. However, the principal of adding a factor of 8% to distances calculated on a Great Circle is recommended (for consistency with the existing approach) to take into account of indirect flight paths and delays/congestion/circling. This is the methodology recommended to be used with the GHG Conversion Factors and is applied already to the emission factors presented in the 2018 GHG Conversion Factors tables.

Non-CO_2 impacts and Radiative Forcing

8.34. The emission factors provided in the 2018 GHG Conversion Factors sections "Business travel – air" and "Freighting goods" refer to aviation's direct CO_2, CH_4 and N_2O emissions only. There is currently uncertainty over the other non-CO_2 climate change effects of aviation (including water vapour, contrails, NO_X, etc.) which have been indicatively accounted for by applying a multiplier in some cases.

8.35. Currently there is no suitable climate metric to express the relationship between emissions and climate warming effects from aviation, but this is an active area of research. Nonetheless, it is clear that aviation imposes other effects on the climate which are greater than that implied from simply considering its CO_2 emissions alone.

8.36. The application of a 'multiplier' to take account of non-CO_2 effects is a possible way of illustratively taking account of the full climate impact of aviation. A multiplier is not a straight forward instrument. In particular, it implies that other emissions and effects are directly linked to production of CO_2, which is not the case. Nor does it reflect accurately the different relative contribution of emissions to climate change over time, or reflect the potential trade-offs between the warming and cooling effects of different emissions.

8.37. On the other hand, consideration of the non-CO_2 climate change effects of aviation can be important in some cases, and there is currently no better way of taking these effects into account. A multiplier of 1.9 is recommended as a central estimate, based on the best available scientific evidence, as summarised in Table 41 and the GWP_{100} figure (consistent with UNFCCC reporting convention) from the ATTICA research presented in Table 42 below[58] and in analysis by Lee et al (2009) reported on by the Committee on Climate Change (2009)[59].

From CCC (2009): "The recent European Assessment of Transport Impacts on Climate Change and Ozone Depletion (ATTICA, http://ssa-attica.eu) was a series of integrated studies investigating atmospheric effects and applicable climate metrics for aviation, shipping and land traffic. Results have been published which provide metrics to compare the different effects across these sectors in an objective way, including estimates of Global Warming Potentials (GWPs) and Global Temperature Potentials (GTPs) over different time horizons (20, 50 and 100 years). Table 42 shows the 20-year and 100-year GWPs, plus 100-year GTPs, for each forcing agent from aviation. Based on estimates of fuel usage and emission indices for 2005, the emission equivalent of each agent for these metrics is given on the right, and on the

[58] R. Sausen et al. (2005). Aviation radiative forcing in 2000: An update on IPCC (1999) Meteorologische Zeitschrift 14: 555-561, available at: http://elib.dlr.de/19906/1/s13.pdf

[59] CCC (2009). Meeting the UK Aviation target – options for reducing emissions to 2050, http://www.theccc.org.uk/publication/meeting-the-uk-aviation-target-options-for-reducing-emissions-to-2050/

bottom right is the overall ratio of total CO_2-equivalent emissions to CO_2 emissions for aviation in 2005."

8.38. It is important to note that **the value of this 1.9 multiplier is subject to significant uncertainty** and should only be applied to the CO_2 component of direct emissions (i.e. not also to the CH_4 and N_2O emissions components). The 2018 GHG Conversion Factors provide separate emission factors including this radiative forcing uplift in separate tables in sections "Business travel – air" and "Freighting goods"

		RF [mW/m²]							
Year	Study	CO_2	O_3	CH_4	H_2O	Direct Sulphate	Direct Soot	Contrails	Total (w/o) Cirrus
1992	IPCC (1999)	18.0	23.0	−14.0	1.5	−3.0	3.0	20.0	48.5
2000	IPCC (1999) scaled to 2000	25.0	28.9	−18.5	2.0	−4.0	4.0	33.9	71.3
2000	TRADEOFF	25.3	21.9	−10.4	2.0	−3.5	2.5	10.0	47.8

Notes: Estimates for scaling CO2 emissions to account for Radiative Forcing impacts are not quoted directly in the table, but are derived as follows: IPCC (1999) = 48.5/18.0 = 2.69 ≈ 2.7; TRADEOFF = 47.8/25.3 = 1.89 ≈ 1.9

Table 41: Impacts of radiative forcing according to R. Sausen et al. (2005)

	Metric values			CO_2e emissions ($MtCO_2e$/yr.) for 2005			LOSU
	GWP_{20}	GWP_{100}	GTP_{100}	GWP_{20}	GWP_{100}	GTP_{100}	
CO_2	1	1	1	641	641	641	High
Low NO_x	120	-2.1	-9.5	106	-1.9	-8.4	Very low
High NO_x	470	71	7.6	415	63	6.7	Very low
Water vapour	0.49	0.14	0.02	123	35	5.0	–
Sulphate	-140	-40	-5.7	-25	-7	-1.0	–
Black carbon	1600	460	64	10	2.8	0.38	–
Contrail	0.74	0.21	0.03	474	135	19	Low
AIC	2.2	0.63	0.089	1410	404	57	Very low
				CO_2e/CO_2 emissions for 2005			
Low NO_x, inc. AIC				4.3	1.9	1.1	Very low
High NO_x, inc. AIC				4.8	2.0	1.1	Very low
Low NO_x, exc. AIC				2.1	1.3	1.0	Very low
High NO_x, exc. AIC				2.6	1.4	1.0	Very low

Source: Adapted by CCC (2009) from Lee et al. (2009) Transport impacts on atmosphere and climate; Aviation, Atmospheric Environment. The level of scientific understanding (LOSU) is given for each process in the right column. Values are presented for both high and low GWP values for NOx reflecting the wide uncertainties in current estimates. The ratios on the bottom right are presented both including and excluding aviation induced cloudiness (AIC) because of uncertainties both in estimates of the magnitude of this effect and in the future incidence of AIC due to air traffic. The different time horizons illustrate how a unit emission of CO_2 increases in importance relative to shorter-lived effects as longer timescales are considered.

Notes: GWP = Global Warming Potential, GTP = Global Temperature Potential

Table 42: Findings of ATTICA project

9. Bioenergy and Water

Summary of changes since the previous update

9.1. There are no major changes for the bioenergy and water factors in the 2018 update.

General Methodology

9.2. The 2018 GHG Conversion Factors provide tables of emission factors for: water supply and treatment; biofuels; and biomass and biogas.

9.3. The emission factors presented in the tables incorporate emissions from the fuel life-cycle and include net CO_2, CH_4, N_2O emissions and Indirect/WTT emissions factors. These are presented for biofuels, biomass and biogas.

9.4. The basis of the different emission factors is discussed in the following sub-sections.

Water

9.5. The emission factors for water supply and treatment in sections “Water supply” and “Water treatment” of the 2018 GHG Conversion Factors were sourced from Water UK (for reporting in 2008, 2009, 2010 and 2011) and are based on submissions by UK water suppliers. Water UK represents all UK water and wastewater service suppliers at national and European level.

9.6. Water UK (2011) gives total GHG emissions from water supply, waste water treatment, offices and transport. In the 2012 update of the GHG Conversion Factors, these emissions were split between Water supply and Water treatment using the same proportional split from previous years. However, since this publication, Water UK has discontinued its “Sustainability Indicators” report and so no longer produces further updates to these emission factors. Therefore, the Conversion Factors have been unchanged since the 2012 GHG Conversion Factors values.

Biofuels

9.7. Biofuels are defined as “net carbon zero” or “carbon neutral” as any CO_2 expelled during the burning of the fuel is cancelled out by the CO_2 absorbed by the feedstock used to produce the fuel during growth[60]. Therefore, all direct emissions from biofuels provided in the GHG Conversion Factors dataset are only made up of CH_4 and N_2O emissions.

9.8. Unlike the direct emissions of CO_2, CH_4 and N_2O are not offset by adsorption in the growth of the feedstock used to produce the biofuel. In the absence of other information, these emissions factors have been assumed to be equivalent to those produced by combusting the corresponding fossil fuels (i.e. diesel, petrol or CNG) from the “Fuels” section.

[60] This is a convention required by international GHG Inventory guidelines and formal accounting rules

9.9. The indirect/WTT/fuel lifecycle emission factors for biofuels were based on UK average factors from the Quarterly Report (2015/16)[61] on the Renewable Transport Fuel Obligation (RTFO). These average factors and the direct CH_4 and N_2O factors are presented in Table 43.

Biofuel	Emissions Factor, gCO_2e/MJ				
	RTFO Lifecycle (1)	Direct CH_4 (2)	Direct N_2O (2)	Total Lifecycle	Direct CO_2 Emissions (Out of Scope (3))
Biodiesel	12.33	0.01	0.59	12.93	75.30
Bioethanol	30.32	0.22	0.11	30.65	71.60
Biomethane	10.00	0.08	0.03	10.11	55.28
Biodiesel (from used cooking oil)	11.56	0.01	0.59	12.17	75.30
Biodiesel (from Tallow)	14.03	0.01	0.59	14.63	75.30

Notes:

(1) Based on UK averages from the RTFO Quarterly Report (2015/16) from DfT

(2) Based on corresponding emission factors for diesel, petrol or CNG.

(3) The Total GHG emissions outside of the GHG Protocol Scope 1, 2 and 3 is the actual amount of CO_2 emitted by the biofuel when combusted. This will be counter-balanced by /equivalent to the CO_2 absorbed in the growth of the biomass feedstock used to produce the biofuel. These factors are based on data from Forest Research, the Forestry Commission's research agency (previously BEC), (2016)

Table 43: Fuel lifecycle GHG Conversion Factors for biofuels

9.10. The net GHG emissions for biofuels vary significantly depending on the feedstock source and production pathway. Therefore, for accuracy, it is recommended that more detailed/specific figures are used where available. For example, detailed indirect/WTT emission factors by source/supplier are provided and updated regularly in the Quarterly Reports on the RTFO, available from GOV. website at: https://www.gov.uk/government/organisations/department-for-transport/series/biofuels-statistics.

9.11. In addition to the direct and indirect/WTT emission factors provided in Table 43, emission factors for the out of scope CO_2 emissions have also been provided in the 2018 GHG Conversion Factors (see table and the table footnote), based on data sourced from Forest Research, the Forestry Commission's research agency (previously BEC), (2016)[62].

Other biomass and biogas

9.12. A number of different bioenergy/biomass types can be used in dedicated biomass heating systems, including wood logs, chips and pellets, as well as grasses/straw or

[61] These cover the period from April 2015 - April 2016, and were the most recent figures available at the time of production of the 2018 GHG Conversion Factors. The report is available from the GOV. website at: https://www.gov.uk/government/collections/biofuels-statistics

[62]. Carbon emissions of different fuels; available at: https://www.forestry.gov.uk/fr/beeh-abslby

biogas. Emission factors produced for these bioenergy sources are presented in the "Bioenergy" section of the 2018 GHG Conversion Factors.

9.13. All indirect/WTT/fuel lifecycle emission factors here, except for wood logs, are sourced from the Ofgem carbon calculators[63]. These calculators have been developed to support operators determining the GHG emissions associated with the cultivation, processing and transportation of their biomass fuels.

9.14. Indirect/WTT/fuel lifecycle emission factors for wood logs, which are not covered by the Ofgem tool, were obtained from the Biomass Environmental Assessment Tool ($BEAT_2$)[64], provided by Defra.

9.15. The direct CH_4 and N_2O emission factors presented in the 2018 GHG Conversion Factors are based on the emission factors used in the UK GHG Inventory (GHGI) for 2015 (managed by Ricardo Energy & Environment).

9.16. In some cases, calorific values were required to convert the data into the required units. The most appropriate source was used and this was either from the Forest Research, DUKES (Table A.1) or Swedish Gas Technology Centre 2012 (which is also backed up by other data sources). The values used and their associated moisture contents are provided in Table 44.

9.17. In addition to the direct and indirect/WTT emission factors provided, emission factors for the out of scope CO_2 emissions are also provided in the 2018 GHG Conversion Factors (see "Outside of scopes" and the relevant notes on the page), also based on data from sourced from Forest Research, the Forestry Commission's research agency (previously BEC) (2016)[65].

Biomass	Moisture content	Net calorific value (GJ/tonne)	Source
Wood chips	25% moisture	13.6	Forest Research
Wood logs	Air dried 20% moisture	14.7	DUKES
Wood pellets	10% moisture	16.85	DUKES
Grass/Straw	10% moisture	13.4	DUKES
Biogas	Based on 65% CH_4	20	Swedish Gas Technology Centre
Landfill gas	Based on 40% CH_4	12.3	Swedish Gas Technology Centre

Table 44: Fuel sources and properties used in the calculation of biomass and biogas emission factors

[63] Ofgem carbon calculator tools: https://www.ofgem.gov.uk/publications-and-updates/uk-bioliquid-carbon-calculator and https://www.ofgem.gov.uk/publications-and-updates/uk-solid-and-gaseous-biomass-carbon-calculator

[64] Biomass Environmental Assessment Tool, $BEAT_2$: https://www.forestry.gov.uk/fr/beeh-9uynmd

[65] Carbon emissions of different fuels; available at: https://www.forestry.gov.uk/fr/beeh-abslby

10. Overseas Electricity Emission Factors

Summary of changes since the previous update

10.1. There have been no new methodological changes to this section, the overseas electricity factors have not been provided after the 2015 update due to a change in the licencing conditions for the underlying International Energy Association (IEA) dataset upon which they were based. Instead these can be purchased from the IEA[66].

10.2. The conversion factors supplied by the IEA for electricity supplied to the grid can be purchased by organisations. Since this year (from 2017/18) the emissions associated with electricity losses during transmission and distribution of electricity between the power station and an organisation's site(s) are also provided in the IEA dataset, these are also now no longer provided in the UK GHG Conversion Factors dataset.

10.3. The conversion factors supplied by the IEA do not include the emissions associated with the extraction, refining and transportation of primary fuels before their use in the generation of electricity (WTT emissions). These are still available in the 2018 GHG Conversion Factors.

Direct Emissions and Emissions resulting from Transmission and Distribution Loses from Overseas Electricity Generation

10.4. UK companies reporting on their emissions may need to include emissions resulting from overseas activities. Whilst many of the fuel emission factors are likely to be similar for fuels used in other countries, electricity emission factors vary considerably.

10.5. The dataset on electricity emission factors from the IEA, provided from the IEA website, has previously been identified as the best available consistent dataset for electricity emissions factors. These factors are a time series of combined electricity CO_2 emission factors per kWh GENERATED (Scope 2), and also corresponding emission factors for losses in Transmission and Distribution (T&D) (Scope 3). As stated these can be purchased from the IEA website.

Indirect/WTT Emissions from Overseas Electricity Generation

10.6. In addition to the GHG emissions resulting directly from the generation of electricity, there are also indirect/WTT emissions resulting from the production, transport and distribution of the fuels used in electricity generation (i.e. indirect/WTT / fuel lifecycle emissions as included in the “Fuel” section). The average fuel lifecycle emissions per unit of electricity generated will be a result of the mix of different sources of fuel/primary energy used in electricity generation.

10.7. Average indirect/WTT emission factors for UK electricity were calculated and included in “UK electricity” by using the “Fuels” sections indirect/WTT emission factors and data on the total fuel consumption by type of generation for the UK. This information was not available for the overseas emission factors. As an approximation therefore, the indirect/WTT (Scope 3) emission factors for different countries are estimated as being roughly a similar ratio of the direct CO_2 emission factors as for the UK (which is 16.0%).

[66] Available here: http://www.iea.org/bookshop/729-CO2_Emissions_from_Fuel_Combustion

11. Hotel Stay

Summary of changes since the previous update

11.1. A number of factors have been added to the 2018 GHG Conversion Factors which can be used to report emissions associated with an overnight hotel stay. These complement the existing emission factors for business travel. The emission factors are provided for a range of countries on a 'room per night' basis. Due to changes in the underlying data source used for the Hotel Stay emission factors since the 2017 update, the values and range of factors available has changed quite significantly. However, the underlying methodological basis of this source is largely unchanged.

Direct emissions from a hotel stay

11.2. All the hotel stay emission factors presented in the 2018 GHG Conversion Factors are in CO_2e. These are taken directly from the Cornell Hotel Sustainability Benchmarking Index (CHSB) Tool, produced by the International Tourism Partnership (ITP) and Greenview.

11.3. The factors use annual data from hotel companies comprising of 6,202 hotels from eleven international hotel organisations: Brighton Management, Hilton Worldwide, Host Hotels & Resorts, Hyatt Hotels Corporation, InterContinental Hotels Group, Mandarin Oriental Hotel Group, Marriott International, Park Hotel Group, Saunders Hotel Group, Six Senses Hotels Resorts Spas, the Hongkong and Shanghai Hotels and Wyndham Worldwide.

11.4. For the 2018 GHG Conversion Factors the average benchmark for each country, for all hotel classes included within the tool, was used.

11.5. The following five steps were carried out in the CHSB study to arrive at the emission factors included within the 2018 GHG Conversion Factors:

a. **Harmonising.** The data received was converted into the same units and then converting to kg CO_2e.

b. **Validity tests** were carried out to remove outliners or errors from the data sets received.

c. **Geographic segmentation**. The data sets were grouped by location; either on a city, country or regional basis.

d. **Market segmentation**. Hotels were grouped by market segment, applying a revenue-based approach and a standardised industry methodology.

e. **Minimum output thresholds**. A minimum threshold of eight hotels per geographical region was required before it was populated within the tool. If there were less than eight hotels, these were excluded from the final outputs.

11.6. It should be noted that there are certain limitations with the CHSB tool used to derive the 2018 GHG Conversion Factors. The main limitations are detailed below:

a. The factors are skewed toward large, more upmarket hotels and to branded chains. This is because it was mainly large owners or operators of hotels who submitted the aggregated data sets. The tool contains only 83 hotels within the economy or midscale segment.

b. The data sets used to derive the factors have not been verified and therefore it cannot be concluded to be 100% accurate.
c. The factors do not distinguish a property's amenities with the exception of outsourced laundry services, which are taken into consideration. The factors are an aggregation of all types of hotels within the revenue-based segmentation and geographic location. Which means it is very difficult to compare two hotels since some may contain distinct attributes, (such as restaurants, fitness centres, swimming pool and spa) while others do not.
d. The provision of conversion factors is limited by the availability of data in different parts of the world. The datasets used are updated each year, therefore it is expected that a wider range of countries will be covered in the future.
e. At present there is no breakdown of CH_4 and N_2O emissions, plus there are also no indirect/ WTT factors.

11.7. For more information about how the factors have been derived, please visit https://www.hotelfootprints.org, where you will also find more granular data available by city and segment.

12. Material Consumption/Use and Waste Disposal

Summary of changes since the previous update

12.1. There have been three methodological updates to this section since last year's (2017) update:

a. *Steel closed loop source:* The impacts for closed loop steel recycling have been updated using new Lifecycle Assessment data from the World Steel Association and the methodology has been improved. The new data directly provides Lifecycle Inventory emissions factors per kg of steel recycled, whereas these were previously derived based on emissions for different grades of recycled steel.

b. *Construction and demolition metals closed loop source:* The updated metals recycling factors for construction and demolition have been standardised using the updated closed loop steel recycling factor. The methodology has changed, and is now based directly on emissions from metals recycling (see above); previously this had been based on published estimated savings from recycling metals.

c. *Glass landfill / green and mixed organics composting:* These factors had previously been taken directly from published studies that used a methodology different from that used for the other waste factors. The approach has now been standardised, with these factors using MELMod (landfill emissions model) factors for the landfill emissions and BEIS transport factors for associated transport emissions (see below for discussion of transport distance assumptions).

Emissions from Material Use and Waste Disposal

12.2. Since 2012 the greenhouse gas emission factors for material consumption / use and waste disposal have been aligned with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard ('the Scope 3 Standard')[67]. This sets down rules on accounting for emissions associated with material consumption and waste management.

12.3. The company sending waste for recycling may see a reduction in waste management emissions, but does not receive any benefit to its carbon account from recycling as the figures for waste disposal no longer include the potential benefits where primary resource extraction is replaced by recycled material. Under this accounting methodology, the organisation using recycled materials will see a reduction in their account where this use is in place of higher impact primary materials.

12.4. Whilst the factors are appropriate for accounting, they are therefore not appropriate for informing decision making on alternative waste management options (i.e. from a waste management perspective they do not indicate the lowest or highest impact option).

[67] http://www.ghgprotocol.org/standards/scope-3-standard

12.5. All figures expressed are kilograms of carbon dioxide equivalent (CO_2e) per tonne of material. This includes the Kyoto protocol basket of greenhouse gases. Please note that biogenic[68] CO_2 has also been excluded from these figures.

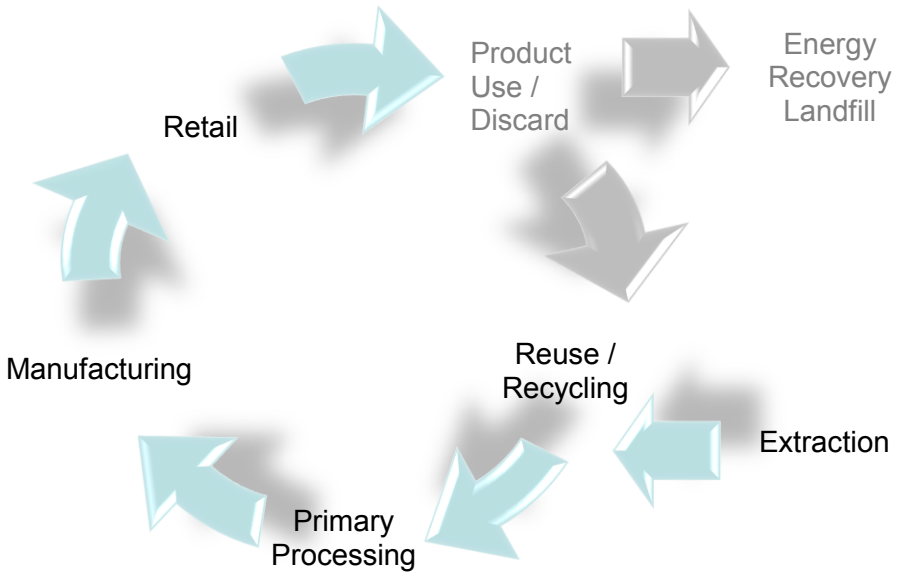
12.6. The information for material consumption presented in the GHG Conversion Factor tables has been separated out from the emissions associated with waste disposal in order to allow separate reporting of these emission sources, in compliance with the Scope 3 Standard.

12.7. It is important that businesses quantify emissions associated with both material use and waste management in their Scope 3 accounting, to fully capture changes due to activities such as waste reduction.

12.8. The following subsections provide a summary of the methodology, key data sources and assumptions used to define the emission factors.

Material Consumption/Use

12.9. Figure 4 shows the boundary of greenhouse gas emissions summarised in the material consumption table.



Notes: Arrows represent transportation stages; greyed items are excluded.

Figure 4: Boundary of material consumption data sets

12.10. The factors presented for material consumption cover all greenhouse gas emissions from the point of raw material extraction through to the point at which a finished good is manufactured and provided for sale. Commercial enterprises may therefore use these figures to estimate the impact of goods they procure. Organisations involved in manufacture of goods using these materials should note that if they separately report emissions associated with their energy use in forming products with these materials, there is potential for double counting. As many of the data sources used in preparing

[68] Biogenic CO_2 is the CO_2 absorbed and released by living organisms during and at the end of their life. By convention, this is assumed to be in balance in sustainably managed systems.

the tables are confidential we are unable to publish a more detailed breakdown. However, the standard assumptions made are described below.

12.11. Emission factors are provided for both recycled and primary materials. To identify the appropriate carbon factor, an organisation should seek to identify the level of recycled content in materials and goods purchased. Under this accounting methodology, the organisation using recycled materials in place of primary materials receives the benefit of recycling in terms of reduced Scope 3 emissions.

12.12. These figures are estimates to be used in the absence of data specific to your goods and services. If you have more accurate information for your products, then please refer to the more accurate data for reporting your emissions.

12.13. Information on the extraction of raw materials and manufacturing impacts are commonly sourced from the same reports, typically life cycle inventories published by trade associations. The sources utilised in this study are listed in Appendix 1 to this report. The stages covered include mining activities for non-renewable resources, agriculture and forestry for renewable materials, production of materials used to make the primary material (e.g. soda ash used in glass production) and primary production activities such as casting metals and producing board. Intermediate transport stages are also included. Full details are available in the referenced reports.

12.14. Emission factors provided include emissions associated with product forming.

12.15. Table 45 identifies the transportation distances and vehicle types which have been assumed as part of the emission factors provided. The impact of transporting the raw material (e.g. forestry products, granules, glass raw materials) is already included in the manufacturing profile for all products. The transportation tables and Greenhouse Gas Protocol guidelines on vehicle emissions have been used for most vehicle emission factors.

Destination / Intermediate Destination	One Way Distance	Mode of transport	Source
Transport of raw materials to factory	122km	Average, all HGVs	Department for Transport (2010)[69] Based on average haulage distance for all commodities, not specific to the materials in the first column.
Distribution to Retail Distribution Centre & to retailer	96km		McKinnon (2007)[70] IGD (2008)[71]

Table 45: Distances and transportation types used in EF calculations

[69] Department for Transport (2009) *Transport Statistics Bulletin: Road Freight Statistics 2008* National Statistics Table 1.14d. Available at: http://www.dft.gov.uk/pgr/statistics/datatablespublications/freight/goodsbyroad/roadfreightstatistics2008

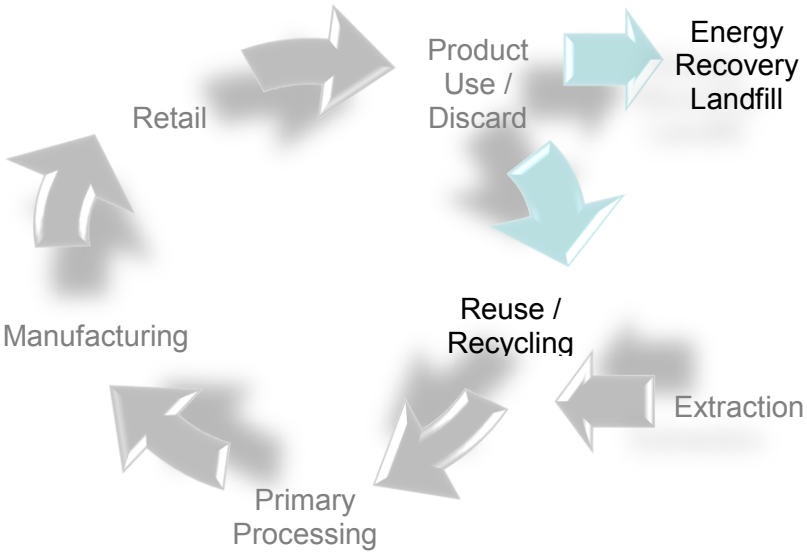
[70] McKinnon, A.C. (2007) Synchronised Auditing of Truck Utilisation and Energy Efficiency: A Review of the British Government's Transport KPI Programme. Available at: http://www.greenlogistics.org/SiteResources/77a765d8-b458-4e5f-b9e0-1827e34f2f1f_Review%20of%20Transport%20KPI%20programme%20(WCTR%202007).pdf

[71] IGD (2008) UK Food & Grocery Retail Logistics Overview Date Published: 15/01/2008. Available at: http://www.igd.com/our-expertise/Supply-chain/Logistics/3457/UK-Food--Grocery-Retail-Logistics-Overview/

12.16. Transport of goods by consumers is excluded from the factors presented, as is use of the product.

Waste Disposal

12.17. Figure 5 shows the boundary of greenhouse gas emissions summarised in the waste disposal table.



Notes: Arrows represent transportation stages; greyed items are excluded.

Figure 5: Boundary of waste disposal data sets

12.18. As defined under the Scope 3 standard, emissions associated with recycling and energy recovery are attributed to the organisation which uses the recycled material or which uses the waste to generate energy. The emissions attributed to the company which generates the waste cover only the collection of waste from their site. This does not mean that these emissions are zero, or are not important; it simply means that, in accounting terms, these emissions are for another organisation to report.

12.19. The final emissions factor data summarised in the tables has been revised to be in line with company reporting requirements in the Scope 3 Standard. Under this standard, in order to avoid double-counting, the emissions associated with recycling are attributed to the user of the recycled materials, and the same attribution approach has also been applied to the emissions from energy generation from waste. Only transportation and minimal preparation emissions are attributed to the entity disposing of the waste.

12.20. Landfill emissions remain within the accounting scope of the organisation producing waste materials. Factors for landfill are provided within the waste disposal sheet in the 2018 GHG Conversion Factors. As noted above, these factors are now drawn directly from MELMod, which contains information on landfill waste composition and material properties, with the addition of collection and transport emissions.

12.21. Figures for Refuse Collection Vehicles have been taken from the Environment Agency's Waste and Resource Assessment Tool for the Environment (WRATE)[72].

12.22. Transport distances for waste were estimated using a range of sources, principally data supplied by the Environment Agency for use in the WRATE tool (2005). The distances adopted are shown in Table 46.

Destination / Intermediate Destination	One Way Distance	Mode of transport	Source
Household, commercial and industrial landfill	25km by Road	26 Tonne GVW Refuse Collection Vehicle, maximum waste capacity 12 tonnes	WRATE (2005)
Inert landfill	10km by Road		WRATE (2005)
Transfer station / CA site	10km by Road		
MRF	25km by Road		
MSW incinerator	50km by Road		
Cement kiln	50km by Road		
Recyclate	50km by Road	Average, all HGVs	WRATE (2005)
Inert recycling	10km by Road		WRATE (2005)

Table 46: Distances used in calculation of emission factors

12.23. Road vehicles are volume limited rather than weight limited. For all HGVs, an average loading factor (including return journeys) is used based on the HGV factors provided in the 2017 Conversion Factors. Waste vehicles leave a depot empty and return fully laden. A 50% loading assumption reflects the change in load over a collection round which could be expected.

[72] Environment Agency (2010), Waste and Resource Assessment Tool for the Environment. Available at: www.environment-agency.gov.uk/research/commercial/102922.aspx

13. Fuel Properties

Summary of changes since the previous update

13.1. No significant changes were made this year.

General Methodology

13.2. Information on standard fuel properties of key fuels is also provided in the GHG Conversion Factors for:

a. Gross Calorific Value (GCV) in units of GJ/tonne and kWh/kg

b. Net Calorific Value (NCV) in units of GJ/tonne and kWh/kg

c. Density in units of litres/tonne and kg/m^3.

13.3. The standard emission factors from the UK GHG Inventory in units of mass have been converted into different energy and volume units for the various data tables using information on these fuel properties (i.e. Gross and Net Calorific Values (CV), and fuel densities in litres/tonne) from BEIS's Digest of UK Energy Statistics (DUKES) 2017[73].

13.4. The fuel properties of most biofuels are predominantly based on data from JEC - Joint Research Centre-EUCAR-CONCAWE collaboration, "Well-to-Wheels Analysis of Future Automotive Fuels and Powertrains in the European Context" Version 4a, 2014 (Report EUR 26236 EN - 2014)[74]. The exception is for methyl-ester based biodiesels and bioethanol, where values for NCV and GCV are taken from DUKES 2017.

13.5. Fuel properties, both density and CV, for wood chips (25% moisture content) come from the Forest Research (previously Biomass Energy Centre (BEC)[75]. The density of wood logs (20% moister content), wood chips (25% moister content) and grasses/straw (25% water content) are also sourced from the Forest Research[76].

[73] Available at: https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes

[74] Available at: http://iet.jrc.ec.europa.eu/about-jec/

[75] Available at: https://www.forestry.gov.uk/fr/beeh-9ukqcn

[76] Available at: https://www.forestry.gov.uk/fr/beeh-absg5h

Appendix 1. Additional Methodological Information on the Material Consumption/Use and Waste Disposal Factors

This section explains the methodology for the choice of data used in the calculation of carbon emissions used in the waste management 2018 GHG Conversion Factors. Section 1.1 details the indicators used to assess whether data met the data quality standards required for this project. Section 1.2 states the sources used to collect data. Finally, Section 1.3 explains and justifies the use of data which did not meet the data quality requirements.

1.1 Data Quality Requirements

Data used in this methodology should, so far as is possible, meet the data quality indicators described in Table 1.1 below.

Data Quality Indicator	Requirement	Comments
Time-related coverage	Data less than 5 years' old	Ideally, data should be less than five years old. However, the secondary data in material eco-profiles is only periodically updated. In cases where no reliable data is available from within the five-year period, the most recent data available have been used. In cases where use of data over five years old creates specific issues, these are discussed below under "Use of data below the set quality standard". All data over five years old has been marked in the references with an asterisk within the 2.0 Data Sources section.
Geographical coverage	Data should be representative of the products placed on the market in the UK	Many datasets reflect European average production.
Technology coverage	Average technology	A range of information is available, covering best in class, average and pending technology. Average is considered the most appropriate but may not reflect individual supply chain organisations.
Precision/ variance	No requirement	Many datasets used provide average data with no information on the range. It is therefore not possible to identify the variance.
Completeness	All datasets must be reviewed to ensure they cover inputs and outputs pertaining to the life cycle stage	
Representative-ness	The data should represent UK conditions	This is determined by reference to the above data quality indicators
Consistency	The methodology has been applied consistently.	

Data Quality Indicator	Requirement	Comments
Reproducibility	An independent practitioner should be able to follow the method and arrive at the same results.	
Sources of data	Data will be derived from credible sources and databases	Where possible data in public domain will be used. All data sources referenced
Uncertainty of the information		Many data sources come from single sources. Uncertainty will arise from assumptions made and the setting of the system boundaries.

Table 1-1: Data Quality Indications for the waste management GHG factors

1.2 Data Sources

Data has been taken from a combination of trade associations, who provide average information at a UK or European level, data from the Ecoinvent database and reports / data from third parties (e.g. academic journals, Intergovernmental Panel on Climate Change). Data on wood and many products are taken from published life cycle assessments as no trade association eco-profile is available. Data sources for transport are referenced in Section 12. Data on waste management options has been modelled using SimaPro 8.2.3.[77] and WRATE.

Some data sources used do not meet the quality criteria. The implications of this are discussed in the following section.

1.3 Use of data below the set quality standard

Every effort has been made to obtain relevant and complete data for this project. For the majority of materials and products data which fits the quality standards defined in Section 1.1 above are met. However, it has not always been possible to find data which meets these standards in a field which is still striving to meet the increasing data demands set by science and government. This section details data which do not meet the expected quality standard set out in the methodology of this project but were never-the-less included because they represent the best current figures available. The justification for inclusion of each dataset is explained. The most common data quality issues encountered concerned data age and availability.

Wood and Paper data

Published data on wood products is sparse, an issue highlighted by the Waste and Resources Action Programme (WRAP) in 2006 and 2010[78]. Data used in this report for material consumption is based on studies from the USA, where production processes may not be representative of activity in the UK (e.g. different fuel mix to generate electricity). This data should therefore be viewed with caution. Data on different types of wood has been used in combination with

[77] SimaPro (2015). Life Cycle Assessment Software. Available at: http://www.lifecycles.com.au/#!simapro/c1il2

[78] WRAP (2006) Environmental Benefits of Recycling and WRAP (2010) Environmental Benefits of Recycling – 2010 update. WRAP; Banbury. Available at: http://www.wrap.org.uk/sites/files/wrap/Executive_summary_Environmental_benefits_of_recycling_-_2010_update.d1af1398.8671.pdf

information on the composition of wood waste in the UK[79] to provide a figure which represents a best estimate of the impact of a typical tonne of wood waste.

Many trade associations publish data on the impact of manufacturing 100% primary and 100% recycled materials. However, for various reasons, the bodies representing paper and steel only produce industry average profile data, based on a particular recycling rate.

Furthermore, paper recycling in particular is dependent on Asian export markets, for which information on environmental impacts of recycling or primary production is rare. This means that the relative impact of producing paper from virgin and recycled materials is difficult to identify. The figure for material consumption for paper represents average production, rather than 100% primary material, so already accounts for the impact of recycling. Caution should therefore be taken in using these numbers.

Plastics data

Whilst not an issue from a data quality perspective, Plastics Europe are in the process of updating the Life Cycle Inventories for plastic polymers. Again, as the publications are updated the factors for material consumption for plastics can be updated.

Data on polystyrene recycling does not meet the age criteria, as it originates from one 2002 study. This will be updated as new sources are identified.

Textiles and footwear

The BIO IS study draft[80] is the most relevant data source to calculate the carbon factors for textiles even though the report is not published. This is because the factor proposed is based upon the market share of all textile products in Europe, categorised by product types and fibre types. The factor is considered to be representative of household textiles in general rather than specific fibres. It is understood that this will be published by the EU.

Information for footwear comes from one study from the USA. As with wood, this may not reflect UK impacts, and so the results should be viewed with caution.

Oil Data

Vegetable oil factors are based on studies of rapeseed oil. There is discussion in scientific journals on which is the appropriate oil to use when assessing environmental impacts, since growth is strongest in palm oil manufacture and use. However, palm oil has particular properties (e.g. high ignition point) which mean its use as a standalone product, rather than as an ingredient in other products, is limited.

Mineral oil will be included in the waste management 2018 GHG Conversion Factors. Although there is no available data on waste arising for mineral oil, this waste stream is banned from landfill. Therefore, it is assumed that all collected mineral oil is recycled or combusted and the data on recycled mineral oil is used both for the arising and the recycled figure.

Excluded Materials and Products

For some materials and products, such as automotive batteries and fluorescent tubes, no suitable figures have been identified to date.

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[79] WRAP (2009) Wood Waste Market in the UK WRAP; Banbury. Available at: http://www.wrap.org.uk/sites/files/wrap/Wood%20waste%20market%20in%20the%20UK.pdf

80 Bio IS (2009) *Environmental Improvement Potentials of Textiles (IMPRO-Textiles)* http://susproc.jrc.ec.europa.eu/textiles/docs/120423%20IMPRO%20Textiles_Publication%20draft%20v1.pdf

2.0 Data Sources

Material	Reference	
	Material Consumption	Waste Disposal
Aluminium cans and foil	European Aluminium Association (2013) Environmental Profile Report for the European Aluminium Industry *CE Delft (2007) Environmental Indices for the Dutch Packaging Tax 2018 GHG Conversion Factors Swiss Centre for Life Cycle Inventories (2014) Ecoinvent v3.0 *Environment Agency (2008) Waste and Resources Assessment Tool for the Environment (WRATE) Version 1 *Wilmshurst, N. Anderson, P. and Wright, D. (2006) WRT142 Final Report Evaluating the Costs of 'Waste to Value' Management	*ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009
Steel Cans	World Steel Association (2017) Lifecycle Inventory Data for Steel Products 2018 GHG Conversion Factors *Swiss Packaging Institute (1997) BUWAL *ERM (2008) Waste and Resources Assessment Tool for the Environment (WRATE) Version 1	*ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009
Mixed Cans	Estimate based on aluminium and steel data, combined with data returns from Courtauld Commitment retailers (confidential, unpublished)	*ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009
Glass	*Enviros (2003 (a)) Glass Recycling - Life Cycle Carbon Dioxide Emissions *Enviros (2003 (b)) Glass Recycling - Life Cycle Carbon Dioxide Emissions	

Material	Reference	
	Material Consumption	Waste Disposal
Wood	* Pöyry Forest Industry Consulting Ltd and Oxford Economics Ltd (2009) Wood Waste Market in UK * Merrild H, and Christensen T. H. (2009) Recycling of wood for particle board production: accounting of greenhouse gases and global warming contributions CORRIM (2013) Particleboard: A Life-Cycle Inventory of Manufacturing Panels from Resource through Product *ERM (2008) Single trip pallet no biogenic CO_2 Swiss Centre for Life Cycle Inventories (2014) Ecoinvent v3.0 2018 GHG Conversion Factors *Gnosys (2009) Life Cycle Assessment of Closed Loop MDF Recycling * ERM (2008) Waste and Resources Assessment Tool for the Environment (WRATE) Version 1	*ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009
Aggregates	*WRAP (2008) Lifecycle Assessment of Aggregates	

Paper and board	2018 GHG Conversion Factors Procarton (2013) Carbon footprint for cartons FEFCO (2012) European database for Corrugated Board Life Cycle Studies DEFRA (2012) Streamlined LCA of Paper Supply Systems CPI (2016) Filename: CPI_WRAP_Papermaking_2016 12 Swiss Centre for Life Cycle Inventories (2014) Ecoinvent v3.0 Wencong Yue, Yanpeng Cai, Qiangqiang Rong, Lei Cao and Xumei Wang (2014) A hybrid MCDA-LCA approach for assessing carbon foot-prints and environmental impacts of China's paper producing industry and printing services" "Wang & Mao (2012) Risk Analysis and Carbon Footprint Assessments of the Paper Industry in China" * Swiss Centre for Life Cycle Inventories (2007) Ecoinvent v2 *CEPI (2008) Key Statistics 2007 European Pulp and Paper Industry * Oakdene Hollins (2008) CO2 impacts of transporting the UK's recovered paper and plastic bottles to China *ERM (2008) Waste and Resources Assessment Tool for the Environment (WRATE) Version 1 * ERM (2010) LCA of Example Milk Packaging Containers *European Commission (2010) European Life Cycle Database 3 *Chen, C., Gan, J., Qui, R., (2017) Energy Use and CO2 Emissions in China's Pulp and Paper Industry: Supply Chain Approach *Chen, S., Ren, L., Liu, Z., Zhou, C., Yue, W., and Zhang, J (2011)	*ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009

Material	Reference	
	Material Consumption	Waste Disposal
	Life cycle assessment and type III environmental declarations for newsprint in China. Acta Scientiae Circumstantiae, 31, (6) 1331–1337. * WRAP (2010) Realising the value of recovered paper: An Update	
Books	Estimate based on paper	
Scrap Metal	*British Metals Recycling Association (website[81]) Swiss Centre for Life Cycle Inventories (2014) Ecoinvent v3.0 *Giurco, D., Stewart, M., Suljada, T., and Petrie, J., (2006) Copper Recycling Alternatives: An Environmental Analysis	*ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009
WEEE - Large, small, mixed, fridges and freezers	* Huisman, J., et al (2008) Review of Directive 2002/96 on Waste Electrical and Electronic Equipment * ISIS (2008) Preparatory Studies for Eco-design Requirements of EuPs (Tender TREN/D1/40-2005) LOT 13: Domestic Refrigerators & Freezers * The Environment Agency (2005) Waste and Resources Assessment Tool for the Environment (WRATE) Version 1	*ISIS (2008) Preparatory Studies for Eco-design Requirements of EuPs (Tender TREN/D1/40-2005) LOT 13: Domestic Refrigerators & Freezers *WRATE (2005)

[81] http://www.recyclemetals.org/about_metal_recycling. No longer online.

Food and Drink Waste	2018 GHG Conversion Factors *Bingemer, HG and Crutzen, PJ (1987) The Production of Methane from Solid Waste *DEFRA (2011) Greenhouse Gas Impacts of Biowaste Management - WR0210 *Cranfield University (Unpublished) Greenhouse Gas Impacts of Biowaste Management *Kranert, M. & Gottschall, R. Entsorgergemeinschaft der Deutschen Entsorgungswirtschaft e.V. (2007) Grünabfälle – besser kompostieren oder energetisch verwerten? EdDE-Dokumentation Nr. 11 * Williams AG, Audsley E and Sandars DL (2006) Determining the Environmental Burdens and Resource Uses in the Production of Agricultural and Horticultural Commodities. Main Report. Defra Research Project IS0205 *AIC (2009) Fertiliser Statistics 2009 Report *Greenhouse Gas Inventory Data - Detailed data by Party * Davis, J. and Haglund, C. (1999) Life Cycle Inventory (LCI) of Fertiliser Production * Brook Lyndhurst (2009) London's Food Sector GHG Emissions - Final Report *AEA Technology (2005) Food transport: The Validity of Food Miles as an Indicator of Sustainable Development *Tassou, S, Hadawey, A, Ge, Y and Marriot, D (2008) FO405 Greenhouse Gas Impacts of Food Retailing "Wood, S and Cowie A (2004) A Review of Greenhouse Gas Emission Factors for Fertiliser Production." *Zaher, U, Khachatryan, H, Ewing, T.; Johnson, R.; Chen, S.;	*AFOR (2009) Market survey of the UK organics recycling industry - 2007/08; WRAP, Banbury (Substitution rates for compost) *Williams AG, Audsley E and Sandars DL (2006) Determining the Environmental Burdens and Resource Uses in the Production of Agricultural and Horticultural Commodities. Main Report. IS0205, DEFRA (avoided fertiliser impacts) *Kranert, M. & Gottschall (2007) Grünabfälle – besser kompostieren oder energetisch verwerten? Eddie (information on peat) * DEFRA (unpublished) (information on composting impacts) *ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009

Material	Reference	
	Material Consumption	Waste Disposal
	Stockle, C.O. (2010) Biomass assessment for potential bio-fuels production: Simple methodology and case study *Mitaftsi, O and Smith, S R (2006) Quantifying Household Waste Diversion from Landfill Disposal by Home Composting and Kerbside Collection *Enviros Consulting (2006) Production of Guidelines for Using Compost in Crop Production - A Brief Literature Review *Prasad, M (2009) EPA STRIVE Programme 2007-2013 A Literature Review on the Availability of Nitrogen from Compost in Relation to the Nitrate Regulations SI 378 of 2006 Small Scale Study Report *US EPA (2005) Landfill Gas Emissions Model (LandGEM) V3.02 * Environment Agency (2005) Waste and Resources Assessment Tool for the Environment (WRATE) Version 1 *DEFRA and ONS (2009) Family food and expenditure survey *DECC and DEFRA (2011) Anaerobic Digestion Strategy and Action Plan *WRC (2010) National Food Waste Programme (Work Package 1.1) Comparison of the Sustainability of Food Waste Disposal Options *WRAP (2011) The Water and Carbon Footprint of UK Household Food Waste	
Garden Waste	2018 GHG Conversion Factors DEFRA (2013) Family food and expenditure survey	

Material	Reference	
	Material Consumption	Waste Disposal
Plastics:	*WRAP (2008) LCA of Mixed Waste Plastic Recovery Options * WRAP (2006) A review of supplies for recycling, global market demand, future trends and associated risks *PriceWaterhouseCoopers & Ecobilan (2002) Life Cycle Assessment of Expanded Polystyrene Packaging. Case Study: Packaging system for TV sets Plastics Europe (2014) Ecoprofiles DEFRA / BEIS (2017) Company GHG Reporting Guidelines *The Environment Agency (2008) Waste and Resources Assessment Tool for the Environment (WRATE) Version 1 Ecoinvent (2013) Plastics Processing options	
HDPE, LDPE and LLDPE	Plastics Europe (2014) Eco-profiles and Environmental Product Declarations of the European Plastics Manufacturers High-density Polyethylene (HDPE), Low-density Polyethylene (LDPE), Linear Low-density Polyethylene (LLDPE) Plastics Europe, Brussels	*WRAP (2008) LCA of Mixed Waste Plastic Management Options; WRAP, Banbury
PP (excel forming)	Plastics Europe (2014) Eco-profiles and Environmental Product Declarations of the European Plastics Manufacturers Polypropylene (PP). Plastics Europe, Brussels	*WRAP (2008) LCA of Mixed Waste Plastic Management Options; WRAP, Banbury
PVC (excel forming)	*Boustead (2006) Eco-profiles of the European Plastics Industry Polyvinyl Chloride (PVC) (Suspension). Plastics Europe, Brussels	*WRAP (2008) LCA of Mixed Waste Plastic Management Options; WRAP, Banbury
PS (excel forming)	Plastics Europe (2015) Eco-profiles and Environmental Product Declarations of the European Plastics Manufacturers Polystyrene (High Impact) (HIPS). Plastics Europe, Brussels	*PWC (2002) Life Cycle Assessment of Expanded Polystyrene Packaging, Umps

Material	Reference	
	Material Consumption	Waste Disposal
PET (excel forming)	Plastics Europe (2010) Eco-profiles and Environmental Product Declarations of the European Plastics Manufacturers Polyethylene Terephthalate (PET). Plastics Europe, Brussels	*WRAP (2010) LCA of Example Milk Packaging Systems; WRAP, Banbury
Average plastic film (inch bags)	*Based on split in AMA Research (2009) Plastics Recycling Market UK 2009-2013, UK; Cheltenham	*WRAP (2008) LCA of Mixed Waste Plastic Management Options; WRAP, Banbury
Average plastic rigid (inch bottles)		
Clothing	*BIO IS (2009) Environmental Improvement Potentials of Textiles (IMPRO-Textiles), EU Joint Research Commission	*Farrant (2008) Environmental Benefit from Reusing Clothes, ELCD data sets, http://lca.jrc.ec.europa.eu. (c) European Commission 1995-2009
Footwear	*Albers, K., Canapé, P., Miller, J. (2008) Analysing the Environmental Impacts of Simple Shoes, University of Santa Barbara, California	
Furniture	WRAP (2015) Benefits of Reuse	
Batteries (Post Consumer Non-Automotive)		*DEFRA (2006) Battery Waste Management Life Cycle Assessment, prepared by ERM; WRAP, Banbury
Paint	*Althaus et al (2007) Life Cycle Inventories of Chemicals, Final report ecoinvent data v2.2 *CBI (2009) CBI Market Survey The paints and other coatings market in the United Kingdom and CBI, The Netherlands Swiss Centre for Life Cycle Inventories (2014) Ecoinvent v3.0	-
Vegetable Oil	*Schmidt, J (2010) Comparative life cycle assessment of rapeseed oil and palm oil International Journal of LCA, 15, 183-197 *Schmidt, Jannick and Weidema, B., (2008) Shift in the marginal supply of vegetable oil International Journal of LCA, 13, 235-239	
Mineral Oil	*IFEU (2005) Ecological and energetic assessment of re-refining used oils to base oils: Substitution of primarily produced base oils including semi-synthetic and synthetic compounds; GEIR	
Plasterboard	*WRAP (2008) Life Cycle Assessment of Plasterboard, prepared by ERM; WRAP; Banbury	
Concrete	*Hammond, G.P. and Jones (2008) Embodied Energy and Carbon in Construction Materials Prc Instn Civil Eng, WRAP (2008) Life Cycle Assessment of Aggregates *WRAP (2008) LCA of Aggregates	

Material	Reference	
	Material Consumption	Waste Disposal
Bricks	*Environment Agency (2011) Carbon Calculator *USEPA (2003) Background Document for Life-Cycle Greenhouse Gas Emission Factors for Clay Brick Reuse and Concrete Recycling *Christopher Koroneos, Aris Dompros, Environmental assessment of brick production in Greece, Building and Environment, Volume 42, Issue 5, May 2007, Pages 2114-2123	
Asphalt	*Aggregain (2010) CO_2 calculator Mineral Products Association (2011) Sustainable Development Report	
Asbestos	Swiss Centre for Life Cycle Inventories (2014) Ecoinvent v3.0	
Insulation	*Hammond, G.P. and Jones (2008) Embodied Energy and Carbon in Construction Materials Prc Instn Civil Eng *WRAP (2008) Recycling of Mineral Wool Composite Panels into New Raw Materials	

Greenhouse Gas Conversion Factors

Industrial Designation or Common Name	Chemical Formula	Lifetime (years)	Radiative Efficiency (Wm^{-2} ppb^{-1})	Global Warming Potential with 100 year time horizon (previous estimates for 1st IPCC assessment report)	Possible source of emissions
Carbon dioxide	CO_2	Variable	1.4×10^{-5}	1	Combustion of fossil fuels
Methane	CH_4	12	3.7×10^{-4}	25 (23)	Decomposition of biodegradable material, enteric emissions.
Nitrous Oxide	N_2O	114	3.03×10^{-3}	298 (296)	N_2O arises from Stationary Sources, mobile sources, manure, soil management and agricultural residue burning, sewage, combustion and bunker fuels
Sulphur hexafluoride	SF_6	3200	0.52	22,800 (22,200)	Leakage from electricity substations, magnesium smelters, some consumer goods
HFC 134a (R134a refrigerant)	CH_2FCF_3	14	0.16	1,430 (1,300)	Substitution of ozone depleting substances, refrigerant manufacture / leaks, aerosols, transmission and distribution of electricity.
Dichlorodifluoro-methane CFC 12 (R12 refrigerant)	CCl_2F_2	100	0.32	10900	
Difluoromono-chloromethane HCFC 22 (R22 refrigerant)	$CHClF_2$	12	0.2	1810	

No single lifetime can be determined for carbon dioxide because of the difference in timescales associated with long and short cycle biogenic carbon. For a calculation of lifetimes and a full list of greenhouse gases and their global warming potentials please see:

Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.) (2007) Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change Cambridge University Press, Cambridge, United Kingdom Table 2.14. Lifetimes, radiative efficiencies and direct (except for CH_4) global warming potentials (GWP) relative to CO_2. Available at: http://www.ipcc.ch/ipccreports/assessments-reports.htm

Appendix 2. Updated full time series – Electricity and Heat and Steam Factors

The tables below provide the fully updated and consistent time series data for electricity, heat and steam emission factors. This is provided for organisations wishing to use fully consistent time series data for purposes OTHER than for company reporting (e.g. policy analysis).

Data Year	Electricity Generation (1)	Total Grid Losses (2)	UK electricity generation emissions (3), ktonne		
	GWh	%	CO_2	CH_4	N_2O
1990	280,234	**8.08%**	205,804	2.856	3.628
1991	283,201	**8.27%**	202,390	2.697	3.599
1992	281,223	**7.55%**	190,393	2.559	3.380
1993	284,350	**7.17%**	173,966	2.527	2.884
1994	289,126	**9.57%**	169,592	2.657	2.735
1995	299,196	**9.07%**	166,590	2.735	2.686
1996	313,070	**8.40%**	166,524	2.759	2.507
1997	311,220	**7.79%**	154,069	2.660	2.173
1998	320,740	**8.40%**	158,723	2.844	2.253
1999	323,872	**8.25%**	150,921	2.855	1.972
2000	331,553	**8.38%**	163,027	3.026	2.210
2001	342,686	**8.56%**	173,424	3.286	2.449
2002	342,338	**8.26%**	168,088	3.239	2.323
2003	354,225	**8.47%**	180,433	3.420	2.559
2004	349,312	**8.71%**	178,534	3.419	2.470
2005	350,778	**7.25%**	176,880	4.038	2.607
2006	349,211	**7.21%**	185,915	4.133	2.820
2007	352,778	**7.34%**	183,729	4.099	2.622
2008	348,876	**7.43%**	179,103	4.381	2.470
2009	338,983	**7.86%**	157,790	4.247	2.128
2010	343,841	**7.42%**	162,530	4.457	2.201
2011	329,253	**7.89%**	149,602	4.405	2.246
2012	324,823	**8.00%**	163,594	4.830	2.854
2013	318,753	**7.57%**	151,074	5.301	2.729
2014	298,064	**8.11%**	126,937	5.991	2.345
2015	297,575	**8.40%**	106,519	7.418	2.173
2016	297,203	**7.85%**	84,007	7.856	1.532

Notes:

(1) Based upon calculated **total** for **all** electricity generation (GWh supplied) from DUKES (2016) Table 5.5, with a reduction of the total for autogenerators based on unpublished data from the BEIS DUKES team on the share of this that is actually exported to the grid (~16% in 2015).

(2) Based upon calculated net grid losses from data in DUKES (2016) Table 5.1.2 (long term trends, only available online).

(3) Emissions from UK centralised power generation (excluding Crown Dependencies and Overseas Territories) listed under UNFCC reporting category 1A1a and autogeneration - exported to grid (UK Only) listed under UNFCC reporting category 1A2f from the UK Greenhouse Gas Inventory for 2012 (Ricardo-AEA, 2014), with data from the GHGI for 2015 (Ricardo Energy & Environment, 2017) for the 2015 data year. Also includes an accounting (estimate) for autogeneration emissions not specifically split out in the NAEI, consistent with the inclusion of the GWh supply for these elements also.

Table 47: Base electricity generation emissions data - most recent datasets for time series

Data Year	Emission Factor, $kgCO_2e$ / kWh												% Net Electricity Imports
	For electricity GENERATED (supplied to the grid)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
1990	0.73440	0.00025	0.00386	0.73851	0.06453	0.00002	0.00034	0.06489	0.79893	0.00028	0.00420	0.80340	**4.08%**
1991	0.71465	0.00024	0.00379	0.71868	0.06443	0.00002	0.00034	0.06479	0.77908	0.00026	0.00413	0.78347	**5.48%**
1992	0.67702	0.00023	0.00358	0.68083	0.05526	0.00002	0.00029	0.05557	0.73228	0.00025	0.00387	0.73640	**5.60%**
1993	0.61180	0.00022	0.00302	0.61505	0.04725	0.00002	0.00023	0.04750	0.65905	0.00024	0.00326	0.66255	**5.55%**
1994	0.58657	0.00023	0.00282	0.58962	0.06210	0.00002	0.00030	0.06242	0.64867	0.00025	0.00312	0.65204	**5.52%**
1995	0.55679	0.00023	0.00268	0.55970	0.05555	0.00002	0.00027	0.05584	0.61234	0.00025	0.00294	0.61553	**5.26%**
1996	0.53191	0.00022	0.00239	0.53451	0.04880	0.00002	0.00022	0.04904	0.58070	0.00024	0.00261	0.58355	**5.08%**
1997	0.49505	0.00021	0.00208	0.49734	0.04184	0.00002	0.00018	0.04204	0.53689	0.00023	0.00226	0.53938	**5.06%**
1998	0.49486	0.00022	0.00209	0.49718	0.04535	0.00002	0.00019	0.04557	0.54022	0.00024	0.00229	0.54275	**3.74%**
1999	0.46599	0.00022	0.00181	0.46802	0.04191	0.00002	0.00016	0.04209	0.50790	0.00024	0.00198	0.51011	**4.21%**
2000	0.49171	0.00023	0.00199	0.49392	0.04500	0.00002	0.00018	0.04520	0.53671	0.00025	0.00217	0.53913	**4.10%**
2001	0.50607	0.00024	0.00213	0.50844	0.04738	0.00002	0.00020	0.04761	0.55346	0.00026	0.00233	0.55605	**2.95%**
2002	0.49100	0.00024	0.00202	0.49326	0.04418	0.00002	0.00018	0.04438	0.53518	0.00026	0.00220	0.53764	**2.40%**
2003	0.50938	0.00024	0.00215	0.51177	0.04713	0.00002	0.00020	0.04735	0.55650	0.00026	0.00235	0.55912	**0.61%**
2004	0.51110	0.00024	0.00211	0.51345	0.04876	0.00002	0.00020	0.04899	0.55986	0.00027	0.00231	0.56244	**2.10%**
2005	0.50425	0.00029	0.00221	0.50675	0.03939	0.00002	0.00017	0.03958	0.54364	0.00031	0.00239	0.54634	**2.32%**
2006	0.53238	0.00030	0.00241	0.53509	0.04140	0.00002	0.00019	0.04161	0.57378	0.00032	0.00259	0.57669	**2.11%**
2007	0.52081	0.00029	0.00222	0.52331	0.04124	0.00002	0.00018	0.04144	0.56205	0.00031	0.00239	0.56475	**1.46%**
2008	0.51337	0.00031	0.00211	0.51579	0.04121	0.00003	0.00017	0.04140	0.55458	0.00034	0.00228	0.55720	**3.06%**
2009	0.46548	0.00031	0.00187	0.46766	0.03970	0.00003	0.00016	0.03989	0.50518	0.00034	0.00203	0.50755	**0.84%**
2010	0.47269	0.00032	0.00191	0.47492	0.03791	0.00003	0.00015	0.03809	0.51060	0.00035	0.00206	0.51301	**0.77%**
2011	0.45437	0.00033	0.00203	0.45674	0.03892	0.00003	0.00017	0.03912	0.49329	0.00036	0.00221	0.49586	**1.85%**
2012	0.50364	0.00037	0.00262	0.50663	0.04378	0.00003	0.00023	0.04404	0.54742	0.00040	0.00285	0.55067	**3.52%**
2013	0.47395	0.00042	0.00255	0.47692	0.03879	0.00003	0.00021	0.03903	0.51274	0.00045	0.00276	0.51595	**4.33%**
2014	0.42587	0.00050	0.00234	0.42872	0.03761	0.00004	0.00021	0.03786	0.46348	0.00055	0.00255	0.46658	**6.44%**
2015	0.35796	0.00062	0.00218	0.36076	0.03282	0.00006	0.00020	0.03307	0.39077	0.00068	0.00238	0.39383	**6.57%**

Data Year	Emission Factor, $kgCO_2e$ / kWh												% Net Electricity Imports
	For electricity GENERATED (supplied to the grid)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
2016	0.28266	0.00066	0.00154	0.28486	0.02409	0.00006	0.00013	0.02428	0.30675	0.00072	0.00167	0.30913	**5.57%**

Notes: * The 2017 update uses data on the contribution of electricity from the different interconnects, hence these figures are based on a weighted average emission factor of the emission factors for France, the Netherlands and Ireland, based on the % share supplied.

The dataset above uses the most recent, consistent data sources across the entire time series.

Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) / (1 - %Electricity Total Grid LOSSES)

Emission Factor (Electricity LOSSES) = Emission Factor (Electricity CONSUMED) - Emission Factor (Electricity GENERATED)

⇒ Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) + Emission Factor (Electricity LOSSES)[82],

Table 48: Base electricity generation emission factors (excluding imported electricity) – fully consistent time series dataset

Data Year	Emission Factor, $kgCO_2e$ / kWh												% Net Electricity Imports
	For electricity GENERATED (supplied to the grid, plus imports)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
1990	0.70907	0.00025	0.00372	0.71304	0.0623	0.00002	0.00033	0.06265	0.77137	0.00027	0.00405	0.77569	**4.08%**
1991	0.68251	0.00023	0.00362	0.68636	0.06153	0.00002	0.00033	0.06188	0.74404	0.00025	0.00395	0.74824	**5.48%**
1992	0.64475	0.00022	0.00341	0.64838	0.05263	0.00002	0.00028	0.05293	0.69738	0.00024	0.00369	0.70131	**5.60%**
1993	0.58162	0.00021	0.00287	0.5847	0.04492	0.00002	0.00022	0.04516	0.62654	0.00023	0.00309	0.62986	**5.55%**
1994	0.558	0.00022	0.00268	0.5609	0.05907	0.00002	0.00028	0.05937	0.61707	0.00024	0.00296	0.62027	**5.52%**
1995	0.53163	0.00022	0.00255	0.5344	0.05304	0.00002	0.00025	0.05331	0.58467	0.00024	0.00280	0.58771	**5.26%**
1996	0.50906	0.00021	0.00228	0.51155	0.0467	0.00002	0.00021	0.04693	0.55576	0.00023	0.00249	0.55848	**5.08%**
1997	0.47383	0.0002	0.00199	0.47602	0.04005	0.00002	0.00017	0.04024	0.51388	0.00022	0.00216	0.51626	**5.06%**
1998	0.48028	0.00022	0.00203	0.48253	0.04402	0.00002	0.00019	0.04423	0.52430	0.00024	0.00222	0.52676	**3.74%**
1999	0.45017	0.00021	0.00175	0.45213	0.04048	0.00002	0.00016	0.04066	0.49065	0.00023	0.00191	0.49279	**4.21%**

[82] Slight differences in the CONSUMED figure shown in the table and the figure which can be calculated using the Emission Factor (Electricity GENERATED) + Emission Factor (Electricity LOSSES) in the table is due to rounding. The CONSUMED figure in the table is considered to be more accurate.

Data Year	Emission Factor, $kgCO_2e$ / kWh												% Net Electricity Imports
	For electricity GENERATED (supplied to the grid, plus imports)				Due to grid transmission /distribution LOSSES				For electricity CONSUMED (includes grid losses)				
	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	CO_2	CH_4	N_2O	Total	TOTAL
2000	0.47488	0.00022	0.00192	0.47702	0.04346	0.00002	0.00018	0.04366	0.51834	0.00024	0.00210	0.52068	**4.10%**
2001	0.49315	0.00023	0.00208	0.49546	0.04617	0.00002	0.00019	0.04638	0.53932	0.00025	0.00227	0.54184	**2.95%**
2002	0.48093	0.00023	0.00198	0.48314	0.04327	0.00002	0.00018	0.04347	0.52420	0.00025	0.00216	0.52661	**2.40%**
2003	0.5068	0.00024	0.00214	0.50918	0.04689	0.00002	0.0002	0.04711	0.55369	0.00026	0.00234	0.55629	**0.61%**
2004	0.50189	0.00024	0.00207	0.5042	0.04789	0.00002	0.0002	0.04811	0.54978	0.00026	0.00227	0.55231	**2.10%**
2005	0.49453	0.00028	0.00217	0.49698	0.03863	0.00002	0.00017	0.03882	0.53316	0.00030	0.00234	0.53580	**2.32%**
2006	0.5228	0.00029	0.00236	0.52545	0.04065	0.00002	0.00018	0.04085	0.56345	0.00031	0.00254	0.56630	**2.11%**
2007	0.5144	0.00029	0.00219	0.51688	0.04073	0.00002	0.00017	0.04092	0.55513	0.00031	0.00236	0.55780	**1.46%**
2008	0.50003	0.00031	0.00206	0.5024	0.04014	0.00002	0.00016	0.04032	0.54017	0.00033	0.00222	0.54272	**3.06%**
2009	0.46229	0.00031	0.00186	0.46446	0.03943	0.00003	0.00016	0.03962	0.50172	0.00034	0.00202	0.50408	**0.84%**
2010	0.46971	0.00032	0.0019	0.47193	0.03767	0.00003	0.00015	0.03785	0.50738	0.00035	0.00205	0.50978	**0.77%**
2011	0.44909	0.00033	0.00201	0.45143	0.03847	0.00003	0.00017	0.03867	0.48756	0.00036	0.00218	0.49010	**1.85%**
2012	0.49497	0.00037	0.00257	0.49791	0.04303	0.00003	0.00022	0.04328	0.53800	0.00040	0.00279	0.54119	**3.52%**
2013	0.46314	0.00041	0.00249	0.46604	0.03791	0.00003	0.0002	0.03814	0.50105	0.00044	0.00269	0.50418	**4.33%**
2014	0.41142	0.00049	0.00227	0.41418	0.03633	0.00004	0.0002	0.03657	0.44775	0.00053	0.00247	0.45075	**6.44%**
2015	0.34915	0.00061	0.00212	0.35188	0.03201	0.00006	0.00019	0.03226	0.38116	0.00067	0.00231	0.38414	**6.57%**
2016	0.28088	0.00066	0.00153	0.28307	0.02394	0.00006	0.00013	0.02413	0.30482	0.00072	0.00166	0.30720	**5.57%**

Notes: * The updated 2016 methodology uses data on the contribution of electricity from the different interconnects, hence these figures are based on a weighted average emission factor of the emission factors for France, the Netherlands and Ireland, based on the % share supplied.

The dataset above uses the most recent, consistent data sources across the entire time series.

Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) / (1 - %Electricity Total Grid LOSSES)

Emission Factor (Electricity LOSSES) = Emission Factor (Electricity CONSUMED) - Emission Factor (Electricity GENERATED)

⇒ Emission Factor (Electricity CONSUMED) = Emission Factor (Electricity GENERATED) + Emission Factor (Electricity LOSSES)

Table 49: Base electricity generation emissions factors (including imported electricity) – fully consistent time series dataset

Data Year	$kgCO_2$/kWh supplied heat/steam	$kgCO_2$/kWh supplied power
	Method 1 (DUKES: 2/3rd - 1/3rd)	Method 1 (DUKES: 2/3rd - 1/3rd)
2001	0.233	0.466
2002	0.225	0.45
2003	0.228	0.457
2004	0.221	0.443
2005	0.214	0.428
2006	0.223	0.445
2007	0.223	0.447
2008	0.218	0.435
2009	0.214	0.428
2010	0.21	0.421
2011	0.24	0.48
2012	0.194	0.388
2013	0.197	0.393
2014	0.193	0.386
2015	0.192	0.384
2016	0.186	0.372

Table 50: Fully consistent time series for the heat/steam and supplied power carbon factors as calculated using DUKES method

Appendix 3. Major Changes to the Conversion Factors

The following table provides a summary of major changes in emission factors for the 2018 GHG Conversion Factors, compared to the equivalent factors provided in the 2017 GHG Conversion Factors, and a short explanation for the reason for the change. We have considered major changes to be those greater than 5% for Scope 1 and 2 emission sources most fuels and electricity and greater than 10% for Scope 3 most other emission sources.

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
Fuels						
1	CNG	CH_4	All	-8%	Lower weighted EF due to change in distribution of emissions between natural gas users and due to gas power stations now having a greater share.	Section 2
2	LNG	CH_4	All	-8%	As above	Section 2
3	LPG	CH_4	All	-6%	Dominated by road transport trend - improved emissions standards/fleet turnover.	Section 2
4	Natural gas	CH_4	All	-8%	See CNG and LNG above	Section 2
5	Aviation spirit	CH_4	All	222%	The NAEI methodology has changed to revert to default Guidebook values in place of local proxy data.	Section 2

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
6	Diesel (average biofuel blend)	CH_4	All	-19%	Dominated by road transport trend - improved emissions standards/fleet turnover.	Section 2
7	Diesel (100% mineral diesel)	CH_4	All	-19%	As above	Section 2
8	Marine gas oil	CH_4	All	-35%	Output from new BEIS shipping study - method change in NAEI.	Section 2
9	Coal (domestic)	CH_4	All	12%	Change to calculation from default EF to NAEI units, now using year specific CV to domestic coal in place of long term average across multiple users.	Section 2
10	Coking coal	CH_4	All	-81%	No domestic use of coke in 2016 so weighted average is for industrial sources only.	Section 2
11	LPG	N_2O	All	-15%	Dominated by road transport trend - improved emissions standards/fleet turnover.	Section 2
12	Fuel oil	N_2O	All	6%	Impact of inclusion of fishing vessels (new source in NAEI16).	Section 2
13	Petrol (average biofuel blend)	N_2O	All	81%	Correction to calculation for N_2O to take out cold start "fuel consumption".	Section 2
14	Petrol (100% mineral petrol)	N_2O	All	81%	As above	Section 2
15	Processed fuel oils - residual oil	N_2O	All	6%	Impact of inclusion of fishing vessels (new source in NAEI16).	Section 2

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
16	Waste oils	N_2O	All	5%	Due to a method change: now uses CV for gas oil (annual) in place of a long term average for fuel oil. Now fully consistent with energy conversions used for the inventory fuel use, and for other pollutants.	Section 2
17	Marine gas oil	N_2O	All	78%	Output from new BEIS shipping study - method change in NAEI.	Section 2
18	Marine fuel oil	N_2O	All	85%	As above	Section 2
19	Coal (industrial)	N_2O	All	9%	Method change to use year specific CV for conversions from energy to mass units, change to distribution of sources impacts weighted average.	Section 2
20	Coking coal	N_2O	All	-21%	No domestic use of coke in 2016 so weighted average is for industrial sources only.	Section 2
Bioenergy						
21	Wood pellets	CO_2e	Tonnes	19%	Revisions to CV.	Section 9
22	Grass/straw	CO_2e	All	-37%	Higher proportion from power stations compared to agriculture - stationary combustion.	Section 9
23	Bioethanol	All	All	27%	Correction to calculation for N_2O emissions for conventional fuel in the Fuels workbook to take out cold start "fuel consumption". Results in a big increase in a small number.	Section 9
24	Biodiesel (from UCO)	All	All	73%	As above	Section 9

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
25	Biodiesel (from Tallow)	All	All	73%	As above	Section 9
Refrigerants and other						
No changes						Section 4
Passenger Vehicles						
26	Cars by market segment- Dual Purpose cars, Unknown fuel	CH_4	km and miles	-13%	Continued uptake of Euro 6 vehicles causes reduction in EFs for petrol and diesel cars.	Section 5
27	Cars by size: Large car, Hybrid	CO_2	km and miles	24%	Increase in gCO_2/km from 2016 (21) to 2017 (163) and changes in the registrations of hybrid cars.	Section 5
28	Cars by size: Large car, Hybrid	CO_2e	km and miles	24%	As above	Section 5
29	Cars by size: Medium car, LPG	CH_4	km and miles	-13%	Continued uptake of Euro 6 vehicles causes reduction in EFs for petrol and diesel cars.	Section 5
30	Cars by size: Large car, LPG	CH_4	km and miles	-13%	As above	Section 5
31	Cars by size: Average car, LPG	CH_4	km and miles	-13%	As above	Section 5

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
32	Upper medium cars- PHEV	CO_2	km and miles	26%	Spike in the new petrol PHEVs registered in 2016 mean that the fuel split of petrol/diesel has altered significantly, affecting the balance of fuel EFs which feed this calculation. Also affects CO_2 emissions as petrol cars use fuel more quickly and so increases emissions factors.	Section 5
33	Upper medium cars- PHEV	CH_4	km and miles	38%	As above	Section 5
34	Upper medium cars- PHEV	CO_2e	km and miles	26%	As above	Section 5
35	Cars by market segment-- PHEV	N_2O	km and miles	71.4% to 100%	Change to kg per kWh (net CV) for diesel and petrol factors causes recalculations for N_2O emissions.	Section 5
36	Cars by size- PHEV	N_2O	km and miles	75% to 84.6%	As above	Section 5
37	All Motorcycles	CH_4	km and miles	-9.2% to -5.4%	Fleet turnover to vehicles with lower emissions.	Section 5
Delivery vehicles						
38	Petrol Vans- All classes	CH_4	km and miles	-48%	Large reduction due partly to a correction in the NAEI for catalyst repair rates of petrol LGVs but also due to fleet turnover with new vehicles satisfying more stringent EURO standard requirements.	Section 6

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
39	Petrol Vans- All classes	N_2O	km and miles	-29%	As above	Section 6
40	CNG Vans- Average class	CH_4	km and miles	-47%	As above	Section 6
41	CNG Vans- Average class	N_2O	km and miles	-29%	As above	Section 6
42	LPG Vans- Average class	CH_4	km and miles	-51%	As above	Section 6
43	LPG Vans- Average class	N_2O	km and miles	-29%	As above	Section 6
44	Unknown fuel- All Vans	CH_4	km and miles	-36%	This is due to the petrol and diesel changes seen above.	Section 6
45	HGVs (all diesel)- Rigid (>3.5 - 7.5 tonnes)	CH_4	km and miles	-28.6%	The change in CH_4 emissions is due to changes in emission factors to COPERT 4v11.	Section 6
46	HGVs (all diesel)- Rigid (>7.5 tonnes-17 tonnes)	CH_4	km and miles	-27.6%	As above	Section 6
47	HGVs (all diesel)- Rigid (>17 tonnes) and All rigids	CH_4	km and miles	-20.5%	As above	Section 6

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
48	HGVs (all diesel)- Articulated (>3.5 - 33t)	CH_4	km and miles	-28%	As above	Section 6
49	HGVs (all diesel)- Articulated (>33t)	CH_4	km and miles	-19.3%	As above	Section 6
50	HGVs (all diesel)- All artics	CH_4	km and miles	-18.3%	As above	Section 6
51	HGVs (all diesel)- All HGVs	CH_4	km and miles	-21.5%	As above	Section 6
52	HGVs refrigerated (all diesel)	Same magnitude of changes as for HGVs (all diesel)				Section 6
UK Electricity						
53	UK Electricity	CO_2	kWh	-19%	There was a significant decrease in coal generation and a significant increase in mainly gas generation since the previous year.	Section 3
54	UK Electricity	CH_4	kWh	6%	Higher CH_4 emissions from power generation from NAEI data.	Section 3
55	UK Electricity	N_2O	kWh	-27%	There was a significant decrease in coal generation and an increase in gas generation since the previous year.	Section 3

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
56	UK Electricity	CO_2e	kWh	-19%	As above	Section 3
UK electricity for EVs						
57	Cars by market segment- PHEV, BEV	CO_2e and CO_2	km and miles	-25.8% to -17.2%	Changes are mainly due to the changes in electricity but also changes in the market of electric vehicles can significantly contribute.	Section 5
58	Cars by market segment- PHEV, BEV	N_2O	km and miles	-33.3% to -17.4%	As above	Section 5
59	Cars by size- PHEV, BEV	CO_2e and CO_2	km and miles	-22.6% to -12.6%	As above	Section 5
60	Cars by size- PHEV, BEV	N_2O	km and miles	-30.8% to -22.2%	As above	Section 5
61	All Vans- BEV	CO_2e and CO_2	tonne.km	-19.5% to -12.9%	As above	Section 5
62	All Vans- BEV	N_2O	tonne.km	-27.7% to -20.8%	As above	Section 5
Heat and Steam						
63	Onsite and district heating	CH_4	kWh	-34%	Changes in CHP fuel mix and in assumptions for CH_4 and N_2O emissions for certain fuels.	Section 3
64	Onsite and district heating	N_2O	kWh	-20%	As above	Section 3

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
WTT- fuels						
65	CNG	CO_2e	All	-8% to -6%	Reduction in LNG imports as a proportion of total supply compared to 2017 update.	Section 2
66	Natural gas	CO_2e	All	-10% to -8%	As above	Section 2
WTT- bioenergy						
67	WTT-Bioethanol	CO_2e	All	-5%	Changes to DfT data (Table RTFO 05)	Section 9
68	WTT -Biodiesel	CO_2e	All	-23%	Changes to DfT data (Table RTFO 05)	Section 9
69	WTT -Biodiesel (from UCO)	CO_2e	All	-23%	Changes to DfT data (Table RTFO 05)	Section 9
Transmission and distribution						
70	UK Electricity T&D Losses	CO_2	kWh	-27%	The increase in lower GHG electricity generation was enhanced by a decrease in losses from the grid.	Section 3
71	UK Electricity T&D Losses	N_2O	kWh	-35.0%	As above	Section 3
72	UK Electricity T&D Losses	CO_2e	kWh	-27%	As above	Section 3
UK electricity T&D for EVs						
73	Cars by market segment-PHEV, BEV	CO_2e and CO_2	km and miles	-32.4% to -14.9%	Big change in CO_2 electricity factor causes most of the change here.	Section 5

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
74	Cars by market segment- PHEV, BEV	N_2O	km and miles	-50% to -25%	As above	Section 5
75	Cars by size- PHEV, BEV	CO_2e and CO_2	km and miles	-29.4% to -20.4%	As above	Section 5
76	Cars by size- PHEV, BEV	N_2O	km and miles	-50% to -25%	As above	Section 5
77	All Vans- BEV	CO_2e and CO_2	tonne.km	-26.6%	As above	Section 5
78	All Vans- BEV	N_2O	tonne.km	-36.4% to -28.6%	As above	Section 5
WTT- UK elec						
79	WTT - UK Electricity	CO_2e	kWh	-25%	As for Scope 2 emissions	Section 3
80	WTT - UK Electricity T&D Losses	CO_2e	kWh	-32%	As above	Section 3
WTT- overseas electricity (generation)						
81	WTT- overseas electricity (generation) - Electricity: Ireland	CO_2e	kWh	-11%	Reflects trend in electricity conversion factor as reported by SEAI (Sustainable Energy Authority of Ireland.	Section 10

Ref. number	Emission factor	GHG	Unit (all units are kgCO_2e per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
82	WTT- overseas electricity (generation) - Electricity: France	CO_2e	kWh	25%	Reflects trend in electricity conversion factor as reported by RTE (the French transmission system operator).	Section 10
83	WTT- overseas electricity (generation) - Electricity: Netherlands	CO_2e	kWh	-6%	Reflects trend in electricity conversion factor as reported by CBS (the Netherlands Central Statistics Bureau).	Section 10
WTT- overseas electricity (T&D)						
84	WTT T&D losses - Electricity: Australia	CO_2e	kWh	19%	Reflects changes in reported losses from the IEA energy balance data set and estimated trends in CO_2 per unit of electricity.	Section 10
85	WTT T&D losses - Electricity: Canada	CO_2e	kWh	12%	As above	Section 10
86	WTT T&D losses - Electricity: Cyprus	CO_2e	kWh	21%	As above	Section 10

Ref. number	Emission factor	GHG	Unit (all units are kgCO_2e per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
87	WTT T&D losses - Electricity: Estonia	CO_2e	kWh	-16%	As above	Section 10
88	WTT T&D losses - Electricity: Finland	CO_2e	kWh	-11%	As above	Section 10
89	WTT T&D losses - Electricity: France	CO_2e	kWh	23%	As above	Section 10
90	WTT T&D losses - Electricity: Greece	CO_2e	kWh	16%	As above	Section 10
91	WTT T&D losses - Electricity: Ireland	CO_2e	kWh	-13%	As above	Section 10
92	WTT T&D losses - Electricity: Israel	CO_2e	kWh	36%	As above	Section 10

Ref. number	Emission factor	GHG	Unit (all units are kgCO_2e per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
93	WTT T&D losses - Electricity: Luxembourg	CO_2e	kWh	32%	As above	Section 10
94	WTT T&D losses - Electricity: Malta	CO_2e	kWh	64%	As above	Section 10
95	WTT T&D losses - Electricity: Saudi Arabia	CO_2e	kWh	13%	As above	Section 10
96	WTT T&D losses - Electricity: Singapore	CO_2e	kWh	-13%	As above	Section 10
97	WTT T&D losses - Electricity: Slovak Republic	CO_2e	kWh	105%	As above	Section 10
98	WTT T&D losses - Electricity: Sweden	CO_2e	kWh	-17%	As above	Section 10
WTT- heat and steam						
N/A						

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
Water supply						
No changes						Section 9
Water treatment						
No changes						Section 9
Business travel- air						
99	Domestic flight- average passenger, with and without RF	CO_2e, CO_2, N_2O; CH_4	passenger.km	12%	Overall increase (~11.5%) reflects the increased use of small planes, and also shorter average flight distances. Larger increase in CH_4 is due to changes in emission factors for CH_4 used in the UK GHGI.	Section 8
100	Long-haul Business class, with and without RF	CO_2e, CO_2, N_2O	passenger.km	8%	Increase is due to a range of input data changes: decrease in load factors, increase to calculated EFs from EUROCONTROL small emitters tool for key aircraft, changes in shares of different aircraft, and increase in allocation of CO_2 between passenger and freight for passenger services.	Section 8
WTT- Business travel- air						
101	WTT - Flights	As for Business travel- air				Section 8
Business travel- sea						
102	Foot passenger	CH_4	passenger.km	-14%	Output from new BEIS shipping model is very different to previous estimates.	Section 7
103	Car passenger	CH_4	passenger.km	-17%	As above	Section 7

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
104	Average (all passenger)	CH_4	passenger.km	-18%	As above	Section 7
105	Foot passenger	N_2O	passenger.km	78%	As above	Section 7
106	Car passenger	N_2O	passenger.km	77%	As above	Section 7
107	Average (all passenger)	N_2O	passenger.km	78%	As above	Section 7
WTT- Business travel- sea						
No changes						Section 7
Business travel- land						
108	Cars by market segment- Dual Purpose cars, Unknown fuel	CH_4	km and miles	-13%	Continued uptake of Euro 6 vehicles causes reduction in EFs for petrol and diesel cars.	Section 5
109	Cars by size: Large car, Hybrid	CO_2	km and miles	24%	There is a massive increase in gCO_2/km from 2016 (21) to 2017 (163) and changes in the registrations of hybrid cars.	Section 5
110	Cars by size: Large car, Hybrid	CO_2e	km and miles	24%	As above	Section 5
111	Cars by size: Medium car, LPG	CH_4	km and miles	-13%	Continued uptake of Euro 6 vehicles causes reduction in EFs for petrol and diesel cars.	Section 5

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
112	Cars by size: Large car, LPG	CH_4	km and miles	-13%	As above	Section 5
113	Cars by size: Average car, LPG	CH_4	km and miles	-13%	As above	Section 5
114	Motorbike: all sizes	CH_4	km and miles	-9.2% to -5.4%	Fleet turnover to vehicles with lower emissions.	Section 5
115	Local bus (not London)	CH_4	passenger.km	-33%	A ~20% reduction in Euro III bus vkm and the removal of all Euro II buses from the fleet cause the majority of CH_4 reductions. This reason causes a large drop in emissions because there is a large drop in emissions per km from Euro III to Euro IV+ vehicles (Euro IV EFs are roughly 5% of Euro III).	Section 5
116	Local London bus	CH_4	passenger.km	-33%	As above	Section 5
117	Average local bus	CH_4	passenger.km	-40%	As above	Section 5
118	Local bus (not London)	N_2O	passenger.km	13%	The decline in vkm causes a small increase in N_2O emissions due to the more efficient conversion of NOx to N_2O in later EURO standard models which now contribute a greater % to total bus vkm.	Section 5
119	Local London bus	N_2O	passenger.km	15%	As above	Section 5

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
120	Average local bus	N_2O	passenger.km	15%	As above	Section 5
121	Cars by market segment- PHEV, BEV	CO_2e and CO_2	km and miles	-24.9% to -14.9%	Big change in CO_2 electricity factor causes most of this change.	Section 5
122	Cars by market segment- PHEV, BEV	N_2O	km and miles	-31.7% to -17.9%	As above	Section 5
123	Cars by size- PHEV, BEV	CO_2e and CO_2	km and miles	-23.2% to -14.9%	As above	Section 5
124	Cars by size- PHEV, BEV	N_2O	km and miles	-28.8% to -11.9%	As above	Section 5
125	National rail	CH_4	passenger.km	33%	Increase in CH_4 emissions from electricity consumption (this factor is a combination of electric and diesel trains).	Section 5
126	International rail	CH_4	passenger.km	50%	Increase in the CH_4 emissions are due to the change in the CO_2 electricity factor.	Section 5
127	Light rail and tram	CH_4	passenger.km	13%	As above	Section 5
128	Light rail and tram	N_2O	passenger.km	-19%	Decrease in the N_2O emissions due to the change in the CO_2 electricity factor and due to a decrease in ORR data.	Section 5
129	London underground	CO_2e	passenger.km	-20%	Due to change in data published by TfL.	Section 5

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
130	London underground	CO_2	passenger.km	-20%	As above	Section 5
131	London underground	N_2O	passenger.km	-29%	As above	Section 5
Freighting goods						
132	All Vans- BEV	CO_2e and CO_2	tonne.km	-20.1% to -13.6%	Big change in CO_2 electricity factor causes most of this change.	Section 6
133	All Vans- BEV	N_2O	tonne.km	-28.9% to -21.5%	As above	Section 6
134	Sea tanker, all types	CH_4	passenger.km	up to -50%	Output from new BEIS shipping model is very different to previous estimates.	Section 6
135	Cargo ship, all types	CH_4	passenger.km	up to -50%	As above	Section 6
136	Sea tanker, all types	N_2O	passenger.km	up to 86%	As above	Section 6
137	Cargo ship, all types	N_2O	passenger.km	up to 86%	As above	Section 6
138	Freight train	No significant changes				Section 6
139	Vans	See delivery vehicles above (the tonne.km magnitude of change is the same as the km and miles changes)				Section 6

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
140	HGVs (all diesel)- Rigid (>3.5 - 7.5 tonnes)	CH_4	tonne.km	-26.4% to -21.7%	Lower CH_4 implied EF is due to an increase in vkm from HGVs and reduced emissions. In addition, changes are due to the uptake of EURO VI HGVs into the fleet which have lower CH_4 and higher N_2O emissions. Finally, the loading factors were revised by DfT in RFS as part of a methodological review which causes significant shifts for lots of HGV categories.	Section 6
141	HGVs (all diesel)- Rigid (>7.5 tonnes-17 tonnes)	CH_4	tonne.km	-27.5%	As above	Section 6
142	HGVs (all diesel)- Rigid (>17 tonnes)	CH_4	tonne.km	-32% to -12%	As above	Section 6
143	HGVs (all diesel)- All rigids	CH_4	tonne.km	-23% to -15.3%	As above	Section 6
144	HGVs (all diesel)- Articulated (>3.5 - 33t)	CH_4	tonne.km	-28% to -20%	As above	Section 6
145	HGVs (all diesel)- Articulated (>33t) - average	CH_4	tonne.km	-34.9%	As above	Section 6

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
146	HGVs (all diesel)- All artics- average	CH_4	tonne.km	-36%	As above	Section 6
147	HGVs (all diesel)- All HGVs	CH_4	tonne.km	-23% to -19.4%	As above	Section 6
148	HGVs (all diesel)- Rigid (>7.5 tonnes-17 tonnes)- Average	CO_2e and CO_2	tonne.km	16.6%	As above	Section 6
149	HGVs (all diesel)- Rigid (>7.5 tonnes-17 tonnes)- Average	N_2O	tonne.km	24%	As above	Section 6
150	HGVs (all diesel)- All rigids- Average	N_2O	tonne.km	20%	As above	Section 6
151	HGVs refrigerated (all diesel)	Same magnitude of changes as for HGVs (all diesel)				Section 6
152	HGVs (all diesel)- all categories	CH_4 and N_2O	km and miles	See delivery vehicles- same magnitude of changes		Section 6

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
153	Short-haul flights	CO_2e, CO_2, N_2O; CH_4	tonne.km	14%	Overall change (increase of ~14%) reflects the demise of the ATP and use of larger aircraft; also larger share of freight carried on passenger services (with higher EF). Larger increase for CH_4 is due to changes in emission factors for CH_4 used in the UK GHGI.	Section 6
154	Long-haul flights	CO_2e, CO_2, N_2O	tonne.km	-15%	Decrease reflects the reintroduction of B748 with higher freight efficiency, changes to relative allocation of emission between passengers and freight in passenger services, and larger relative share of dedicated freight services (with lower emission factors).	Section 6
WTT passenger vehicles & business travel- land						
155	WTT - Hybrid Cars by size: Large car	CO_2e	km	23%	There is a massive increase in gCO_2/km from 2016 (21) to 2017 (163) and changes in the registrations of hybrid cars.	Section 5
156	WTT- cars by market segment- Upper medium- PHEV	CO_2e	km and miles	26.6%	Huge spike in the petrol PHEVs registered in 2016 mean that the fuel split of petrol/diesel has altered significantly, affecting the balance of fuel EFs which feed this calculation. Also affects CO_2 as petrol cars use fuel more quickly and so increases emission factors.	Section 5

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
157	WTT- cars by market segment- Executive- PHEV	CO_2e	km and miles	13.30%	Small sample size causes big shift in emission factors of executive PHEVs as more are sold in 2016.	Section 5
158	WTT- Light rail and tram	CO_2e	passenger.km	-17%	WTT emissions are linked to the direct emissions so proportionate decrease.	Section 5
159	WTT- London Underground	CO_2e	passenger.km	-25%	As above	Section 5
160	WTT - All Motorcycles	No significant changes				Section 5
161	WTT - All buses and coaches	No significant changes				Section 5
WTT delivery vehicles & freighting goods						
162	WTT- all Vans- BEV	CO_2e	tonne.km	-25.7% to -19.6%	Big change in CO_2 electricity factor causes most of this change.	Section 6
163	WTT - Freight train	No significant changes				Section 6
164	WTT- Vans	No significant changes				Section 6
165	WTT- Freight flights	As for Freighting goods				Section 6
166	WTT-HGVs (all diesel)- Rigid (>17 tonnes) Average	CO_2e	tonne.km	20%	Increase in WTT factors is due to change in source for this data in 2017 update (and increased EFs) and due to new accounting for biofuel component in final results from 2017.	Section 6

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
167	WTT- HGVs (all diesel)- All rigids- Average	CO_2e	tonne.km	17%	As above	Section 6
168	WTT- HGVs (all diesel)- Articulated (>33t) Average	CO_2e	tonne.km	17%	As above	Section 6
169	WTT- HGVs refrigerated (all diesel)	CO_2e	tonne.km	Same magnitude of changes as for WTT- HGVs (all diesel)		Section 6
Hotel Stay						
170	Changes due to the data source, see: https://scholarship.sha.cornell.edu/cgi/viewcontent.cgi?article=1255&context=chrpubs					Section 11
Managed assets- electricity						
171	See "UK electricity" (which is identical for managed assets electricity)					Section 3
Managed assets- vehicles						
172	Managed Cars by size and market segment	See business travel - land (the values are identical to these)				Section 5
173	Managed cars - PHEV, BEV					Section 5
174	Managed Vans- PHEV, BEV	See freighting goods (the values are identical to these)				Section 5
175	Managed motorbikes	CH_4	km and miles	-9.2% to -5.4%	Fleet turnover to vehicles with lower emissions.	Section 5

Ref. number	Emission factor	GHG	Unit (all units are $kgCO_2e$ per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
176	Managed Vans	See delivery vehicles (the tonne.km magnitude of change is the same as the km and miles changes).				Section 5
177	Managed HGV refrigerated (all diesel)	See Delivery vehicles for changes in km				Section 5
178	Managed HGV (all diesel)					Section 5
Outside of scopes						
179	Diesel (average biofuel blend)	CO_2	All	-15%	The litres of biodiesel consumed this year has increased by 15% causing the percentage of biodiesel within the diesel blend to be more (11% more) and therefore the emissions associated with the biodiesel are proportionately more.	Section 9
Waste: Material use						
180	Metals - closed loop source	CO_2e	tonne	430%	Complete change of method. Driven by the changes in steel closed loop recycling (updated data). Have also changed method and references (using metal specific factors with recycling data whereas previous approach used an estimate of CO_2 saved only rather than emitted from recycling).	Section 12
181	Metal: mixed cans - Closed loop source	CO_2e	tonne	21%	Driven by the changes in steel closed loop recycling (updated data).	Section 12

Ref. number	Emission factor	GHG	Unit (all units are kgCO_2e per "unit" of GHG, unless stated)	Magnitude of change vs 2017 update	Reason for change	For more information see:
182	Metal: scrap metal - Closed loop source	CO_2e	tonne	43%	As above	Section 12
183	Metal: steel cans - Closed loop source	CO_2e	tonne	53%	Old method used data from World Steel (2009) for virgin steel and subtracted a factor derived based on comparing impact of varying steel grades (recycled content %). New version uses data from WSA (2017) which has published direct cradle to gate figure for recycled steel.	Section 12
Waste: Waste disposal						
184	Glass - landfill	CO_2e	tonne	-65%	New model based on zero landfill gas and standardised landfill transport (collection, transfer station and on site vehicle movements). This replaces a data point taken from a 2003 Enviros report and is more systematic and reproducible.	Section 12
185	Organic: food and drink waste, Organic: garden waste and Organic: mixed food and garden waste - Composting	CO_2e	tonne	71%	New factor is general, based on collection from households, transport to site and on-site movements. Previous figures were replaced by using a 2009 study done by ORA, WRAP and MEL.	Section 12

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Introduction

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Expiry:	31/07/2019	**Factor set:**	Standard Set
Version:	1.01	**Year:**	2018

Department for Business, Energy & Industrial Strategy

Department for Environment Food & Rural Affairs

UK Government GHG Conversion Factors for Company Reporting

Welcome to the UK Government Conversion Factors for greenhouse gas (GHG) reporting. These factors are suitable for use by UK-based organisations of all sizes and international organisations reporting on UK operations. Therefore, the scope of the factors is defined such that it is relevant to emissions reporting. The factors may also be used for other purposes, but users do this at their own risk.

For new users of the conversion factors, ensure that you have first read Defra's ' Environmental reporting guidelines' and the information on the rest of this sheet. Then follow the informative text at the top of each tab to report your emissions across Scopes 1, 2 and 3. It is not necessary to read the 'What's new' guidance.

If you have used the conversion factors before, ensure you have read the 'What's new' guidance to understand the changes that have been made to the factors over the last year. Following the 'What's new' guidance will ensure that reporting is consistent and comparable year on year. Please note - activity-specific 'What's new' information is repeated in the relevant activity tabs.

For information about how the conversion factors have been derived, please refer to the accompanying 'Methodology paper' to the conversion factors.

Please note - factors that are: (a) not available, will be marked with an empty, light shaded cell:

(b) have an invalid combination of criteria, will be marked with an empty, dark shaded cell:

How is this spreadsheet organised?

After the three introductory worksheets, each worksheet presents the emission factors for a single type of emissions-releasing activity (for example, using electricity or driving a passenger vehicle). These emissions-releasing activities are categorised into three groups known as scopes. Each activity is listed as either Scope 1, Scope 2 or Scope 3. Scope 1, Scope 2 and Scope 3 are colour coded. Refer to the 'Index' tab for links to each sheet.

- **Scope 1 (direct emissions)** emissions are those from activities owned or controlled by your organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces and vehicles; and emissions from chemical production in owned or controlled process equipment.
- **Scope 2 (energy indirect)** emissions are those released into the atmosphere that are associated with your consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of your organisation's energy use, but occur at sources you do not own or control.
- **Scope 3 (other indirect)** emissions are a consequence of your actions that occur at sources you do not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by your organisation, waste disposal, materials or fuels your organisation purchases. Deciding if emissions from a vehicle, office or factory that you use are Scope 1 or Scope 3 may depend on how you define your operational boundaries. Scope 3 emissions can be from activities that are upstream or downstream of your organisation. More information on Scope 3 and other aspects of reporting can be found in the Greenhouse Gas Protocol Corporate Standard.

How are individual worksheets in this spreadsheet organised?

Each worksheet provides the following information:

- **Guidance** on calculating emissions from this activity
- **An example** of how to calculate emissions from this activity
- **The emission factors for this activity**
- **Frequently asked questions**

How do I calculate my GHG emissions for a particular activity?

Navigate to the sheet relating to the activity that you wish to calculate emissions for. Read the guidance and then collect or estimate activity data for your organisation (for example, the amount of electricity used or distance travelled). Then multiply this activity data by the relevant (emission) conversion factor. This gives an estimate of the GHG emissions for that activity.

GHG emissions = activity data x emission conversion factor

Which gases can I report on using these factors?

There are seven main GHGs that contribute to climate change, as covered by the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). Different activities emit different gases and you should report on the Kyoto Protocol GHG gases produced by your particular activities.

All conversion factors presented here are in units of 'kilograms of carbon dioxide equivalent of Y per X' (kg CO_2e of Y per X), where Y is the gas emitted and X is the unit activity. CO_2e is the universal unit of measurement to indicate the global warming potential (GWP) of GHGs, expressed in terms of the GWP of one unit of carbon dioxide.

The GWPs used in the calculation of CO_2e are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) over a 100-year period (this is a requirement for inventory/national reporting purposes).

As a minimum, for each activity there is a factor that can be used to calculate emissions of all relevant GHGs combined (kg CO_2e per unit activity).
Additionally, for many activities, this factor is then split into separate factors for each gas (that is, kg CO_2e of CO_2/CH_4/N_2O per unit activity) which sum to the total kg CO_2e per unit activity. These gas-specific factors can be used if desired.

Which year of emissions should I report on with these factors?

You should use the version of the factors that correlates with the data on which you are reporting (for example, factors labelled as 2017 should be used for data from calendar year 2017). If you are reporting on an April to March year, the factors from the calendar year in which the greatest portion of your data falls should be applied (for example, the 2017 factors should be applied to data in reporting year 01/04/17 – 31/03/18, the 2016 factors should have been applied to data in reporting year 01/04/16 – 31/03/17). Users that operate a July to June reporting year should apply the newest set of available factors.

For reference, the 2017 Conversion Factors can be found here

For technical queries, please contact Climatechange Statistics at Climatechange.Statistics@beis.gov.uk.
NOTE: The scope of the factors is defined to be relevant to emissions reporting, although the factors may also be used for other purposes. Regardless of this, their usage is at the users' own risk.

What's new

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Expiry:	31/07/2019	**Factor set:**	Standard Set
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Annual update and republication

We annually publish a new set of factors at the end of May. Compared to the previous year's factors, changes may be made due to new data availability, methodology improvements or corrections to errors in methodology.

In general, our policy is not to revise previously published EFs in the downloadable spreadsheets based on new data or methodology improvements. However, we may republish previously published factors in the downloadable spreadsheets, if the update to the previously published factor is considered significant or if the primary cause of that update is an error rather than new data or methodology improvements, taking into account all the circumstances including timing.

If previously published factors are updated and republished in the downloadable spreadsheets, then this will be clearly signposted in the accompanying text. For present purposes, we define an error as "implementation of a calculation that was not as intended" and a methodology improvement as "intentional change in the implementation of a calculation". Decisions on how to act on any republished factors are a matter for the user.

What's new in 2018?

A summary of the key changes in the 2018 Government Greenhouse Gas (GHG) Conversion Factors for Company Reporting (hereafter the 2018 update) is provided below. Further information will be provided in the methodology paper accompanying the new 2018 factors, which will be published on the GOV.UK website in July 2018.

1 HEAT & STEAM MODEL REBUILD

What and why?

Improvements were made to the heat & steam model used to derive the emission factors, to make formulae clearer, more concise and easier to trace – which assists the QA process. The previous model included hard coded values that were not clearly documented. These have been changed so that imported data is clearly labelled. The model uses the same three underlying data sets: IPCC CO_2e values, DUKES Combined Heat&Power (CHP) data, Joint Research Center Well-to-Wheel values for Municipal Solid Waste (MSW). These data, together with emission factors from other Conversion Factor workbooks are used to:

• Compile a list of emission factors per fuel type contained in the DUKES (Digest of UK Energy Statistics) data
• Determine the amount of each fuel type used for heat to build a fuel mix emission factor which is used to derive emission factors per MWh heat. Previously the model also calculated the emission factors for MWh power in this same sheet, as well as heat and power emission factors via the PowerStation displacement and boiler displacement methods. These calculations are still contained in the workbook, but since they do not form part of the model's output they have been relegated to an 'Other methods' methodology section.
• Report on:

a. kg CO_2 per kWh heat & steam
b. kg CO_2e (from CH4) per kWh heat & steam
c. kg CO_2e (from N2O) per kWh heat & steam
d. kg CO_2e (Total direct) per kWh heat & steam
e. kg CO_2e (WTT) per kWh heat & steam

Implications

There have been a number of revisions to the output factors from this model, as a result of the upgrade and underlying data changes

2 ADDITION OF UREA IN HGVs AND BUSES MODELS

What and why?

Due to global concerns on the increase in the atmospheric concentration of greenhouse gases (GHG) and air quality pollutants, regulations have been implemented for the automotive industry to ensure new engines reduce their emissions of key GHG and air quality pollutants. NOx is one of the most harmful air quality pollutants, as it reacts with other gases in the atmosphere to form small particles and ozone.
A technology developed to enable manufacturers to meet diesel engine emissions standards for NOx is selective catalytic reduction (SCR). This uses a urea solution to effectively remove NOx and NO_2 from diesel engines exhaust gases; this process occurs over a specially formulated catalyst. Urea solution is a colourless liquid that is made from a mixture of high-purity urea (32.5%) and deionised water (67.5%) and is injected into the vehicle's exhaust system before harmful NOx emissions are generated from the tail pipe. When the fuel is burnt, urea solution is injected into the SCR catalyst to convert the NOx into a less harmful mixture of nitrogen and water vapour. In the SCR catalytic converter, the urea present becomes ammonia when heated, then reacts with the NOx and produce nitrogen, water and a small amount of carbon dioxide.

Implications

Emissions from the consumption of urea in heavy duty vehicles and buses is estimated in the conversion factors for the first time and are included in the estimates for overall CO_2 emission factors.

3 CHANGES TO OVERSEAS ELECTRICITY

What and why?

Conversion factors for transmission and distribution losses for overseas electricity use are no longer included in the conversion factors. These are now calculated and published by the IEA and as such are not duplicated here.

Implications

Users requiring these data should source the information directly from the IEA.

4 CHANGES TO MATERIALS AND WASTE

What and why?

Materials

Steel closed loop source

Key referenced for closed loop steel recycling has been updated, and the methodology has been improved. This more recent and improved data directly provides LCI emissions factors per kg of steel recycled, whereas these were previously derived based on emissions for different grades of recycled steel.

Construction and demolition metals closed loop source

The updated metals recycling factors for construction and demolition have been standardised using the updated closed loop steel recycling factor. The methodology has changed, and is now based directly on emissions from metals recycling; previously this had been based on published estimated savings from recycling metals.

Waste

Glass landfill / green and mixed organics composting

These factors had previously been taken directly from published studies that used a methodology different from that used for the other waste factors. The new factors are based on a standardised approach using data on transport emissions to and on site and MELMod factors for landfill emissions.

Implications

There have been a number of revisions to the output factors from this model, as a result of the upgrade and underlying data changes

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Version:	Date	Changes
1.00	31/05/2018	
1.01	08/06/2018	Added missing data for: Passenger vehicles / Cars (by market segment) / Executive / Plug-in Hybrid Electric Vehicle

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Index for navigation and sheet guide

Introduction		
Introduction	Goto	Introduction to the factors and guidance for novice users on how to calculate emissions using these factors.
Index	Goto	This sheet.
What's new	Goto	Guidance for repeat users on what has been updated over the previous year.

Scope 1 factors		
Fuels	Goto	Fuels conversion factors should be used for primary fuel sources combusted at a site or in an asset owned or controlled by the reporting organisation.
Bioenergy	Goto	Bioenergy conversion factors should be used for the combustion of fuels produced from recently living sources (such as trees) at a site or in an asset under the direct control of the reporting organisation.
Refrigerant & other	Goto	Refrigerant and process conversion factors should be used for the purpose of reporting leakage from air-conditioning and refrigeration units or the release to the atmosphere of other gases that have a global warming potential.
Passenger vehicles	Goto	Passenger vehicles conversion factors should be used to report travel in cars and on motorcycles owned or controlled by the reporting organisation. This does not include vehicles owned by employees that are used for business purposes.

Scope 2 factors		
UK electricity	Goto	UK electricity conversion factors should be used to report on electricity used by an organisation at sites owned or controlled by them. This is reported as a Scope 2 (indirect) emission. The conversion factors in this listing are for the electricity supplied to the grid that organisations purchase - this does not include the emissions associated with the transmission and distribution of electricity.
UK electricity for EVs	Goto	UK electricity conversion factors for electric vehicles should be used to report on electricity used by an organisation at sites owned/controlled by them (where this is not already reported), or public recharging stations. This is reported as a Scope 2, indirect emission. The conversion factors in this listing are for the electricity supplied to the grid that organisations purchase (or from public charging stations) - they do not include the emissions associated with the transmission and distribution of electricity. **Care should be taken to avoid double counting with an organisation's general electricity consumption.**

Scope 3 factors		
Transmission and distribution	Goto	Transmission and distribution (T&D) conversion factors should be used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it)
UK electricity T&D for EVs	Goto	Transmission and distribution (T&D) factors for electric vehicles should be used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it).
Water supply	Goto	Water supply conversion factors should be used to account for water delivered through the mains supply network.
Water treatment	Goto	Water treatment conversion factors should be used for water returned to the sewage system through mains drains.
Material use	Goto	Material use conversion factors should be used to report on consumption of procured materials based on their origin (that is, comprised of primary material or recycled materials). For primary materials, these factors cover the extraction, primary processing, manufacture and transportation of materials to the point of sale, not the materials in use. For secondary materials, the factors cover sorting, processing, manufacture and transportation to the point of sale, not the materials in use. These factors are useful for reporting efficiencies gained through reduced procurement of material or the benefit of procuring items that are the product of a previous recycling process.
Waste disposal	Goto	Waste-disposal figures should be used for end-of-life disposal of different materials using a variety of different disposal methods.
Business travel- air	Goto	Air conversion factors should be used to report Scope 3 emissions for individuals flying for work purposes.
WTT- business travel- air	Goto	WTT business travel – air conversion factors should be used to account for the upstream Scope 3 emissions associated with extraction, refining and transportation of the aviation fuel to the plane before take-off.
Business travel- sea	Goto	Sea-based conversion factors should be used to report travel for business purposes on ferries.
Business travel- land	Goto	Land-based conversion factors should be used for travel for business purposes in assets not owned or directly operated by a business. This includes mileage for business purposes in, for example, cars owned by employees, public transport and hire cars.
Freighting goods	Goto	Freighting goods factors should be used specifically for the shipment of goods over land, by sea or by air through a third-party company. Factors are available for a whole vehicle's worth of goods or per tonne of goods shipped via a specific transport mode.
Managed assets- vehicles	Goto	Managed assets conversion factors for vehicles should be used to report emissions from vehicles that are used by a reporting organisation, but are not owned by them and generally do not appear on the organisation's balance sheet. The emissions from managed assets are reported as a Scope 3 emissions source.

Other		
Conversions	Goto	The conversion values should be used to change units of, for example, energy, mass and volume into alternative units. This is particularly useful where an organisation is collecting data in units of measure that do not have conversion factors that can be directly used to determine a carbon emission total.
Fuel properties	Goto	The fuel properties can be used to determine the typical calorific values/densities of most common fuels.

Fuels

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Emissions source:	Fuels	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 1	**Version:**	1.0	**Year:**	2018

Fuels conversion factors should be used for primary fuel sources combusted at a site or in an asset owned or controlled by the reporting organisation.

Guidance

- Gross calorific value (CV)/net CV basis - typically organisations should use gross CV for each kWh of energy reported (most energy billing is provided on a gross CV basis).
- 'Diesel (average biofuel blend)'/'diesel (100% mineral oil)' - typically organisations purchasing forecourt fuel should use 'diesel (average biofuel blend)'. It should be noted that any fuel an organisation reports in Scope 1 that has biofuel content must have the 'outside of scopes' portion reported separately as per the 'WBCSD/WRI GHG Protocol (chapter 9)'. See information about the outside of scopes emissions in the example section below.
- If any fuel type or unit has no result in the table, this is an indication the conversion factor is not available or does not exist (such as coal in litres).

Example of calculating emissions from fuels

Company A needs to report the Scope 1 emissions from its natural gas and diesel use.

- For natural gas consumption it selects a kWh conversion factor on a gross CV basis - this is the basis of most energy bills. It reports in CO_2e for all fuels combusted at its premises.
- It is faced with two different types of diesel conversion factors, *'100% mineral fuel'* and *'diesel (average biofuel blend)'*. Since it fills up its vehicles at a national chain of filling stations, it selects the average biofuel blend (this is the correct conversion factor for standard forecourt fuel, which contains a small blend of biofuel).

The activity data (that is, litres) is multiplied by the appropriate conversion factor to produce company A's fuel emissions.

Since company A is reporting a type of fuel that has biofuel content, it should also account for the 'biogenic' part of this fuel. To calculate this, it must also multiply the total litres of fuel used by the 'outside of scopes' fuel factor for 'forecourt fuels- diesel (average biofuel blend)' and report as a separate line item within its report called 'outside of scopes'. This will not be included in the organisation's emissions total, but displayed separately within the emissions report. This ensures that the organisation is being transparent with regard to all potential sources of CO_2 from its activities.

For more information refer to the 'Outside of scopes' tab for guidance.

Activity	Fuel	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Gaseous fuels	CNG	tonnes	2746.63	2741.56	3.63	1.44
		litres	0.48066	0.47977	0.00063	0.00025
		kWh (Net CV)	0.20437	0.20399	0.00027	0.00011
		kWh (Gross CV)	0.18396	0.18362	0.00024	0.00010
	LNG	tonnes	2746.63	2741.56	3.63	1.44
		litres	1.24282	1.24053	0.00164	0.00065
		kWh (Net CV)	0.20437	0.20399	0.00027	0.00011
		kWh (Gross CV)	0.18396	0.18362	0.00024	0.00010
	LPG	tonnes	2937.32	2933.41	2.00	1.91
		litres	1.51906	1.51703	0.00104	0.00099
		kWh (Net CV)	0.23030	0.22999	0.00016	0.00015
		kWh (Gross CV)	0.21448	0.21419	0.00015	0.00014
	Natural gas	tonnes	2746.63	2741.56	3.63	1.44
		cubic metres	2.04652	2.04275	0.00270	0.00107
		kWh (Net CV)	0.20437	0.20399	0.00027	0.00011
		kWh (Gross CV)	0.18396	0.18362	0.00024	0.00010
	Other petroleum gas	tonnes	2589.60	2587.04	1.17	1.39
		litres	0.94857	0.94764	0.00043	0.00051
		kWh (Net CV)	0.20005	0.19985	0.00009	0.00011
		kWh (Gross CV)	0.18404	0.18386	0.00008	0.00010

Activity	Fuel	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Liquid fuels	Aviation spirit	tonnes	3,213.91	3,127.67	56.45	29.80
		litres	2.28586	2.22451	0.04015	0.02119
		kWh (Net CV)	0.25698	0.25008	0.00451	0.00238
		kWh (Gross CV)	0.24413	0.23758	0.00429	0.00226
	Aviation turbine fuel	tonnes	3,181.15	3,149.67	1.69	29.80
		litres	2.53883	2.53370	0.00135	0.02378
		kWh (Net CV)	0.26072	0.25814	0.00014	0.00244
		kWh (Gross CV)	0.24768	0.24523	0.00013	0.00232
	Burning oil	tonnes	3,165.26	3,149.67	7.75	7.85
		litres	2.53627	2.52377	0.00621	0.00629
		kWh (Net CV)	0.25963	0.25835	0.00064	0.00064
		kWh (Gross CV)	0.24665	0.24544	0.00060	0.00061
	Diesel (average biofuel blend)	tonnes	3,132.15	3,087.27	0.50	44.38
		litres	2.62694	2.58935	0.00042	0.03717
		kWh (Net CV)	0.26349	0.25972	0.00004	0.00372
		kWh (Gross CV)	0.24768	0.24414	0.00004	0.00350
	Diesel (100% mineral diesel)	tonnes	3,209.22	3,164.33	0.50	44.38
		litres	2.68779	2.65020	0.00042	0.03717
		kWh (Net CV)	0.26910	0.26534	0.00004	0.00372
		kWh (Gross CV)	0.25296	0.24942	0.00004	0.00350
	Fuel oil	tonnes	3,228.84	3,216.99	4.10	7.75
		litres	3.17799	3.16633	0.00404	0.00763
		kWh (Net CV)	0.28544	0.28439	0.00036	0.00068
		kWh (Gross CV)	0.26831	0.26733	0.00034	0.00064
	Gas oil	tonnes	3,478.44	3,190.00	3.48	284.96
		litres	2.97049	2.72417	0.00298	0.24335
		kWh (Net CV)	0.29417	0.26978	0.00029	0.02410
		kWh (Gross CV)	0.27652	0.25359	0.00028	0.02265
	Lubricants	tonnes	3,182.00	3,171.09	3.23	7.69
		litres				
		kWh (Net CV)	0.28130	0.28033	0.00029	0.00068
		kWh (Gross CV)	0.26442	0.26351	0.00027	0.00064
	Naphtha	tonnes	3,142.87	3,131.33	3.41	8.13
		litres				
		kWh (Net CV)	0.24881	0.24790	0.00027	0.00064
		kWh (Gross CV)	0.23637	0.23550	0.00026	0.00061
	Petrol (average biofuel blend)	tonnes	3,002.28	2,983.62	9.45	9.22
		litres	2.20307	2.18943	0.00690	0.00674
		kWh (Net CV)	0.24607	0.24457	0.00076	0.00074
		kWh (Gross CV)	0.23377	0.23234	0.00072	0.00070
	Petrol (100% mineral petrol)	tonnes	3,153.66	3,135.00	9.45	9.22
		litres	2.30531	2.29167	0.00690	0.00674
		kWh (Net CV)	0.25349	0.25199	0.00076	0.00074
		kWh (Gross CV)	0.24082	0.23939	0.00072	0.00070
	Processed fuel oils - residual oil	tonnes	3,228.84	3,216.99	4.10	7.75
		litres	3.17799	3.16633	0.00404	0.00763
		kWh (Net CV)	0.28544	0.28439	0.00036	0.00068
		kWh (Gross CV)	0.26831	0.26733	0.00034	0.00064
	Processed fuel oils - distillate oil	tonnes	3,478.44	3,190.00	3.48	284.96
		litres	2.97049	2.72417	0.00298	0.24335
		kWh (Net CV)	0.29417	0.26978	0.00029	0.02410
		kWh (Gross CV)	0.27652	0.25359	0.00028	0.02265
	Refinery miscellaneous	tonnes	2,944.82	2,933.33	3.39	8.09
		litres				
		kWh (Net CV)	0.25911	0.25810	0.00030	0.00071
		kWh (Gross CV)	0.24615	0.24519	0.00028	0.00068
	Waste oils	tonnes	3,225.59	3,171.09	3.23	51.28
		litres				
		kWh (Net CV)	0.28515	0.28033	0.00029	0.00453
		kWh (Gross CV)	0.26804	0.26351	0.00027	0.00426
	Marine gas oil	tonnes	3,249.28	3,205.99	0.81	42.48
		litres	2.77479	2.73782	0.00070	0.03627
		kWh (Net CV)	0.27479	0.27113	0.00007	0.00359
		kWh (Gross CV)	0.25830	0.25486	0.00006	0.00338
	Marine fuel oil	tonnes	3,159.49	3,113.99	1.28	44.22
		litres	3.10973	3.06495	0.00126	0.04352
		kWh (Net CV)	0.27931	0.27529	0.00011	0.00391
		kWh (Gross CV)	0.26255	0.25877	0.00011	0.00367

Activity	Fuel	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Solid fuels	Coal (industrial)	tonnes	2,452.29	2,427.50	6.73	18.06
		kWh (Net CV)	0.34191	0.33846	0.00094	0.00252
		kWh (Gross CV)	0.32482	0.32153	0.00089	0.00239
	Coal (electricity generation)	tonnes	2,261.32	2,247.66	0.62	13.04
		kWh (Net CV)	0.32750	0.32552	0.00009	0.00189
		kWh (Gross CV)	0.31112	0.30924	0.00009	0.00179
	Coal (domestic)	tonnes	2,881.65	2,630.61	214.41	36.63
		kWh (Net CV)	0.36288	0.33127	0.02700	0.00461
		kWh (Gross CV)	0.34473	0.31470	0.02565	0.00438
	Coking coal	tonnes	3,064.56	3,043.79	7.45	13.32
		kWh (Net CV)	0.36483	0.36236	0.00089	0.00159
		kWh (Gross CV)	0.34659	0.34424	0.00084	0.00151
	Petroleum coke	tonnes	3,396.50	3,386.49	2.92	7.08
		kWh (Net CV)	0.35993	0.35887	0.00031	0.00075
		kWh (Gross CV)	0.34193	0.34092	0.00029	0.00071
	Coal (electricity generation - home produced coal only)	tonnes	2,261.32	2,247.66	0.62	13.04
		kWh (Net CV)	0.34028	0.33822	0.00009	0.00196
		kWh (Gross CV)	0.32326	0.32131	0.00009	0.00186

FAQs

I need a conversion factor for 'therms', how can I convert the kWh conversion factors to suit my needs?
We provide a specific conversion table at the back of these listings to allow organisations to convert the conversion factors into different units where required. Please see the **'Conversions'** tab.

I need a conversion factor for my specific % biofuel blend, rather than the "average biofuel blend" factor that is reported here.
The steps taken to calculate this by hand are straightforward and can be illustrated using the following worked example (consistent for all biofuels, conventional fuels, scopes and units):

Company B wants to report on its Scope 1 fuel emissions (in kgCO_2e/litre) from a specific biodiesel blend of X%. Using 2018 values, it is known that:

- 100% mineral diesel conversion factor = 2.672 kgCO_2e/litre
- 100% biodiesel conversion factor (see Bioenergy sheet) = 0.020 kgCO_2e/litre

Therefore, X% biodiesel blend conversion factor = (X% x 0.020) + [(1-X%) x 2.672]

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Bioenergy

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Emissions source:	Bioenergy	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 1	**Version:**	1.0	**Year:**	2018

Bioenergy conversion factors should be used for the combustion of fuels produced from recently living sources (such as trees) at a site or in an asset under the direct control of the reporting organisation.

Guidance

● Within the Scope 1 conversion factors for biofuels, the CO_2 emissions value is set as net '0' to account for the CO_2 absorbed by fast-growing bioenergy sources during their growth. The Scope 1 conversion factors presented in this listing contain values for N_2O and CH_4 emissions (which are not absorbed during growth).

● Although the Scope 1 conversion factors contain a '0' value for CO_2 emissions, organisations must account for the impact of the CO_2 released through combustion of the fuel. Organisations should refer to the 'outside of scopes' listing in the 'outside of scopes' tab to find the true values for CO_2 emissions. These emissions should be calculated in the same way as the Scope 1 emissions, but should be listed as a separate line item within its report called 'outside of scopes'. This should not be included within the organisation's emissions total, but displayed separately within the emissions report. This ensures that the organisation is being transparent with regard to all potential sources of CO_2 from its activities.

For more information refer to the 'outside of scopes' tab for guidance.

Example of calculating emissions from bioenergy

Company B reports its emissions from standard biodiesel use in its delivery vehicles. It has data on how many litres have been consumed and it needs to publicly report its Scope 1 emissions.

The activity data (litres of fuel) is multiplied by the appropriate conversion factor to produce company B's Scope 1 biodiesel emissions.

Activity	Fuel	Unit	kg CO_2e
Biofuel	Bioethanol	litres	0.00887
		GJ	0.41670
		kg	0.01117
	Biodiesel	litres	0.03460
		GJ	1.04543
		kg	0.03889
	Biomethane	litres	
		GJ	0.10473
		kg	0.00513
	Biodiesel (from used cooking oil)	litres	0.03460
		GJ	1.04543
		kg	0.03889
	Biodiesel (from tallow)	litres	0.03460
		GJ	1.04543
		kg	0.03889

Activity	Fuel	Unit	kg CO_2e
Biomass	Wood logs	tonnes	61.52297
		kWh	0.01506
	Wood chips	tonnes	56.88051
		kWh	0.01506
	Wood pellets	tonnes	70.47328
		kWh	0.01506
	Grass/straw	tonnes	48.92418
		kWh	0.01314

Activity	Fuel	Unit	kg CO_2e
Biogas	Biogas	tonnes	1.22604
		kWh	0.00022
	Landfill gas	tonnes	0.69238
		kWh	0.00020

FAQs

I need a conversion factor for my specific % biofuel blend, rather than the "average biofuel blend" factor that is reported here.

The steps taken to calculate this by hand are straightforward and can be illustrated using the following worked example (consistent for all biofuels, conventional fuels, scopes and units):

Company B wants to report on its Scope 1 fuel emissions (in $kgCO_2e$/litre) from a specific biodiesel blend of X%. Using 2017 values, it is known that:
●100% mineral diesel conversion factor (see Fuels sheet) = 2.672 $kgCO_2e$/litre
●100% biodiesel conversion factor = 0.020 $kgCO_2e$/litre

Therefore, X% biodiesel blend conversion factor = (X% x 0.020) + [(1-X%) x 2.672]

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Refrigerant & other

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Emissions source:	Refrigerant & other	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 1	**Version:**	1.0	**Year:**	2018

Refrigerant and other conversion factors should be used for the purpose of reporting leakage from air-conditioning, refrigeration units or the release to the atmosphere of other gases that have global warming potential (GWP).

Guidance

- The refrigerants and gases in the table are slightly different to the other conversion factors because the gases emitted have a global warming influence themselves. The conversion factor allows the GWP of that gas to be expressed in terms of kilogrammes of carbon dioxide equivalent (kgCO_2e). This is slightly different to most of the factors where the emissions occur after combustion/use of the fuel/material. However, these conversions can be used in the normal way for reporting purposes.

- The Kyoto Protocol and Montreal Protocol listed gases are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) over a 100-year period (this is a requirement for inventory/national reporting purposes) [1].

[1] From 01 Jan 2019, when the Kigali amendment comes into force, HFCs and HFC blends will be both Kyoto Protocol and Montreal Gases.

Example of calculating emissions from refrigerants and other process gases with a GWP

Each year, company D needs to report on the refrigerants that leak from its air-conditioning equipment (sometimes called fugitive emissions) at its headquarters. These are considered to be Scope 1 emissions. To calculate the leakage, Company D simply notes how much it has had to 'top-up' the refrigerant over the last year.

The 'top-up' data (in kg) is multiplied by the applicable conversion factor to the refrigerant type to produce company D's direct emissions from refrigerant.

Activity	Emission	Unit	kg CO_2e
Kyoto protocol - standard	Carbon dioxide	kg	1
	Methane	kg	25
	Nitrous oxide	kg	298
	HFC-23	kg	14800
	HFC-32	kg	675
	HFC-41	kg	92
	HFC-125	kg	3500
	HFC-134	kg	1100
	HFC-134a	kg	1430
	HFC-143	kg	353
	HFC-143a	kg	4470
	HFC-152a	kg	124
	HFC-227ea	kg	3220
	HFC-236fa	kg	9810
	HFC-245fa	kg	1030
	HFC-43-I0mee	kg	1640
	Perfluoromethane (PFC-14)	kg	7390
	Perfluoroethane (PFC-116)	kg	12200
	Perfluoropropane (PFC-218)	kg	8830
	Perfluorocyclobutane (PFC-318)	kg	10300
	Perfluorobutane (PFC-3-1-10)	kg	8860
	Perfluoropentane (PFC-4-1-12)	kg	9160
	Perfluorohexane (PFC-5-1-14)	kg	9300
	Sulphur hexafluoride (SF6)	kg	22800
	HFC-152	kg	53
	HFC-161	kg	12
	HFC-236cb	kg	1340
	HFC-236ea	kg	1370
	HFC-245ca	kg	693
	HFC-365mfc	kg	794

Activity	Emission	Unit	kg CO_2e
Kyoto protocol- blends	R404A	kg	3922
	R407A	kg	2107
	R407C	kg	1774
	R407F	kg	1825
	R408A	kg	3152
	R410A	kg	2088
	R507A	kg	3985
	R508B	kg	13396
	R403A	kg	3124

Activity	Emission	Unit	kg CO_2e
Montreal protocol - standard	CFC-11/R11 = trichlorofluoromethane	kg	4750
	CFC-12/R12 = dichlorodifluoromethane	kg	10900
	CFC-13	kg	14400
	CFC-113	kg	6130
	CFC-114	kg	10000
	CFC-115	kg	7370
	Halon-1211	kg	1890
	Halon-1301	kg	7140
	Halon-2402	kg	1640
	Carbon tetrachloride	kg	1400
	Methyl bromide	kg	5
	Methyl chloroform	kg	146
	HCFC-22/R22 = chlorodifluoromethane	kg	1810
	HCFC-123	kg	77
	HCFC-124	kg	609
	HCFC-141b	kg	725
	HCFC-142b	kg	2310
	HCFC-225ca	kg	122
	HCFC-225cb	kg	595
	HCFC-21	kg	151

Activity	Emission	Unit	kg CO_2e
Other perfluorinated gases	Nitrogen trifluoride	kg	17200
	PFC-9-1-18	kg	7500
	Trifluoromethyl sulphur pentafluoride	kg	17700
	Perfluorocyclopropane	kg	17340

Activity	Emission	Unit	kg CO_2e
Fluorinated ethers	HFE-125	kg	14900
	HFE-134	kg	6320
	HFE-143a	kg	756
	HCFE-235da2	kg	350
	HFE-245cb2	kg	708
	HFE-245fa2	kg	659
	HFE-254cb2	kg	359
	HFE-347mcc3	kg	575
	HFE-347pcf2	kg	580
	HFE-356pcc3	kg	110
	HFE-449sl (HFE-7100)	kg	297
	HFE-569sf2 (HFE-7200)	kg	59
	HFE-43-10pccc124 (H-Galden1040x)	kg	1870
	HFE-236ca12 (HG-10)	kg	2800
	HFE-338pcc13 (HG-01)	kg	1500

Activity	Emission	Unit	kg CO_2e
Other refrigerants	PFPMIE	kg	10300
	Dimethylether	kg	1
	Methylene chloride	kg	9
	Methyl chloride	kg	13
	R290 = propane	kg	3
	R600A = isobutane	kg	3
	R1234yf*	kg	< 1
	R1234ze*	kg	< 1

* There is no specific figure available, however it is known that the GWP factor is less than 1 kg CO_2e

Activity	Emission	Unit	kg CO_2e
Montreal protocol - blends	R406A	kg	1943
	R409A	kg	1585
	R502	kg	4657

FAQs

Is there any guidance to help me calculate the refrigerant leakage for my particular air conditioning system?

Further guidance on how to calculate refrigerant leakage is provided in Defra's 'Environmental reporting guidelines'.

Do I need to report all refrigerant types and gases with global warming potential in Scope 1?

No, only Kyoto Protocol gases need to be reported under Scope 1, all non-Kyoto gases (e.g. Montreal Protocol gases) should be reported separately.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Passenger vehicles

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Emissions source:	Passenger vehicles	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 1	**Version:**	1.0	**Year:**	2018

Passenger vehicles conversion factors should be used to report travel in cars and on motorcycles that are owned or controlled by the reporting organisation. This does not include employee-owned vehicles that are used for business purposes.

Guidance

- For vehicles where an organisation has data in litres of fuel or kWh electricity consumed, the 'fuels' or 'electricity' conversion factors should be applied, which provide more accurate emissions results.
- For vehicles that run on biofuels, please refer to the 'bioenergy' conversion factors. It should be noted that any vehicle running on biofuel should also have an 'outside of scopes' CO_2 figure reported separately. See the 'Outside of scopes' tab for more detail on this.
- The market segment conversion factors related to the vehicle market segments specifically defined by the UK Society of Motor Manufacturers and Traders (SMMT).
- Where a vehicle is used by an organisation, but it isn't owned by the organisation, then the emissions from the vehicle can be reported in Scope 3 instead of Scope 1, using the same factors. These factors can also be found in the Scope 3 under 'Business travel-land' or 'managed assets- vehicles'.
- For vehicles using electricity (i.e. Plug-in Hybrid Electric Vehicles / Range-Extended Electric Vehicles and Battery Electric Vehicles) the emission factors presented here only include the conventional fuel use (i.e. petrol or diesel), where relevant, and you should IN ADDITION use the emission factors provided in the 'UK electricity for EVs' and 'UK electricity T&D for EVs' tables to calculate the emissions due to the average electricity consumption.
- Please see the FAQs at the bottom of this page for further information on the conversion factors for passenger vehicles.

Example of calculating emissions from passenger vehicles

Company E reports the emissions from the mileage travelled in its company cars, a Scope 1 emission.
Company E uses conversion factors appropriate to each of its cars. For example, for its 1.6-litre diesel car, it uses a 'medium car: diesel' factor. It owns some vehicles for which engine size and fuel type data are not available, so it uses the 'average car: unknown fuel type' factor.

In some cases, the company knows what model the car is. In this case, it may choose to apply a conversion factor by market segment instead (found in the 'cars (by market segment)' table).

The activity data (km) is multiplied by the appropriate conversion factors to produce company E's passenger vehicle emissions.

			Diesel				Petrol				Unknown				Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Cars (by market segment)	Mini	km	0.13096	0.1091	0.00001	0.00185	0.14614	0.14039	0.00033	0.00042	0.14093	0.14017	0.00033	0.00043					0.0	0.0	0.0	0.0
		miles	0.17858	0.17558	0.00002	0.00298	0.22715	0.22594	0.00054	0.00067	0.22681	0.22559	0.00053	0.00069					0.0	0.0	0.0	0.0
	Supermini	km	0.13725	0.1539	0.00001	0.00185	0.15743	0.15668	0.00033	0.00042	0.1544	0.15368	0.00029	0.00043	0.02255	0.02245	0.00007	0.00003	0.0	0.0	0.0	0.0
		miles	0.22089	0.21789	0.00002	0.00298	0.25336	0.25215	0.00054	0.00067	0.24849	0.24701	0.00046	0.00032	0.0363	0.03613	0.00011	0.00006	0.0	0.0	0.0	0.0
	Lower medium	km	0.15048	0.14862	0.00001	0.00185	0.18264	0.18209	0.00033	0.00042	0.16669	0.16539	0.00017	0.00113	0.06675	0.06644	0.00021	0.0001	0.0	0.0	0.0	0.0
		miles	0.24217	0.23917	0.00002	0.00298	0.29425	0.29304	0.00054	0.00067	0.26828	0.26617	0.00028	0.00183	0.10742	0.10692	0.00033	0.00017	0.0	0.0	0.0	0.0
	Upper medium	km	0.16849	0.16663	0.00001	0.00185	0.20956	0.20881	0.00033	0.00042	0.17869	0.1771	0.00009	0.0015	0.07362	0.07326	0.00022	0.00014	0.0	0.0	0.0	0.0
		miles	0.27116	0.26816	0.00002	0.00298	0.33726	0.33605	0.00054	0.00067	0.28758	0.28502	0.00015	0.00241	0.11847	0.1179	0.00035	0.00022	0.0	0.0	0.0	0.0
	Executive	km	0.18125	0.17939	0.00001	0.00185	0.23952	0.23877	0.00033	0.00042	0.19502	0.19341	0.00009	0.00152	0.0868	0.0864	0.00027	0.00013				
		miles	0.2917	0.2887	0.00002	0.00298	0.38548	0.38427	0.00054	0.00067	0.31384	0.31126	0.00014	0.00244	0.1397	0.13905	0.00043	0.00022				
	Luxury	km	0.22177	0.22991	0.00001	0.00185	0.33702	0.33627	0.00033	0.00042	0.27753	0.2762	0.00017	0.00116	0.15494	0.15446	0.00032	0.00016	0.0	0.0	0.0	0.0
		miles	0.35691	0.35391	0.00002	0.00298	0.54238	0.54117	0.00054	0.00067	0.44664	0.4445	0.00027	0.00187	0.1689	0.16812	0.00052	0.00026	0.0	0.0	0.0	0.0
	Sports	km	0.17521	0.1735	0.00001	0.00185	0.24626	0.24551	0.00033	0.00042	0.23456	0.23363	0.00028	0.00065	0.0804	0.08003	0.00025	0.00012	0.0	0.0	0.0	0.0
		miles	0.28198	0.27898	0.00002	0.00298	0.39632	0.39511	0.00054	0.00067	0.37749	0.37599	0.00045	0.00105	0.12939	0.12879	0.0004	0.0002	0.0	0.0	0.0	0.0
	Dual purpose 4X4	km	0.21194	0.21008	0.00001	0.00185	0.24684	0.24609	0.00033	0.00042	0.23795	0.23627	0.00007	0.00151	0.07593	0.07558	0.00023	0.00012	0.0	0.0	0.0	0.0
		miles	0.34108	0.33808	0.00002	0.00298	0.39725	0.39604	0.00054	0.00067	0.35075	0.34805	0.00011	0.00259	0.1222	0.12163	0.00038	0.00019	0.0	0.0	0.0	0.0
	MPV	km	0.18452	0.18266	0.00001	0.00185	0.20096	0.20021	0.00033	0.00042	0.18945	0.18791	0.00011	0.00143					0.0	0.0	0.0	0.0
		miles	0.29696	0.29396	0.00002	0.00298	0.32342	0.32221	0.00054	0.00067	0.30487	0.30241	0.00017	0.00229					0.0	0.0	0.0	0.0

			Diesel				Petrol				Hybrid				CNG				LPG				Unknown				Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Cars (by size)	Small car	km	0.14519	0.14347	0.00001	0.00185	0.15565	0.1549	0.00033	0.00042	0.10957	0.10843	0.00022	0.00092									0.15201	0.15087	0.00022	0.00092	0.02255	0.02245	0.00007	0.00003	0.0	0.0	0.0	0.0
		miles	0.23389	0.23089	0.00002	0.00298	0.25049	0.24928	0.00054	0.00067	0.17635	0.1745	0.00036	0.00149									0.24465	0.24282	0.00036	0.00149	0.03630	0.03613	0.00011	0.00006	0.0	0.0	0.0	0.0
	Medium car	km	0.17854	0.17667	0.00001	0.00185	0.19386	0.19311	0.00033	0.00042	0.15538	0.15404	0.00017	0.00117	0.16324	0.16107	0.00167	0.0005	0.18217	0.18160	0.00007	0.00050	0.18327	0.18039	0.00017	0.00117	0.07120	0.07086	0.00021	0.00013	0.0	0.0	0.0	0.0
		miles	0.27927	0.27627	0.00002	0.00298	0.312	0.31079	0.00054	0.00067	0.18569	0.18354	0.00027	0.00188	0.26271	0.25922	0.00269	0.0008	0.29317	0.29226	0.00011	0.00080	0.29494	0.29279	0.00027	0.00188	0.11457	0.11403	0.00034	0.00020	0.0	0.0	0.0	0.0
	Large car	km	0.2152	0.21334	0.00001	0.00185	0.28411	0.28336	0.00033	0.00042	0.16134	0.15977	0.0001	0.00147	0.23851	0.23634	0.00167	0.0005	0.26706	0.26647	0.00007	0.00050	0.21073	0.22216	0.00020	0.00147	0.07717	0.07681	0.00024	0.00012	0.0	0.0	0.0	0.0
		miles	0.34634	0.34334	0.00002	0.00298	0.45723	0.45602	0.00054	0.00067	0.25964	0.25712	0.00016	0.00236	0.38385	0.38036	0.00269	0.0008	0.42975	0.42884	0.00011	0.00080	0.33915	0.37363	0.00035	0.00236	0.12418	0.12361	0.00038	0.00019	0.0	0.0	0.0	0.0
	Average car	km	0.17753	0.17567	0.00001	0.00185	0.18868	0.18793	0.00033	0.00042	0.15568	0.15438	0.00017	0.00114	0.17925	0.17708	0.00167	0.0005	0.20022	0.19965	0.00007	0.00050	0.18004	0.17934	0.00017	0.00113	0.07096	0.07062	0.00022	0.00012	0.0	0.0	0.0	0.0
		miles	0.28572	0.28272	0.00002	0.00298	0.29561	0.2944	0.00054	0.00067	0.22227	0.20017	0.00028	0.00182	0.28847	0.28498	0.00269	0.0008	0.32222	0.32131	0.00011	0.00080	0.29072	0.28862	0.00028	0.00182	0.11419	0.11365	0.00035	0.00019	0.0	0.0	0.0	0.0

Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Motorbike	Small	km	0.08463	0.08348	0.00185	0.0003
		miles	0.1362	0.13274	0.00298	0.00048
	Medium	km	0.1031	0.10012	0.00238	0.0006
		miles	0.16594	0.16114	0.00383	0.00097
	Large	km	0.13528	0.1332	0.00248	0.0006
		miles	0.21771	0.21436	0.00238	0.00097
	Average	km	0.11529	0.11279	0.00191	0.00059
		miles	0.18553	0.18151	0.00307	0.00095

FAQs

Do the conversion factors take into account the age of vehicles?

The conversion factors are based on information from the Department for Transport which regularly analyses the mix of cars on the road in the UK through Driver and Vehicle Licensing Agency (DVLA) records and automatic number plate recognition (ANPR) data. The conversion factors are updated each year to reflect changes in the spectrum of cars of different types and ages being driven.

I know the average fuel consumption of my passenger vehicles in miles per gallon (mpg) and mileage; can this be used to improve my calculations?

The mpg of the vehicle should be used to convert the distance travelled into litres of fuel used (refer to the 'conversions' listing to find values to assist this calculation). The conversion factor for litres of fuel can then be applied. This will give a more accurate view of the actual emissions from the vehicle (the conversion factors for vehicle mileage represent the average mpg of the whole UK vehicle population). Therefore, knowing your vehicle's actual mpg and using this value will yield more precise results.

I know the average gCO_2/km of my passenger vehicles as well as mileage; can this be used to improve my calculations?

If you know the manufacturer's gCO_2/km data, this may be used as an alternative (and more precise) calculation for your passenger vehicle's emissions. The factors provided by manufacturers should be uplifted. Please see the methodology paper on the correct uplift factor to use.

Which tables do I need to use to capture all the emissions resulting from the use of my plug-in electric vehicles?

Method 1: Energy consumption

Emissions = Total energy consumption (fuel, electricity) x Emission Factors (fuel, electricity)

	Scope	Car	Car	Van	Van	Includes
		Plug-in Hybrid Electric Vehicle	Battery Electric Vehicle	Plug-in Hybrid Electric Vehicle	Battery Electric Vehicle	
Fuels	Scope 1	YES	NO	YES	NO	Scope 1 emissions from use of petrol or diesel.
WTT- fuels	Scope 3	YES	NO	YES	NO	WTT Scope 3 emissions from use of petrol and diesel.
UK Electricity	Scope 2	YES	YES	YES	YES	Scope 2 emissions from use of electricity.
Transmission and distribution	Scope 3	YES	YES	YES	YES	Scope 3 emissions from T&D losses from use of electricity.
WTT- UK & overseas elec	Scope 3	YES	YES	YES	YES	Scope 3 emissions from WTT emissions from use of electricity.

Method 2: Generic vehicle emission factors

Emissions = Total activity for vehicle category (in km, miles or tonne-km) x Emission Factor

Note: the emission factors already account for the average share of driving using electricity or conventional fuel for plug-in hybrid electric vehicles, so the total number of km / miles / tonne-km should be used in calculations.

Sum of elements: **A + C** *OR* **B + C**

	Scope	Car	Car	Van	Van	Includes
		Plug-in Hybrid Electric Vehicle	Battery Electric Vehicle	Plug-in Hybrid Electric Vehicle	Battery Electric Vehicle	
A Passenger vehicles	Scope 1	YES	NO			Only Scope 1 emissions from petrol or diesel use.
A Delivery vehicles	Scope 1			YES	NO	Only Scope 1 emissions from petrol or diesel use.
A UK electricity for EVs	Scope 2	YES	YES	YES	YES	Only Scope 2 emissions from electricity use.
A UK electricity T&D for EVs	Scope 3	YES	YES	YES	YES	Only Scope 3 emissions from electricity T&D losses.
OR						
B Business travel- land	Scope 3	YES	YES			Sum of Scope 1 and Scope 2, plus Scope 3 electricity T&D losses.
B Freighting goods	Scope 3			YES	YES	Sum of Scope 1 and Scope 2, plus Scope 3 electricity T&D losses.
B Managed assets- vehicles	Scope 3	YES	YES	YES	YES	Sum of Scope 1 and Scope 2, plus Scope 3 electricity T&D losses.
AND						
C WTT- pass vehs & travel-land	Scope 3	YES	YES			Only Scope 3 WTT emissions (all fuel types, electricity)
C WTT- delivery vehs & freight	Scope 3			YES	YES	Only Scope 3 WTT emissions (all fuel types, electricity)

Note: The Plug-in Hybrid Electric Vehicle category also includes Range-Extended Electric Vehicles (also known as REEVs, ER-EVs or REX).

Why are emission factors for certain types of electric vehicle missing?

At the moment there are only a limited number of electric vehicle models on the market, and certain categories are not yet represented **by battery electric vehicle or plug-in hybrid electric vehicles**. Emission factors will be added in future updates for these vehicle types, when models in these categories become available in the UK market/fleet.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

UK electricity

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Emissions source:	UK electricity	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 2	**Version:**	1.0	**Year:**	2018

UK electricity conversion factors should be used to report on electricity used by an organisation at sites owned/controlled by them. This is reported as a Scope 2, indirect emission. The conversion factors in this listing are for the electricity supplied to the grid that organisations purchase - they do not include the emissions associated with the transmission and distribution of electricity.

Guidance

- The year displayed alongside the electricity factors is the reporting year for which users should apply these factors. This is based on a calendar reporting year.
- We advise that organisations also account for the transmission and distribution (T&D) losses of the electricity they purchase, which occur between the power station and their site(s). They should do so using the 'transmission and distribution' factors for UK electricity. The emissions from T&D should be accounted for in Scope 3.
- Organisations that generate renewable energy or purchase green energy should refer to Annex G of Defra's 'Environmental reporting guidelines' for information on how to account for their electricity use.
- If an organisation voluntarily reports the electricity used at a site/for an asset in its supply chain that is not directly under its ownership or control, it may report this electricity in Scope 3. A duplicate set of conversion factors have been provided for this purpose in the Scope 3 listing, under 'managed assets- electricity'.

Why has the electricity factor changed?

The UK electricity factor is prone to fluctuate from year to year as the fuel mix consumed in UK power stations (and auto-generators) and the proportion of net imported electricity changes.

These annual changes can be large as the factor depends very heavily on the relative prices of coal and natural gas as well as fluctuations in peak demand and renewables. Given the importance of this factor, the explanation for fluctuations will be presented here henceforth.

In the 2017 GHG Conversion Factors, there was a 15% decrease in the UK electricity CO_2e factor compared to the previous year because there was a decrease in coal generation, and an increase in gas and renewables generation, in 2015 (the inventory year for which the 2017 GHG Conversion Factor was derived). In this 2018 update, the CO_2e factor has decreased again (compared with 2017) by 19% due to a decrease in coal generation and an increase mainly in natural gas and to a much lower extend renewable generation.

Example of calculating emissions from UK electricity

Company G reports the emissions from the electricity it uses, which can be found by reading its electricity meters or gathering data from utility bills.
The kWh electricity use is multiplied by the 'electricity generated' figure appropriate to the reporting year to produce company G's UK Scope 2 electricity emissions.

Activity	Country	Unit	Year	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Electricity generated	Electricity: UK	kWh	2018	0.28307	0.28088	0.00066	0.00153

FAQs

I am not publishing a company report, but I need a factor for 'electricity consumption' instead of 'electricity generation' what should I do?

For company reporting purposes, organisations should use the 'electricity generation' figures for Scope 2 electricity and may use the 'T&D' factors for reporting Scope 3 losses. However, for other reporting contexts (where specific scopes do not need to be reported) the 'electricity consumption' figure can be calculated by adding together the 'electricity generation' and the 'T&D' values within each year.

What factor do I need for my CRC Energy Efficiency Scheme (CRC) reporting?

CRC reporting is now aligned with UK Government GHG Conversion Factors for Company Reporting. You should use the 'UK electricity generation CO_2 only' factor which needs to be added to the 'CO_2 only T&D- UK electricity' factor to get the overall factor that should be used for CRC reporting.

I previously used a 5-year grid rolling average factors. These factors are based on 1-year average factors and look quite different, what should I do?

Please refer to the 'What's new in 2013' section of the 'What's new' tab of the 2013 GHG Conversion factors spreadsheet for full instructions on how to rebaseline your data to compensate for the changes made.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

UK electricity for EVs

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Emissions source:	UK electricity for EVs	Expiry:	31/07/2019	Lead sect.	Leander E Sail
Scope:	Scope 2	Version:	1.0	Year:	2018

UK electricity conversion factors for electric vehicles should be used to report on electricity used by an organisation at sites owned/controlled by them (where this is not already reported), or public recharging stations. This is reported as a Scope 2, indirect emission. The conversion factors in this listing are for the electricity supplied to the grid that organisations purchase (or from public charging stations) - they do not include the emissions associated with the transmission and distribution of electricity.
Care should be taken to avoid double counting with an organisation's general electricity consumption.

Guidance

- We advise that organisations also account for the transmission and distribution (T&D) losses of the electricity used by electric vehicles, which occur between the power station and their site(s)/public recharging points. They should do so using the 'UK electricity T&D for EVs' factors for UK electricity. The emissions from T&D should be accounted for in Scope 3.
- Organisations that generate renewable energy or purchase green energy should refer to Annex G of Defra's 'Environmental reporting guidelines' for information on how to account for their electricity use.
- If an organisation voluntarily reports the electricity used at a site/for an asset in its supply chain that is not directly under its ownership or control, it may report this electricity in Scope 3. The Scope 3 conversion factors in 'Managed assets - vehicles' include the electricity consumption (as well as all other emission components) of plug-in electric vehicles.
- To avoid double-counting of emissions, do not include activity/emissions resulting from the use of plug-in electric vehicles that are charged predominantly on your organisation's premises if you are also already reporting the emissions resulting from your electricity consumed there.
- Please see the FAQs at the bottom of this page for further information on the conversion factors for electric vehicles.

Example of calculating emissions from UK electricity for electric vehicles (EVs)

Company E reports the emissions from the mileage travelled in its plug-in electric company cars, which will include a Scope 2 emission (as well as a Scope 1 emission for plug-in hybrid electric vehicles).

Company E uses conversion factors appropriate to each of its cars. For example, for its medium sized battery electric car, it uses a 'medium car: Battery Electric Vehicle' factor. It also owns some plug-in hybrid electric vehicles for which it is not sure on the appropriate size category, so it uses the 'average car: plug-in hybrid electric vehicle' factor.

In some cases, the company knows what model the car is. In this case, it may choose to apply a conversion factor by market segment instead (found in the 'cars (by market segment)' table).
The activity data (km or miles) is multiplied by the appropriate conversion factors to produce company E's passenger vehicle Scope 2 emissions. The company also needs to calculate the Scope 1 emissions due to the use of petrol and diesel in its plug-in hybrid electric vehicles, so it uses the conversion factors also provided in the 'Passenger vehicles' and 'Delivery vehicles' tables for this.

			Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO2e	kg CO_2	kg CH_4	kg N_2O	kg CO2e	kg CO_2	kg CH_4	kg N_2O
Cars (by market segment)	Mini	km					0.35311	0.35137	0.00012	0.00162
		miles					0.56843	0.56564	0.00019	0.00260
	Supermini	km	0.24358	0.24214	0.00018	0.00024	0.34815	0.34678	0.00011	0.00026
		miles	0.37029	0.36875	0.00028	0.00038	0.57750	0.57600	0.00018	0.00042
	Lower medium	km	0.31582	0.31354	0.00008	0.00019	0.35384	0.35057	0.00014	0.00033
		miles	0.45763	0.45718	0.00013	0.00031	0.89491	0.89418	0.00022	0.00051
	Upper medium	km	0.34139	0.34008	0.00010	0.00022	0.34756	0.34719	0.00011	0.00026
		miles	0.66446	0.66193	0.00015	0.00036	0.87653	0.87594	0.00018	0.00041
	Executive	km	0.40484	0.40292	0.00010	0.00024				
		miles	0.64587	0.64277	0.00016	0.00037				
	Luxury	km	0.50294	0.50017	0.00018	0.00037	0.37114	0.37117	0.00017	0.00038
		miles	0.98119	0.98072	0.00028	0.00064	0.51504	0.51615	0.00027	0.00063
	Sports	km	0.31996	0.31663	0.00009	0.00027	0.09154	0.09084	0.00021	0.00049
		miles	0.56432	0.55282	0.00015	0.00035	0.14731	0.14619	0.00034	0.00082
	Dual purpose 4X4	km	0.34916	0.34878	0.00011	0.00017	0.08205	0.08142	0.00018	0.00044
		miles	0.57911	0.57835	0.00019	0.00043	0.13196	0.13158	0.00031	0.00073
	MPV	km					0.36136	0.36486	0.00015	0.00033
		miles					0.59192	0.59428	0.00025	0.00057

			Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO2e	kg CO_2	kg CH_4	kg N_2O	kg CO2e	kg CO_2	kg CH_4	kg N_2O
Cars (by size)	Small car	km	0.24358	0.24214	0.00018	0.00024	0.35023	0.34884	0.00011	0.00027
		miles	0.37029	0.36875	0.00028	0.00038	0.58190	0.58037	0.00019	0.00044
	Medium car	km	0.31916	0.31606	0.00009	0.00021	0.35843	0.35647	0.00012	0.00033
		miles	0.46335	0.46286	0.00015	0.00034	0.89483	0.89416	0.00022	0.00051
	Large car	km	0.34869	0.34832	0.00011	0.00016	0.07191	0.07135	0.00017	0.00039
		miles	0.57836	0.57776	0.00018	0.00042	0.11573	0.11481	0.00027	0.00063
	Average car	km	0.34117	0.34496	0.00013	0.00024	0.05947	0.05947	0.00014	0.00032
		miles	0.57292	0.57196	0.00017	0.00039	0.09444	0.09570	0.00022	0.00052

			Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO2e	kg CO_2	kg CH_4	kg N_2O	kg CO2e	kg CO_2	kg CH_4	kg N_2O
Vans	Class I (up to 1.305 tonnes)	tonne.km					0.30342	0.30197	0.00071	0.00164
		km					0.46401	0.46201	0.00011	0.00025
		miles					0.67469	0.67411	0.00018	0.00040
	Class II (1.305 to 1.74 tonnes)	tonne.km					0.31053	0.31468	0.00074	0.00171
		km					0.36346	0.36417	0.00015	0.00034
		miles					0.52866	0.53017	0.00024	0.00054
	Class III (1.74 to 3.5 tonnes)	tonne.km					0.31137	0.30898	0.00071	0.00168
		km					0.29369	0.29299	0.00022	0.00057
		miles					0.51077	0.51969	0.00039	0.00082
	Average (up to 3.5 tonnes)	tonne.km					0.31681	0.31436	0.00074	0.00171
		km					0.36181	0.36312	0.00013	0.00034
		miles					0.53269	0.53190	0.00024	0.00055

FAQs

I am not publishing a company report, but I need a factor for 'electricity consumption' instead of 'electricity generation' for my electric vehicles what should I do?
For company reporting purposes, organisations should use the 'electricity generation' figures for Scope 2 electricity and may use the "T&D" factors for reporting Scope 3 losses. However, for other reporting contexts (where specific scope do not need to be reported) the 'electricity consumption' figure can be calculated by adding together the 'electricity generation' (from 'UK electricity for EVs') and the "T&D" values (from 'UK electricity T&D for EVs') within each year.

Which tables do I need to use to capture all the emissions resulting from the use of my plug-in electric vehicles?
Please refer to the 'Passenger vehicles' FAQ for tables providing this information.

What emission factors to I use for range-extended electric vehicles?
The Plug-in Hybrid Electric Vehicle category also includes Range-Extended Electric Vehicles (also known as REEVs, ER-EVs or REX).

Why are emission factors for certain types of electric vehicle missing?
At the moment there are only a limited number of electric vehicle models on the market, and certain categories are not yet represented **by battery electric vehicle or plug-in hybrid electric vehicles**. Emission factors will be added in future updates for these vehicle types, when models in these categories become available in the UK market/fleet.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Transmission and distribution

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Emissions source:	Transmission and distribution	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Transmission and distribution (T&D) factors should be used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it).

Guidance

- To account for electricity emissions fully, organisations should account for the T&D loss associated with its purchased power.
- The year displayed alongside the T&D factors is the reporting year for which users should apply these factors. This is based on a calendar reporting year.
- Transmission and distribution losses are no longer published for overseas electricity, since these are now calculated and published by the IEA.

Calculating emissions from T&D

Company H reports the emissions from T&D losses associated with its electricity use - this is a Scope 3 emission.

For every kWh of electricity company H purchases, it reports its associated energy losses using the T&D factor for that year.

Every kWh company H uses is multiplied by the appropriate T&D conversion factor to produce its Scope 3 T&D emissions impact.

Activity	Type	Unit	Year	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
T&D- UK electricity	Electricity: UK	kWh	2018	0.02413	0.02394	0.00006	0.00013

Activity	Type	Unit	Year	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Distribution - district heat & steam	5% loss	kWh	2018	0.00987	0.00980	0.00003	0.00003

FAQs

Is reporting T&D compulsory?

As with other Scope 3 impacts, reporting T&D is voluntary. However, it is considered best practice for UK reporting.

I am not publishing a company report, but I need a factor for 'electricity consumption'. What should I do?

For company reporting purposes, organisations should use the 'electricity generation' figures for Scope 2 electricity and may use the 'T&D' factors for reporting Scope 3 losses. However, for other reporting contexts (where specific scopes do not need to be reported) the 'electricity consumption' figure (as published in 2011 and 2012 conversion factors) can be calculated by adding together the 'electricity generation' and 'T&D' values within each year for each country.

What factor do I need for my CRC Energy Efficiency Scheme (CRC) reporting?

CRC reporting is now aligned with UK Government GHG Conversion Factors for Company Reporting. You should use the 'UK electricity generation CO_2 only' factor, which needs to be added to the 'CO_2 only T&D- UK electricity' factor to get the overall factor that should be used for CRC reporting.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

UK electricity T&D for EVs

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Emissions source:	UK electricity T&D for EVs	Expiry:	31/01/2019	Factor set:	Standard SME
Scope:	Scope 3	Variables:	3.2	Year:	2018

Transmission and distribution (T&D) factors for electric vehicles should be used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it).

Guidance

- To account for electricity emissions from electric vehicles fully organisations should account for the T&D loss associated with the electricity used to charge them.
- To avoid double-counting of electricity T&D emissions, do not include activityemissions resulting from the use of plug-in electric vehicles that are charged predominantly on your organisation's premises if you are also already reporting the

Calculating emissions from T&D

Company E reports the emissions from T&D losses associated with the mileage travelled in its plug-in electric company cars, which will include a Scope 3 emission.
Company E uses conversion factors appropriate to each of its cars. For example, for its medium sized battery electric car, it uses a 'medium car Battery Electric Vehicle' factor. It also owns some plug-in hybrid electric vehicles for which it is not sure
In some cases, the company knows what model the car is. In this case, it may choose to apply a conversion factor by market segment instead (found in the 'Cars (by market segment)' table).
The activity data (km or miles) is multiplied by the appropriate conversion factors to produce company E's passenger vehicle Scope 3 emissions for the electricity T&D losses associated with its electric vehicle.

Activity	Type	Unit	Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
			kg CO2e	kg CO_2	kg CH_4	kg N_2O	kg CO2e	kg CO_2	kg CH_4	kg N_2O
Cars (by market segment)	Mini	km					0.00452	0.00449	0.00001	0.00002
		miles	0.00728	0.00723	0.00002	0.00003	0.00728	0.00723	0.00002	0.00003
	Supermini	km	0.00372	0.00369	0.00001	0.00003	0.00428	0.00425	0.00001	0.00002
		miles	0.00598	0.00594	0.00001	0.00003	0.00689	0.00683	0.00002	0.00003
	Lower medium	km	0.00306	0.00303	0.00001	0.00002	0.00503	0.00499	0.00001	0.00003
		miles	0.00491	0.00487	0.00001	0.00003	0.00809	0.00803	0.00002	0.00004
	Upper medium	km	0.00312	0.00309	0.00001	0.00002	0.00405	0.00402	0.00001	0.00002
		miles	0.00502	0.00497	0.00001	0.00003	0.00651	0.00647	0.00001	0.00003
	Executive	km	0.00365	0.00362	0.00001	0.00002	0.00000			
		miles	0.00586	0.00582	0.00001	0.00003	0.00000			
	Luxury	km	0.00430	0.00427	0.00001	0.00002	0.00612	0.00607	0.00002	0.00003
		miles	0.00691	0.00688	0.00002	0.00004	0.00983	0.00976	0.00002	0.00005
	Sports	km	0.00351	0.00348	0.00001	0.00002	0.00783	0.00776	0.00002	0.00004
		miles	0.00548	0.00544	0.00001	0.00003	0.01256	0.01245	0.00003	0.00007
	Dual purpose 4X4	km	0.00419	0.00416	0.00001	0.00002	0.00700	0.00694	0.00001	0.00004
		miles	0.00675	0.00669	0.00002	0.00004	0.01128	0.01117	0.00001	0.00006
	MPV	km	0.00000				0.00457	0.00454	0.00001	0.00002
		miles	0.00000				0.00737	0.00730	0.00002	0.00003

Activity	Type	Unit	Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
			kg CO2e	kg CO_2	kg CH_4	kg N_2O	kg CO2e	kg CO_2	kg CH_4	kg N_2O
Cars (by size)	Small car	km	0.00372	0.00369	0.00001	0.00002	0.00429	0.00426	0.00001	0.00002
		miles	0.00598	0.00594	0.00001	0.00003	0.00691	0.00685	0.00002	0.00004
	Medium car	km	0.00336	0.00333	0.00001	0.00002	0.00502	0.00498	0.00001	0.00003
		miles	0.00540	0.00536	0.00001	0.00003	0.00808	0.00802	0.00002	0.00004
	Large car	km	0.00419	0.00416	0.00001	0.00002	0.00658	0.00652	0.00001	0.00004
		miles	0.00675	0.00669	0.00002	0.00004	0.00060	0.00059	0.00000	0.00000
	Average car	km	0.00380	0.00377	0.00001	0.00002	0.00511	0.00507	0.00001	0.00003
		miles	0.00612	0.00607	0.00001	0.00003	0.00822	0.00816	0.00001	0.00004

Activity	Type	Unit	Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
			kg CO2e	kg CO_2	kg CH_4	kg N_2O	kg CO2e	kg CO_2	kg CH_4	kg N_2O
Vans	Class I (up to 1.305 tonnes)	Tonne.km					0.21248	0.21068	0.00006	0.00014
		km					0.00395	0.00392	0.00001	0.00002
		miles					0.00636	0.00631	0.00001	0.00003
	Class II (1.305 to 1.74 tonnes)	Tonne.km					0.21707	0.21528	0.00007	0.00014
		km					0.00542	0.00538	0.00001	0.00003
		miles					0.00872	0.00866	0.00002	0.00005
	Class III (1.74 to 3.5 tonnes)	Tonne.km					0.22454	0.22333	0.00007	0.00014
		km					0.00798	0.00792	0.00002	0.00004
		miles					0.01284	0.01275	0.00003	0.00006
	Average (up to 3.5 tonnes)	Tonne.km					0.21793	0.21579	0.00007	0.00015
		km					0.00544	0.00540	0.00001	0.00003
		miles					0.00875	0.00869	0.00002	0.00005

FAQs

Is reporting T&D compulsory?

As with other Scope 3 impacts, reporting T&D for EVs is voluntary. However, it is considered best practice for UK reporting.

I am not publishing a company report, but I need a factor for 'electricity consumption'. What should I do?

For company reporting purposes, organisations should use the 'electricity generation' figure for Scope 2 electricity and may use the 'T&D' factors for reporting Scope 3 losses. However, for other reporting contexts (where specific scopes do not need to be reported) the 'electricity consumption' figure can be calculated by adding together the 'electricity generation' (from 'UK electricity for EVs') and the 'T&D' values (from 'UK electricity T&D for EVs') within each year.

Which tables do I need to use to capture all the emissions resulting from the use of my plug-in electric vehicles?

Please refer to the 'Passenger vehicles' FAQ for tables providing this information.

What emission factors to I use for range-extended electric vehicles?
The Plug-in Hybrid Electric Vehicle category includes Range-Extended Electric Vehicles (also known as REEVs, ER-EVs or REX).

Why are emission factors for certain types of electric vehicle being missing?
At the moment there are only a limited number of electric vehicle models on the market, and certain categories are not yet represented **by battery electric vehicle or plug-in hybrid electric vehicles**. Emission factors will be added in future updates for these vehicle types, when models in these categories become available in the UK market/fleet.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Water supply

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Emissions source:	Water supply	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Water supply conversion factors should be used to account for water delivered through the mains supply network.

Guidance

- To provide a full picture of your Scope 3 water emissions, you should also refer to the 'Water treatment' tab as both portions, supply and treatment, should be reported on for water.

Example of calculating emissions from water supply

Company J reports its emissions from mains water, a Scope 3 emissions source. It gathers data from its utility bills and water meters.

Company J multiplies the water used (cubic metres (m^3)) by the appropriate year's conversion factor called 'water supply' to produce its emissions.

Activity	Type	Unit	kg CO_2e
Water supply	Water supply	cubic metres	0.344
		million litres	344.0

For information about how the conversion factors have been derived, please refer to the Methodology paper' that accompanies the conversion factors.

Water treatment

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Emissions source:	Water treatment	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Water treatment conversion factors should be used for water returned into the sewage system through mains drains.

Guidance

- To provide a full picture of your Scope 3 water emissions, you should also refer to the 'Water supply' listing as both portions, supply and treatment, should be reported on for water.

Example of calculating emissions from water treatment

Company J report its emissions from mains water treatment, a Scope 3 emissions source. It gathers data from its utility bills.
Company J multiplies the volume of water disposed of via the drains (in cubic metres (m^3)) by the appropriate year's conversion factor called 'water treatment' to produce its emissions.

Activity	Type	Unit	kg CO_2e
Water treatment	Water treatment	cubic metres	0.708
		million litres	708.0

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Material use

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Emissions source:	Material use	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Material use conversion factors should be used to report on consumption of procured materials based on their origin (that is, comprised of primary material or recycled materials). For primary materials, these factors cover the extraction, primary processing, manufacturing and transporting materials to the point of sale, not the materials in use. For secondary materials, the factors cover sorting, processing, manufacturing and transporting to the point of sale, not the materials in use. These factors are useful for reporting efficiencies gained through reduced procurement of material or the benefit of procuring items that are the product of a previous recycling process.

Guidance

- To calculate the emissions from procured materials made from a variety of materials, the emissions may be added up and should be apportioned by the required weights of each material.
- These factors cannot be used to determine the relative merit of different recycling or waste management options.
- All of the factors in the tables are positive numbers, because these figures do not consider avoided burdens. They account for 'cradle-to-gate' emissions. Therefore, the recycled material values (which, in some cases, could be negative values) do not include avoided emissions from not using primary materials.

IMPORTANT: These data are intended ONLY for use in preparing and submitting company GHG reports. They are not suitable for assessing or comparing the impacts of different waste management options.

Example of calculating material use emissions

Company K reports its emissions from purchasing steel cans made from primary metals (to be filled with a product and sold). At a separate site, company K wishes to report the emissions from purchasing metals that are the product of a previous closed-loop recycling process (also to be filled with a product and sold). For the procurement of cans that have been newly manufactured, it selects the 'metal steel cans' material type and selects the 'primary material production' conversion factor. For the procurement of cans that are made from second-generation metals that have already been recycled, it selects the 'metal steel cans' row and the 'closed-loop' conversion factor. The carbon benefits of procuring the second generation metals quickly becomes clear.

The activity data for each site (tonnes of metal procured) are multiplied by the relevant conversion factor to produce company K's Scope 3 procured material emissions.

			Primary material production	Re-used	Open-loop source	Closed-loop source
Activity	Material	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e
Construction	Aggregates	tonnes	7.8123	2.21	3.2292	3.2292
	Average construction	tonnes	69.3242		6.0291	
	Asbestos	tonnes	27			
	Asphalt	tonnes	39.2125	1.7383		28.6892
	Bricks	tonnes	241.8123		3.2292	
	Concrete	tonnes	131.8123		3.2292	3.2292
	Insulation	tonnes	1861.8123			1852.1422
	Metals	tonnes	4305.3067			1781.806
	Soils	tonnes				1.0192
	Mineral oil	tonnes	1401			676
	Plasterboard	tonnes	120.05			32.17
	Tyres	tonnes	3335.5719	731.2179	308.4002	
	Wood	tonnes	416.1972	38.6462	259.2227	93.9837

			Primary material production	Re-used	Open-loop source	Closed loop source
Activity	Material	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e
Other	Books	tonnes	955.6535			795.4032
	Glass	tonnes	895		19	529
	Clothing	tonnes	22310	152.25	152.25	
	Food and drink	tonnes	4060.1636			

			Primary material production	Re-used	Open-loop source	Closed loop source
Activity	Material	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e
Organic	Compost derived from garden waste	tonnes	16			
	Compost derived from food and garden waste	tonnes	16.9118			

			Primary material production	Re-used	Open-loop source	Closed loop source
Activity	Material	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e
Electrical items	WEEE - fridges and freezers	tonnes	3814.3675			
	WEEE - large	tonnes	537.2419			
	WEEE - mixed	tonnes	1148.421			
	WEEE - small	tonnes	1759.6002			
	Batteries	tonnes	12094.2797			

			Primary material production	Re-used	Open-loop source	Closed loop source
Activity	Material	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e
Metal	Metal: aluminium cans and foil (excl. forming)	tonnes	12873.608			3012.5707
	Metal: mixed cans	tonnes	6556.808			2191.6352
	Metal: scrap metal	tonnes	3829.5038			1762.8181
	Metal: steel cans	tonnes	3003.608			1729.8589

			Primary material production	Re-used	Open-loop source	Closed loop source
Activity	Material	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e
Plastic	Plastics: average plastics	tonnes	3119.0225		656.607	2301.7403
	Plastics: average plastic film	tonnes	2577.1364		604.3039	1775.3704
	Plastics: average plastic rigid	tonnes	3186.3635		604.3039	2492.4999
	Plastics: HDPE (incl. forming)	tonnes	3180.3494		604.3039	2157.0453
	Plastics: LDPE and LLDPE (incl. forming)	tonnes	2603.608		604.3039	1775.3704
	Plastics: PET (incl. forming)	tonnes	4055.8519		604.3039	3188.5478
	Plastics: PP (incl. forming)	tonnes	3075.2358		604.3039	2486.9982
	Plastics: PS (incl. forming)	tonnes	3780.9205		1650.3656	3178.8031
	Plastics: PVC (incl. forming)	tonnes	3416.0558		604.3039	2467.8182

			Primary material production	Re-used	Open-loop source	Closed loop source
Activity	Material	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e
Paper	Paper and board: board	tonnes	844.4816			795.4032
	Paper and board: mixed	tonnes	872.2746			795.4032
	Paper and board: paper	tonnes	955.6535			795.4032

FAQs

Can I use these factor for my waste?

No, these factors are not appropriate. For specific end-of-life figures, please see the 'Waste disposal' tab.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Waste disposal

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Emissions source:	Waste disposal	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Waste disposal figures should be used for end-of-life disposal of different materials using a variety of different disposal methods.

Guidance

- To calculate the emissions from multiple waste streams, the emissions sub totals may be added up.
- These factors cannot be used to determine the relative lifecycle merit of different waste management options. This is because the benefits of energy recovery and recycling are attributed to the user of the recycled materials, not the producer of the waste, in line with GHG Protocol Guidelines.
- For landfill, the factors in the tables include collection, transportion and landfill emissions ('gate to grave'). For combustion and recycling, the factors consider transport to an energy recovery or materials reclamation facility only. This is in line with GHG Protocol Guidelines, with subsequent emissions attributed to electricity generation or recycled material production respectively.

IMPORTANT: These data are intended ONLY for use in preparing and submitting company GHG reports. They are not suitable for assessing or comparing the impacts of different waste management options.

Example of calculating emissions from waste disposal

Company K sends 0.5 tonnes of food waste to landfill each year, but has a white paper recycling scheme in place.
To calculate the emissions from the food waste, it selects the 'organic: food and drink waste'category and the appropriate 'landfill' factor. It multiplies this factor by the 0.5 tonnes of food waste and to get a waste disposal sub-total. For the white paper, it selects the 'paper and board: paper' category and the closed-loop factor (since the paper is sent for recycling into other paper products). This is multiplied by the mass of the white paper recycled to give a further waste disposal sub-total.

Company K's total waste emissions are calculated by adding the two waste disposal subtotals together.

			Re-use	Open-loop	Closed-loop	Combustion	Composting	Landfill	Anaerobic digestion
Activity	Waste type	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e	kg CO2e
Construction	Aggregates	tonnes	1.0192	1.0192	1.0192			1.277	
	Average construction	tonnes	1.0192	1.37	1.0192				
	Asbestos	tonnes						1.277	
	Asphalt	tonnes	1.0192	1.37	1.0192			1.277	
	Bricks	tonnes		1.0192				1.277	
	Concrete	tonnes		1.0192	1.0192			1.277	
	Insulation	tonnes			1.0192			1.277	
	Metals	tonnes			1.0192			1.277	
	Soils	tonnes			1.0192			17.6204	
	Mineral oil	tonnes			21.3842	21.3842			
	Plasterboard	tonnes			21.3842			71.95	
	Tyres	tonnes	21.3842	21.3842	21.3842				
	Wood	tonnes	64.3758	21.3842	21.3842	21.3842	21.3842	828.1303	

			Re-use	Open-loop	Closed-loop	Combustion	Composting	Landfill	Anaerobic digestion
Activity	Waste type	Unit	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e	kg CO_2e	kg CO2e
Other	Books	tonnes			21.3842	21.3842	21.3842	1041.9017	
	Glass	tonnes		21.3842	21.3842	21.3842		9	
	Clothing	tonnes	21.3842		21.3842	21.3842		445.0414	

			Re-use	Open-loop	Closed-loop	Combustion	Composting	Landfill	Anaerobic digestion
Activity	Waste type	Unit	kg CO_2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e
Refuse	Municipal waste	tonnes		21.3842	21.3842	21.3842		586.5313	21.3842
	Organic: food and drink waste	tonnes				21.3842	10.2586	626.9729	21.3842
	Organic: garden waste	tonnes				21.3842	10.2586	579.0571	21.3842
	Organic: mixed food and garden waste	tonnes				21.3842	10.2586	587.4424	21.3842
	Commercial and industrial waste	tonnes			21.3842	21.3842		99.7729	21.3842

			Re-use	Open-loop	Closed-loop	Combustion	Composting	Landfill	Anaerobic digestion
Activity	Waste type	Unit	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e
Electrical items	WEEE - fridges and freezers	tonnes		21.3842				16.58	
	WEEE - large	tonnes		21.3842		21.3842		16.58	
	WEEE - mixed	tonnes		21.3842		21.3842		16.58	
	WEEE - small	tonnes		21.3842		21.3842		16.58	
	Batteries	tonnes		64.6365				75.4919	

			Re-use	Open-loop	Closed-loop	Combustion	Composting	Landfill	Anaerobic digestion
Activity	Waste type	Unit	kg CO_2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e
Metal	Metal: aluminium cans and foil (excl. forming)	tonnes			21.3842	21.3842		9	
	Metal: mixed cans	tonnes			21.3842	21.3842		9	
	Metal: scrap metal	tonnes			21.3842	21.3842		9	
	Metal: steel cans	tonnes			21.3842	21.3842		9	

			Re-use	Open-loop	Closed-loop	Combustion	Composting	Landfill	Anaerobic digestion
Activity	Waste type	Unit	kg CO_2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e
Plastic	Plastics: average plastics	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: average plastic film	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: average plastic rigid	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: HDPE (incl. forming)	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: LDPE and LLDPE (incl. forming)	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: PET (incl. forming)	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: PP (incl. forming)	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: PS (incl. forming)	tonnes		21.3842	21.3842	21.3842		9	
	Plastics: PVC (incl. forming)	tonnes		21.3842	21.3842	21.3842		9	

			Re-use	Open-loop	Closed-loop	Combustion	Composting	Landfill	Anaerobic digestion
Activity	Waste type	Unit	kg CO_2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CO2e
Paper	Paper and board: board	tonnes			21.3842	21.3842	21.3842	1041.9017	
	Paper and board: mixed	tonnes			21.3842	21.3842	21.3842	1041.9017	
	Paper and board: paper	tonnes			21.3842	21.3842	21.3842	1041.9017	

FAQs

Can I use these factors for goods my organisation procures?

No, these factors are not appropriate. For specific procurement factors, please see the 'Material' use tab.

How do I calculate the weight of my waste?

There are a variety of different methods to work out the amount of waste your organisation generates. Waste transfer/consignment notes from your commercial waste collector are a good place to start as it may have specific information on the waste that has been collected from you. Alternatively, the commercial waste collector may be able to advise on an average weight you can apply given the waste infrastructure you have on site or you can conduct a waste audit - this is where a member of staff samples the composition of your waste and weighs the waste and/or recycling generated on a regular basis.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Business travel- air

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Emissions source:	Business travel- air	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Air conversion factors should be used to report Scope 3 emissions for individuals flying for work purposes.

Guidance

- Radiative forcing (RF) is a measure of the additional environmental impact of aviation. These include emissions of nitrous oxides and water vapour when emitted at high altitude.
- Organisations should include the influence of radiative forcing RF in air travel emissions to capture the maximum climate impact of their travel habits. However, it should be noted that there is very significant scientific uncertainty around the magnitude of the additional environmental impacts of aviation. Further information on this uncertainty is provided in the accompanying 'Methodology paper'.
- Organisations should produce comparable reporting. Therefore, they should avoid reporting with uplifted air travel conversion factors in one year and without in another year as this may skew the interpretation of their reporting.

Example of calculating emissions from air travel

Company L reports its emissions from flights over the course of a year. To do so it requests a report from its dedicated travel agent, which reports the distances travelled for domestic, short-haul and long-haul flights, in each class of travel (ranging from economy to first class).

A subsidiary of company L does not use the same travel agent. Instead, it uses its expenses system to note the flight type, distance and class of travel each time an employee flies.

The company then multiplies the distance (km) travelled in each class for each category of journey by the appropriate conversion factor. Company L uses the factor set inclusive of the influence of RF. Where the 'haul' of the journey is known, but the class is unknown, the company uses the 'average passenger' factor.

				With RF				Without RF			
Activity	Haul	Class	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Flights	Domestic, to/from UK	Average passenger	passenger.km	0.29832	0.29672	0.00012	0.00148	0.15777	0.15617	0.00012	0.00148
	Short-haul, to/from UK	Average passenger	passenger.km	0.16236	0.16155	0.00001	0.0008	0.08584	0.08503	0.00001	0.0008
		Economy class	passenger.km	0.1597	0.1589	0.00001	0.00079	0.08443	0.08363	0.00001	0.00079
		Business class	passenger.km	0.23955	0.23835	0.00001	0.00119	0.12665	0.12545	0.00001	0.00119
	Long-haul, to/from UK	Average passenger	passenger.km	0.21256	0.2115	0.00001	0.00105	0.11237	0.11131	0.00001	0.00105
		Economy class	passenger.km	0.16279	0.16197	0.00001	0.00081	0.08607	0.08525	0.00001	0.00081
		Premium economy class	passenger.km	0.26046	0.25916	0.00001	0.00129	0.1377	0.1364	0.00001	0.00129
		Business class	passenger.km	0.47208	0.46972	0.00002	0.00234	0.24958	0.24722	0.00002	0.00234
		First class	passenger.km	0.65115	0.6479	0.00002	0.00323	0.34425	0.341	0.00002	0.00323
	International, to/from non-UK	Average passenger	passenger.km	0.18277	0.18185	0.00001	0.00091	0.09663	0.09571	0.00001	0.00091
		Economy class	passenger.km	0.139965	0.13927	0.000005	0.00069	0.073995	0.0733	0.000005	0.00069
		Premium economy class	passenger.km	0.22395	0.22283	0.00001	0.00111	0.1184	0.11728	0.00001	0.00111
		Business class	passenger.km	0.4059	0.40388	0.00001	0.00201	0.21459	0.21257	0.00001	0.00201
		First class	passenger.km	0.55987	0.55708	0.00002	0.00277	0.29599	0.2932	0.00002	0.00277

FAQs

How do you define domestic, short-haul, long-haul and international flights?

Broadly speaking the definition of domestic flights, are those within the UK, short-haul are those within Europe, long-haul are outside of Europe and international flights are those between non-UK destinations.

Why is the impact of flying in business class higher than economy?

Air travel factors are calculated on the basis of the area of the plane each passenger takes up. If a plane is comprised totally of business-class seats, as opposed to more closely packed economy class seats, fewer passengers can fly. Therefore, each passenger takes a larger share of the emissions.

Our organisation only has data on spend. How can I use this to calculate our air travel?

There are no confirmed industry benchmarks that provide accurate CO_2e/£ spend data for air travel. We recommend that organisations improve their data collection processes so that they can report on distance (for which CO_2e/km figures are available). Alternatively, organisations may, over a number of years, collect their own data and generate their own benchmarks.

My organisation has previously reported using factors without RF, what should I do?

Users should generally use the 'with RF' factors, which incorporate a 90% increase in emissions to include the effect of radiative forcing. If the user's historical data do not include RF, then they should rebaseline their historical dataset to include the effect going forward. However, users should be aware of the very significant scientific uncertainty surrounding the quantification of these impacts. If organisations do not wish to include RF, then they should continue to select the 'Without RF' factors.

My organisation has previously reported using factors without the distance uplift, what should I do?

All the factors include the distance uplift of 8% to compensate for planes not flying using the most direct route (such as flying around international airspace and stacking). Historical factors have also included a distance uplift, though it was 9% for 2012 and before. If users did not previously include the distance uplift, then they should rebaseline their historical dataset. However, if users wish to continue to not include the distance uplift, then it should be manually removed from the current factors.

Tell me more about the international factors that were introduced in 2015

In the 2015 update, a brand new set of aviation factors were introduced where aviation factors are now being presented for international flights between non-UK destinations. This is a relatively high-level analysis and allows users to choose a different factor for air travel if flying between countries outside of the UK. All factors presented are for direct (non-stop) flights only. This analysis was only possible for passenger air travel. However, in the interests of consistency with the air freight travel, international freight factors have been included. These factors have been set equal to the current UK, long-haul freight factors. See the 'Freighting goods' and 'WTT- delivery vehs & freight' tabs for these factors.

Please note - the international factors included are an average of short and long-haul flights, which explains the difference between the UK factors and the international ones.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

WTT- business travel- air

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Emissions source:	WTT- business travel (air)	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Well-to-tank (WTT) business travel – air conversion factors should be used to account for the upstream Scope 3 emissions associated with extraction, refining and transportation of the aviation fuel to the plane before take-off.

Guidance

- These factors are to be used to report WTT emissions of business travel by air, not the impact of the WTT for fuel used in aeroplanes freighting goods (this can be found in 'Well to tank- delivery vehs & freight').

- Factors are provided with/without radiative forcing (RF) for consistency with the 'Business travel - air' factors. However, for WTT- business travel – air then RF has no effect and so the factors are the same.

Example of calculating emissions from WTT business travel – air

Company L reports its emissions from flights over the course of a year. It decides to also report the Scope 3 WTT impact of the flight fuel. To do so, it requests a report from its dedicated travel agent that reports the distances travelled for domestic, short-haul and long-haul flights, in each class of travel (ranging from economy to first-class).

The company then multiplied the km travelled in each class, for each category of journey by the appropriate conversion factor (as found in the 'WTT business travel- air' listing). Where the haul of the journey is known, but the class is unknown, the company may use an 'average passenger' factor.

				With RF	Without RF
Activity	Haul	Class	Unit	kg CO_2e	kg CO_2e
WTT- flights	Domestic, to/from UK	Average passenger	passenger.km	0.03267	0.03267
	Short-haul, to/from UK	Average passenger	passenger.km	0.01779	0.01779
		Economy class	passenger.km	0.0175	0.0175
		Business class	passenger.km	0.02624	0.02624
	Long-haul, to/from UK	Average passenger	passenger.km	0.02329	0.02329
		Economy class	passenger.km	0.01783	0.01783
		Premium economy class	passenger.km	0.02853	0.02853
		Business class	passenger.km	0.05172	0.05172
		First class	passenger.km	0.07134	0.07134
	International, to/from non-UK	Average passenger	passenger.km	0.02002	0.02002
		Economy class	passenger.km	0.01533	0.01533
		Premium economy class	passenger.km	0.02453	0.02453
		Business class	passenger.km	0.04447	0.04447
		First class	passenger.km	0.06134	0.06134

FAQs

Tell me more about the international factors that were introduced in 2015

In the 2015 update, a brand new set of aviation factors were introduced where aviation factors are now being presented for international flights between non-UK destinations. This is a relatively high-level analysis and allows users to choose a different factor for air travel if flying between countries outside of the UK. All factors presented are for direct (non-stop) flights only. This analysis was only possible for passenger air travel. However, in the interests of consistency with the air freight travel, international freight factors have been included. These factors have been set equal to the current UK, long-haul freight factors. See the 'Freighting goods' and 'WTT- delivery vehs & freight' tabs for these factors.

Please note - the international factors included are an average of short and long-haul flights, which explains the difference between the UK factors and the international ones.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Business travel- sea

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Emissions source:	Business travel- sea	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Sea-based conversion factors should be used to report travel for business purposes on ferries.

Guidance

- The business travel- sea conversion factors are for use for passenger travel, not for freighting goods. Full freight factors are available in the 'Freighting goods' listing.

Example of calculating emissions from business travel- sea

Company M is based on the Isle of Wight and wishes to report the emissions of business travel on the ferry.
Company M uses the conversion factors appropriate for ferry journeys. It has two options – for a passenger travelling by car on a ferry or as a foot passenger.
The total km travelled on the ferry is multiplied by the appropriate conversion factors to produce company M's Scope 3 emissions at sea.

Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Ferry	Foot passenger	passenger.km	0.01874	0.01848	0.00001	0.00025
	Car passenger	passenger.km	0.12953	0.12774	0.00004	0.00175
	Average (all passenger)	passenger.km	0.11287	0.11131	0.00004	0.00152

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Business travel- land

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Emissions source:	Business travel- land	**Expiry:**	11/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Land-based conversion factors should be used for travel for business purposes in assets not owned or directly operated by a business. This includes mileage for business purposes in cars owned by employees, public transport, hire cars, and so on.

Guidance

- Users should be mindful of the difference between vehicle km conversion factors and passenger km conversion factors. Vehicle km conversion factors should be applied to a whole vehicle (such as a car or taxi) being used for business purposes. Passenger km factors should be used when single passengers are travelling by means of mass transport (such as by train) and the aim is to report emissions on a single-person basis, not account for the whole vehicle.
- It should be noted that the conversion factors for cars and vans (excluding plug-in electric vehicles) are the same as those in the 'passenger vehicles' and 'delivery vehicles' listings. Where a car or van is not owned or controlled by the reporting organisation, the vehicles should be accounted for in Scope 3 as opposed to Scope 1, but the conversion factors and their categories remain the same.

- The conversion factors for electric cars and vans are the same as those in the 'passenger vehicles' and 'delivery vehicles' listings PLUS the emissions from the electricity consumption . Where a car or van is not owned or controlled by the reporting organisation, the vehicles should be accounted for in Scope 3 as opposed to Scope 1 (for petrol/diesel use) and Scope 2 (for electricity use), but the conversion factors and their categories remain the same.
- To avoid double-counting of emissions, do not include activity/emissions resulting from the use of plug-in electric vehicles that are charged predominantly on your organisation's premises if you are also already reporting the emissions resulting from your electricity consumed there.
- Please see the FAQs at the bottom of this page for further information on the conversion factors for electric vehicles.

- The market segment conversion factors related to the vehicle market segments are specifically defined by the UK Society of Motor Manufacturers and Traders (SMMT).

Example of calculating emissions from business travel - land

The members of company N's large sales team travel extensively on public transport. The company accounts for this in Scope 3 using appropriate conversion factors for bus, tube and rail transport.
In each case, the total km travelled for each mode of transport is multiplied by the appropriate conversion factor to produce company N's Scope 3 emissions for land-based modes of transport

			Diesel				Petrol				Unknown				Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Cars (by market segment)	Mini	km	0.11096	0.1091	0.00001	0.00185	0.14114	0.14039	0.00033	0.00042	0.14093	0.14017	0.00033	0.00043					0.05765	0.05720	0.00014	0.00031
		miles	0.17858	0.17558	0.00002	0.00298	0.22715	0.22594	0.00054	0.00067	0.22681	0.22559	0.00053	0.00069	0.00000				0.09277	0.09205	0.00022	0.00050
	Supermini	km	0.13725	0.13539	0.00001	0.00185	0.15743	0.15668	0.00033	0.00042	0.1544	0.15348	0.00029	0.00063	0.06995	0.06948	0.00018	0.00029	0.05225	0.05185	0.00012	0.00028
		miles	0.22089	0.21789	0.00002	0.00298	0.25336	0.25215	0.00054	0.00067	0.24849	0.24701	0.00046	0.00102	0.11258	0.11182	0.00029	0.00047	0.08410	0.08345	0.00020	0.00045
	Lower medium	km	0.15048	0.14862	0.00001	0.00185	0.18284	0.18209	0.00033	0.00042	0.16669	0.16539	0.00017	0.00113	0.10562	0.10501	0.00030	0.00031	0.06401	0.06351	0.00015	0.00035
		miles	0.24217	0.23917	0.00002	0.00298	0.29425	0.29304	0.00054	0.00067	0.26828	0.26617	0.00028	0.00183	0.16997	0.16899	0.00048	0.00050	0.10301	0.10221	0.00024	0.00056
	Upper medium	km	0.16849	0.16663	0.00001	0.00185	0.20956	0.20881	0.00033	0.00042	0.17869	0.1771	0.00009	0.0015	0.11843	0.11773	0.00032	0.00038	0.05161	0.05121	0.00012	0.00028
		miles	0.27116	0.26816	0.00002	0.00298	0.33726	0.33605	0.00054	0.00067	0.28758	0.28502	0.00015	0.00241	0.19060	0.18947	0.00052	0.00061	0.08305	0.08241	0.00019	0.00045
	Executive	km	0.18125	0.17939	0.00001	0.00185	0.23952	0.23877	0.00033	0.00042	0.19502	0.19341	0.00009	0.00152	0.13320	0.13244	0.00038	0.00038	0.00000			
		miles	0.2917	0.2887	0.00002	0.00298	0.38548	0.38427	0.00054	0.00067	0.31384	0.31126	0.00014	0.00244	0.21437	0.21314	0.00061	0.00062	0.00000			
	Luxury	km	0.22177	0.21991	0.00001	0.00185	0.33702	0.33627	0.00033	0.00042	0.27753	0.2762	0.00017	0.00116	0.15980	0.15889	0.00045	0.00046	0.07784	0.07724	0.00018	0.00042
		miles	0.35691	0.35391	0.00002	0.00298	0.54238	0.54117	0.00054	0.00067	0.44664	0.4445	0.00027	0.00187	0.25719	0.25572	0.00073	0.00074	0.12528	0.12431	0.00029	0.00068
	Sports	km	0.17521	0.17335	0.00001	0.00185	0.24626	0.24551	0.00033	0.00042	0.23456	0.23363	0.00028	0.00065	0.12377	0.12306	0.00035	0.00036	0.09935	0.09858	0.00023	0.00054
		miles	0.28198	0.27898	0.00002	0.00298	0.39632	0.39511	0.00054	0.00067	0.37749	0.37599	0.00045	0.00105	0.19919	0.19805	0.00056	0.00058	0.15988	0.15865	0.00037	0.00086
	Dual purpose 4X4	km	0.21194	0.21008	0.00001	0.00185	0.24684	0.24609	0.00033	0.00042	0.21795	0.21627	0.00007	0.00161	0.12928	0.12851	0.00036	0.00041	0.08905	0.08836	0.00021	0.00048
		miles	0.34108	0.33808	0.00002	0.00298	0.39725	0.39604	0.00054	0.00067	0.35075	0.34805	0.00011	0.00259	0.20805	0.20682	0.00058	0.00065	0.14331	0.14220	0.00034	0.00077
	MPV	km	0.18452	0.18266	0.00001	0.00185	0.20096	0.20021	0.00033	0.00042	0.18945	0.18791	0.00011	0.00143	0.00000				0.07093	0.07038	0.00017	0.00038
		miles	0.29696	0.29396	0.00002	0.00298	0.32342	0.32221	0.00054	0.00067	0.30487	0.30241	0.00017	0.00229	0.00000				0.11416	0.11327	0.00027	0.00062

			Diesel				Petrol				Hybrid				CNG				LPG				Unknown				Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Cars (by size)	Small car	km	0.14533	0.14347	0.00001	0.00185	0.15565	0.1549	0.00033	0.00042	0.10957	0.10843	0.00022	0.00092									0.15201	0.15087	0.00022	0.00092	0.06995	0.06948	0.00018	0.00029	0.05463	0.05420	0.00013	0.00030
		miles	0.23389	0.23089	0.00002	0.00298	0.25049	0.24928	0.00054	0.00067	0.17635	0.1745	0.00036	0.00149									0.24465	0.2428	0.00036	0.00149	0.11258	0.11182	0.00029	0.00047	0.08790	0.08722	0.00021	0.00047
	Medium car	km	0.17353	0.17167	0.00001	0.00185	0.19386	0.19311	0.00033	0.00042	0.11538	0.11404	0.00017	0.00117	0.16324	0.16107	0.00167	0.0005	0.18217	0.1816	0.00007	0.0005	0.18327	0.18193	0.00017	0.00117	0.11392	0.11325	0.00031	0.00036	0.06396	0.06346	0.00015	0.00035
		miles	0.27927	0.27627	0.00002	0.00298	0.312	0.31079	0.00054	0.00067	0.18569	0.18354	0.00027	0.00188	0.26271	0.25922	0.00269	0.0008	0.29317	0.29226	0.00011	0.0008	0.29494	0.29279	0.00027	0.00188	0.18332	0.18225	0.00050	0.00057	0.10293	0.10213	0.00024	0.00056
	Large car	km	0.2152	0.21334	0.00001	0.00185	0.28411	0.28336	0.00033	0.00042	0.16134	0.15977	0.0001	0.00147	0.23851	0.23634	0.00167	0.0005	0.26704	0.26647	0.00007	0.0005	0.23373	0.23216	0.0001	0.00147	0.13001	0.12924	0.00036	0.00041	0.07803	0.07743	0.00018	0.00042
		miles	0.34634	0.34334	0.00002	0.00298	0.45723	0.45602	0.00054	0.00067	0.25964	0.25712	0.00016	0.00236	0.38385	0.38036	0.00269	0.0008	0.42975	0.42884	0.00011	0.0008	0.37615	0.37363	0.00016	0.00236	0.20922	0.20799	0.00058	0.00065	0.12559	0.12462	0.00029	0.00068
	Average car	km	0.17753	0.17567	0.00001	0.00185	0.18368	0.18293	0.00033	0.00042	0.12568	0.12438	0.00017	0.00113	0.17925	0.17708	0.00167	0.0005	0.20022	0.19965	0.00007	0.0005	0.18064	0.17934	0.00017	0.00113	0.12012	0.11941	0.00033	0.00038	0.06504	0.06454	0.00015	0.00035
		miles	0.28572	0.28272	0.00002	0.00298	0.29561	0.2944	0.00054	0.00067	0.20227	0.20017	0.00028	0.00182	0.28847	0.28498	0.00269	0.0008	0.32222	0.32131	0.00011	0.0008	0.29072	0.28862	0.00028	0.00182	0.19332	0.19218	0.00053	0.00061	0.10468	0.10386	0.00025	0.00057

Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Motorbike	Small	km	0.08463	0.08248	0.00185	0.0003
		miles	0.1362	0.13274	0.00298	0.00048
	Medium	km	0.1031	0.10012	0.00238	0.0006
		miles	0.16594	0.16114	0.00383	0.00097
	Large	km	0.13528	0.1332	0.00148	0.0006
		miles	0.21771	0.21436	0.00238	0.00097
	Average	km	0.11529	0.11279	0.00191	0.00059
		miles	0.18553	0.18151	0.00307	0.00095

Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Taxis	Regular taxi	passenger.km	0.15344	0.15211	0.00001	0.00132
		km	0.21482	0.21296	0.00001	0.00185
	Black cab	passenger.km	0.2142	0.21295	0.00001	0.00124
		km	0.32129	0.31943	0.00001	0.00185

Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Bus	Local bus (not London)	passenger.km	0.12007	0.11907	0.00004	0.00096
	Local London bus	passenger.km	0.07211	0.07162	0.00002	0.00047
	Average local bus	passenger.km	0.10097	0.10017	0.00003	0.00077
	Coach	passenger.km	0.02801	0.02758	0.00002	0.00041

Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Rail	National rail	passenger.km	0.04424	0.04383	0.00008	0.00033
	International rail	passenger.km	0.01226	0.01216	0.00003	0.00007
	Light rail and tram	passenger.km	0.03967	0.03937	0.00009	0.00021
	London Underground	passenger.km	0.0376	0.03731	0.00009	0.0002

FAQs

Which tables do I need to use to capture all the emissions resulting from the use of my plug-in electric vehicles?

Please refer to the 'Passenger vehicles' FAQ for tables providing this information.

Note: The Plug-in Hybrid Electric Vehicle category also includes Range-Extended Electric Vehicles (also known as REEVs, ER-EVs or REX).

Why are emission factors for certain types of electric vehicle missing?

At the moment there are only a limited number of electric vehicle models on the market, and certain categories are not yet represented **by battery electric vehicle or plug-in hybrid electric vehicles**. Emission factors will be added in future updates for these vehicle types, when models in these categories become available in the UK market/fleet.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Freighting goods

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Emissions source:	Freighting goods	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	Scope 3	**Version:**	1.0	**Year:**	2018

Freighting goods factors should be used specifically for the shipment of goods over land, by sea or by air through a third-party company. Factors are available for a whole vehicle's worth of goods or per tonne of goods shipped via a specific transport mode.

Guidance

- Where possible users should report on litres of fuel and/or kWh of electricity used for freight rather than on a km basis as this is a more accurate calculation - these conversion factors may be found in the 'Fuels' and 'UK Electricity' tabs.

- For vehicles that run on electricity, care should be taken not to double-count emissions from electricity use that is already captured from reporting of an organisations on-site electricity consumption.
- Users that are able to gather data on a vehicle km basis should use these data in preference to tonne km data.
- There are two types of air-freight factors: with/without radiative forcing (RF), which is the influence of the other climate change effects of aviation (such as water vapour and nitrogen oxides). Organisations should include the influence of RF in air-freight emissions to capture the maximum climate impact of their travel habits. However, it should be noted that there is very significant scientific uncertainty around the magnitude of the additional environmental impacts of aviation. Further information on this uncertainty is provided in the accompanying 'Methodology paper'.

- Please see the FAQs at the bottom of this page for further information on the conversion factors for freighting goods vehicles, including electric vehicles.

			0% Laden				50% Laden				100% Laden				Average laden			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
HGV (all diesel)	Rigid (>3.5 - 7.5 tonnes)	tonne.km					0.47776	0.47101	0.00016	0.00660	0.25773	0.25435	0.00008	0.00330	0.48674	0.47985	0.00016	0.00673
		km	0.45835	0.45131	0.00016	0.00687	0.49759	0.49056	0.00016	0.00687	0.53683	0.52980	0.00016	0.00687	0.49680	0.48977	0.00016	0.00687
		miles	0.73764	0.72631	0.00026	0.01106	0.80079	0.78948	0.00026	0.01106	0.86394	0.85263	0.00026	0.01106	0.79952	0.78821	0.00026	0.01106
	Rigid (>7.5 tonnes-17 tonnes)	tonne.km					0.26706	0.26341	0.00008	0.00356	0.14999	0.14817	0.00004	0.00178	0.35810	0.35304	0.00012	0.00495
		km	0.55083	0.54226	0.00020	0.00838	0.62830	0.61972	0.00020	0.00838	0.70576	0.69719	0.00020	0.00838	0.60661	0.59803	0.00020	0.00838
		miles	0.88647	0.87268	0.00032	0.01349	1.01115	0.99734	0.00032	0.01349	1.13581	1.12202	0.00032	0.01349	0.97624	0.96244	0.00032	0.01349
	Rigid (>17 tonnes)	tonne.km					0.20232	0.19937	0.00007	0.00288	0.11910	0.11763	0.00004	0.00144	0.17927	0.17673	0.00006	0.00248
		km	0.76810	0.75450	0.00032	0.01328	0.93372	0.92013	0.00032	0.01328	1.09934	1.08575	0.00032	0.01328	0.96034	0.94674	0.00032	0.01328
		miles	1.23614	1.21425	0.00051	0.02137	1.50268	1.48081	0.00051	0.02137	1.76922	1.74735	0.00051	0.02137	1.54552	1.52363	0.00051	0.02137
	All rigids	tonne.km					0.23502	0.23244	0.00008	0.00250	0.13842	0.13713	0.00004	0.00125	0.21334	0.21103	0.00007	0.00223
		km	0.65294	0.64422	0.00027	0.00846	0.79425	0.78552	0.00027	0.00846	0.93555	0.92683	0.00027	0.00846	0.80746	0.79873	0.00027	0.00846
		miles	1.05081	1.03677	0.00043	0.01362	1.27822	1.26417	0.00043	0.01362	1.50562	1.49159	0.00043	0.01362	1.29948	1.28543	0.00043	0.01362
	Articulated (>3.5 - 33t)	tonne.km					0.12903	0.12726	0.00002	0.00175	0.07723	0.07635	0.00001	0.00087	0.14054	0.13857	0.00002	0.00194
		km	0.64923	0.63814	0.00012	0.01097	0.80877	0.79768	0.00012	0.01097	0.96830	0.95722	0.00012	0.01097	0.79282	0.78173	0.00012	0.01097
		miles	1.04483	1.02699	0.00019	0.01765	1.30159	1.28374	0.00019	0.01765	1.55833	1.54050	0.00019	0.01765	1.27592	1.25807	0.00019	0.01765
	Articulated (>33t)	tonne.km					0.09774	0.09629	0.00002	0.00143	0.06090	0.06018	0.00001	0.00072	0.08348	0.08231	0.00001	0.00115
		km	0.67174	0.65855	0.00015	0.01305	0.89126	0.87807	0.00015	0.01305	1.11078	1.09758	0.00015	0.01305	0.94395	0.93075	0.00015	0.01305
		miles	1.08106	1.05983	0.00024	0.02100	1.43434	1.41312	0.00024	0.02100	1.78763	1.76638	0.00024	0.02100	1.51914	1.49790	0.00024	0.02100
	All artics	tonne.km					0.09875	0.09706	0.00002	0.00167	0.05909	0.05824	0.00001	0.00084	0.08525	0.08386	0.00001	0.00137
		km	0.71260	0.69741	0.00015	0.01504	0.88712	0.87194	0.00015	0.01504	1.06164	1.04646	0.00015	0.01504	0.93428	0.91909	0.00015	0.01504
		miles	1.14682	1.12237	0.00024	0.02420	1.42768	1.40325	0.00024	0.02420	1.70854	1.68411	0.00024	0.02420	1.50358	1.47913	0.00024	0.02420
	All HGVs	tonne.km					0.13136	0.12945	0.00003	0.00188	0.07807	0.07712	0.00002	0.00094	0.11360	0.11146	0.00005	0.00209
		km	0.68567	0.67340	0.00020	0.01207	0.84520	0.83293	0.00020	0.01207	1.00473	0.99246	0.00020	0.01207	0.87287	0.86061	0.00020	0.01207
		miles	1.10348	1.08373	0.00032	0.01942	1.36022	1.34047	0.00032	0.01942	1.61696	1.59721	0.00032	0.01942	1.40475	1.38502	0.00032	0.01942

			With RF				Without RF			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Freight flights	Domestic, to/from UK	tonne.km	5.8333	5.80197	0.00243	0.0289	3.085	3.05367	0.00243	0.0289
	Short-haul, to/from UK	tonne.km	1.9469	1.93718	0.00007	0.00965	1.02929	1.01957	0.00007	0.00965
	Long-haul, to/from UK	tonne.km	1.23205	1.22591	0.00004	0.0061	0.65135	0.64521	0.00004	0.0061
	International, to/from non-UK	tonne.km	1.23205	1.22591	0.00004	0.0061	0.65135	0.64521	0.00004	0.0061

FAQs

My organisation has previously reported using factors without the distance uplift or radiative forcing. What should I do?

All the factors include the distance uplift of 8% to compensate for planes not flying using the most direct route (such as flying around international airspace and stacking). Historical factors have also included a distance uplift, though it was 9% for 2012 and before. Users should generally include the distance uplift of 8% and the radiative forcing (RF) increase of 90% in the emissions reporting (that is, use the 'with RF' factors). Organisations that have not previously applied the distance uplift and RF will need to rebaseline their historical dataset to make their historical data comparable and to include the two effects going forward. However, for organisations that have not and do not wish to include the distance uplift and the RF, should select the 'Without RF' factor and manually remove the 8% distance uplift.

Tell me more about the international flight factors that were introduced in 2015

In the 2015 update, a brand new set of aviation factors were introduced where aviation factors are now being presented for international flights between non-UK destinations. This analysis was only possible for passenger air travel. However, in the interests of consistency with the air-freight travel, international freight factors have been included this year. These factors have been set equal to the current UK, long-haul freight factors.

Please note - the international factors included are an average of short and long-haul flights, which explains the difference between the UK factors and the international ones.

Which tables do I need to use to capture all the emissions resulting from the use of my plug-in electric vehicles?
Please refer to the 'Passenger vehicles' FAQ for tables providing this information.
Note: The Plug-in Hybrid Electric Vehicle category also includes Range-Extended Electric Vehicles (also known as REEVs, ER-EVs or REX).

Why are emission factors for certain types of electric vehicle missing?
At the moment there are only a limited number of electric vehicle models on the market, and certain categories are not yet represented **by battery electric vehicle or plug-in hybrid electric vehicles**. Emission factors will be added in future updates for these vehicle types, when models in these categories become available in the UK market/fleet.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Managed assets- vehicles

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Emissions source:	Managed assets- vehicles	Expiry:	31/07/2019	Factor set:	Standard Set
Scope:	Scope 3	Version:	1.0	Year:	2018

Managed assets- vehicles factors should be used to report emissions from vehicles that are used by a reporting organisation, but are not owned by the organisation and generally do not appear on the organisation's balance sheet. The emissions from managed assets are reported as a Scope 3 emissions source.

Guidance

● For vehicles where an organisation has data in litres of fuel and/or kWh of electricity used, the 'Fuels' or 'UK Electricity' conversion factors should be applied, which provides more accurate emissions results.

● For vehicles that run on biofuels, please refer to the 'bioenergy' conversion factors. It should be noted that any vehicle running on biofuel that is reported in Scope 3 should also have an 'outside of scopes' CO_2 figure reported separately.

● The conversion factors for electric cars and vans are the same as those in the 'passenger vehicles' and 'delivery vehicles' listings PLUS the emissions from the electricity consumption . Where a car or van is not owned or controlled by the reporting organisation, the vehicles should be accounted for in Scope 3 as opposed to Scope 1 (for petrol/diesel use) and Scope 2 (for electricity use), but the conversion factors and their categories remain the same.

● To avoid double-counting of emissions, do not include activity/emissions resulting from the use of plug-in electric vehicles that are charged predominantly on your organisation's premises if you are also already reporting the emissions resulting from your electricity consumed there.

● Please see the FAQs at the bottom of this page for further information on the conversion factors for managed assets vehicles, including electric vehicles.

Example of calculating emissions from managed assets- vehicles

Company Q reports the emissions from the mileage travelled in heavy goods vehicles (HGVs) on a long-term lease.
Company Q uses conversion factors appropriate to each of its managed assets. For example, for its 12-tonne gross vehicle weight rigid HGV, it applies the 'rigid (>7.5 tonnes-17 tonnes)' factor. It also has some other articulated HGVs on short-term leases at a site further afield for which size remains unknown. Therefore, it uses the 'all artics' factor, which is an appropriate average figure.

The total km travelled is multiplied by the appropriate conversion factor to produce company Q's passenger vehicle emissions.

			Diesel				Petrol				Unknown				Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Managed cars (by market segment)	Mini	km	0.11096	0.10910	0.00001	0.00185	0.14114	0.14039	0.00033	0.00042	0.14093	0.14017	0.00033	0.00043					0.05765	0.05720	0.00014	0.00031
		miles	0.17858	0.17558	0.00002	0.00298	0.22715	0.22594	0.00054	0.00067	0.22681	0.22559	0.00053	0.00069	0.00000				0.09277	0.09205	0.00022	0.00050
	Supermini	km	0.13725	0.13539	0.00001	0.00185	0.15743	0.15668	0.00033	0.00042	0.15440	0.15348	0.00029	0.00063	0.06995	0.06948	0.00018	0.00029	0.05225	0.05185	0.00012	0.00028
		miles	0.22089	0.21789	0.00002	0.00298	0.25336	0.25215	0.00054	0.00067	0.24849	0.24701	0.00046	0.00102	0.11258	0.11182	0.00029	0.00047	0.08410	0.08345	0.00020	0.00045
	Lower medium	km	0.15048	0.14862	0.00001	0.00185	0.18284	0.18209	0.00033	0.00042	0.16669	0.16539	0.00017	0.00113	0.10562	0.10501	0.00030	0.00031	0.06401	0.06351	0.00015	0.00035
		miles	0.24217	0.23917	0.00002	0.00298	0.29425	0.29304	0.00054	0.00067	0.26828	0.26617	0.00028	0.00183	0.16997	0.16899	0.00048	0.00050	0.10301	0.10221	0.00024	0.00056
	Upper medium	km	0.16849	0.16663	0.00001	0.00185	0.20956	0.20881	0.00033	0.00042	0.17869	0.17710	0.00009	0.00150	0.11843	0.11773	0.00032	0.00038	0.05161	0.05121	0.00012	0.00028
		miles	0.27116	0.26816	0.00002	0.00298	0.33726	0.33605	0.00054	0.00067	0.28758	0.28502	0.00015	0.00241	0.19060	0.18947	0.00052	0.00061	0.08305	0.08241	0.00019	0.00045
	Executive	km	0.18125	0.17939	0.00001	0.00185	0.23952	0.23877	0.00033	0.00042	0.19502	0.19341	0.00009	0.00152	0.13320	0.13244	0.00038	0.00038	0.00000			
		miles	0.29170	0.28870	0.00002	0.00298	0.38548	0.38427	0.00054	0.00067	0.31384	0.31126	0.00014	0.00244	0.21437	0.21314	0.00061	0.00062	0.00000			
	Luxury	km	0.22177	0.21991	0.00001	0.00185	0.33702	0.33627	0.00033	0.00042	0.27753	0.27620	0.00017	0.00116	0.15980	0.15889	0.00045	0.00046	0.07784	0.07724	0.00018	0.00042
		miles	0.35691	0.35391	0.00002	0.00298	0.54238	0.54117	0.00054	0.00067	0.44664	0.44450	0.00027	0.00187	0.25719	0.25572	0.00073	0.00074	0.12528	0.12431	0.00029	0.00068
	Sports	km	0.17521	0.17335	0.00001	0.00185	0.24626	0.24551	0.00033	0.00042	0.23456	0.23363	0.00028	0.00065	0.12377	0.12306	0.00035	0.00036	0.09935	0.09858	0.00023	0.00054
		miles	0.28198	0.27898	0.00002	0.00298	0.39632	0.39511	0.00054	0.00067	0.37749	0.37599	0.00045	0.00105	0.19919	0.19805	0.00056	0.00058	0.15988	0.15865	0.00037	0.00086
	Dual purpose 4X4	km	0.21194	0.21008	0.00001	0.00185	0.24684	0.24609	0.00033	0.00042	0.21795	0.21627	0.00007	0.00161	0.12928	0.12851	0.00036	0.00041	0.08905	0.08836	0.00021	0.00048
		miles	0.34108	0.33808	0.00002	0.00298	0.39725	0.39604	0.00054	0.00067	0.35075	0.34805	0.00011	0.00259	0.20805	0.20682	0.00058	0.00065	0.14331	0.14220	0.00034	0.00077
	MPV	km	0.18452	0.18266	0.00001	0.00185	0.20096	0.20021	0.00033	0.00042	0.18945	0.18791	0.00011	0.00143	0.00000				0.07093	0.07038	0.00017	0.00038
		miles	0.29696	0.29396	0.00002	0.00298	0.32342	0.32221	0.00054	0.00067	0.30487	0.30241	0.00017	0.00229	0.00000				0.11416	0.11327	0.00027	0.00062

			Diesel				Petrol				Hybrid				CNG				LPG				Unknown				Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Managed cars (by size)	Small car	km	0.14533	0.14347	0.00001	0.00185	0.15565	0.1549	0.00033	0.00042	0.10957	0.10843	0.00022	0.00092									0.15201	0.15087	0.00022	0.00092	0.06995	0.06948	0.00018	0.00029	0.05463	0.05420	0.00013	0.00030
		miles	0.23389	0.23089	0.00002	0.00298	0.25049	0.24928	0.00054	0.00067	0.17635	0.1745	0.00036	0.00149									0.24465	0.2428	0.00036	0.00149	0.11258	0.11182	0.00029	0.00047	0.08790	0.08722	0.00021	0.00047
	Medium car	km	0.17353	0.17167	0.00001	0.00185	0.19386	0.19311	0.00033	0.00042	0.11538	0.11404	0.00017	0.00117	0.16324	0.16107	0.00167	0.0005	0.18217	0.1816	0.00007	0.0005	0.18327	0.18193	0.00017	0.00117	0.11392	0.11325	0.00031	0.00036	0.06396	0.06346	0.00015	0.00035
		miles	0.27927	0.27627	0.00002	0.00298	0.312	0.31079	0.00054	0.00067	0.18569	0.18354	0.00027	0.00188	0.26271	0.25922	0.00269	0.0008	0.29317	0.29226	0.00011	0.0008	0.29494	0.29279	0.00027	0.00188	0.18332	0.18225	0.00050	0.00057	0.10293	0.10213	0.00024	0.00056
	Large car	km	0.2152	0.21334	0.00001	0.00185	0.28411	0.28336	0.00033	0.00042	0.16134	0.15977	0.0001	0.00147	0.23851	0.23634	0.00167	0.0005	0.26704	0.26647	0.00007	0.0005	0.23373	0.23216	0.0001	0.00147	0.13001	0.12924	0.00036	0.00041	0.07803	0.07743	0.00018	0.00042
		miles	0.34634	0.34334	0.00002	0.00298	0.45723	0.45602	0.00054	0.00067	0.25964	0.25712	0.00016	0.00236	0.38385	0.38036	0.00269	0.0008	0.42975	0.42884	0.00011	0.0008	0.37615	0.37363	0.00016	0.00236	0.20922	0.20799	0.00058	0.00065	0.12559	0.12462	0.00029	0.00068
	Average car	km	0.17753	0.17567	0.00001	0.00185	0.18368	0.18293	0.00033	0.00042	0.12568	0.12438	0.00017	0.00113	0.17925	0.17708	0.00167	0.0005	0.20022	0.19965	0.00007	0.0005	0.18064	0.17934	0.00017	0.00113	0.12012	0.11941	0.00033	0.00038	0.06504	0.06454	0.00015	0.00035
		miles	0.28572	0.28272	0.00002	0.00298	0.29561	0.2944	0.00054	0.00067	0.20227	0.20017	0.00028	0.00182	0.28847	0.28498	0.00269	0.0008	0.32222	0.32131	0.00011	0.0008	0.29072	0.28862	0.00028	0.00182	0.19332	0.19218	0.00053	0.00061	0.10468	0.10386	0.00025	0.00057

			Diesel				Petrol				CNG				LPG				Unknown				Plug-in Hybrid Electric Vehicle				Battery Electric Vehicle			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Managed vans	Class I (up to 1.305 tonnes)	km	0.14918	0.14731	0.00001	0.00185	0.2265	0.22535	0.00028	0.00087																	0.05036	0.04997	0.00012	0.00027
	Class II (1.305 to 1.74 tonnes)	km	0.23471	0.23284	0.00001	0.00185	0.25225	0.2511	0.00028	0.00087																	0.06908	0.06855	0.00016	0.00037
	Class III (1.74 to 3.5 tonnes)	km	0.27491	0.27305	0.00001	0.00185	0.3046	0.30344	0.00028	0.00087																	0.10167	0.10088	0.00024	0.00055
	Average (up to 3.5 tonnes)	km	0.2568	0.25493	0.00001	0.00185	0.24917	0.24802	0.00028	0.00087	0.24986	0.24742	0.0014	0.00104	0.27457	0.27347	0.00006	0.00104	0.25654	0.2547	0.00002	0.00182					0.06924	0.06871	0.00016	0.00037

			0% Laden				50% Laden				100% Laden				Average laden			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Managed HGV (all diesel)	Rigid (>3.5 - 7.5 tonnes)	km	0.45835	0.45131	0.00016	0.00687	0.49759	0.49056	0.00016	0.00687	0.53683	0.52980	0.00016	0.00687	0.49680	0.48977	0.00016	0.00687
	Rigid (>7.5 tonnes-17 tonnes)	km	0.55083	0.54226	0.00020	0.00838	0.62830	0.61972	0.00020	0.00838	0.70576	0.69719	0.00020	0.00838	0.60661	0.59803	0.00020	0.00838
	Rigid (>17 tonnes)	km	0.76810	0.75450	0.00032	0.01328	0.93372	0.92013	0.00032	0.01328	1.09934	1.08575	0.00032	0.01328	0.96034	0.94674	0.00032	0.01328
	All rigids	km	0.65294	0.64422	0.00027	0.00846	0.79425	0.78552	0.00027	0.00846	0.93555	0.92683	0.00027	0.00846	0.80746	0.79873	0.00027	0.00846
	Articulated (>3.5 - 33t)	km	0.64923	0.63814	0.00012	0.01097	0.80877	0.79768	0.00012	0.01097	0.96830	0.95722	0.00012	0.01097	0.79282	0.78173	0.00012	0.01097
	Articulated (>33t)	km	0.67174	0.65855	0.00015	0.01305	0.89126	0.87807	0.00015	0.01305	1.11078	1.09758	0.00015	0.01305	0.94395	0.93075	0.00015	0.01305
	All artics	km	0.71260	0.69741	0.00015	0.01504	0.88712	0.87194	0.00015	0.01504	1.06164	1.04646	0.00015	0.01504	0.93428	0.91909	0.00015	0.01504
	All HGVs	km	0.68567	0.67340	0.00020	0.01207	0.84520	0.83293	0.00020	0.01207	1.00473	0.99246	0.00020	0.01207	0.87287	0.86061	0.00020	0.01207

			0% Laden				50% Laden				100% Laden				Average laden			
Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Managed HGV refrigerated (all diesel)	Rigid (>3.5 - 7.5 tonnes)	km	0.54533	0.53830	0.00016	0.00687	0.59214	0.58511	0.00016	0.00687	0.63894	0.63191	0.00016	0.00687	0.59120	0.58417	0.00016	0.00687
	Rigid (>7.5 tonnes-17 tonnes)	km	0.65536	0.64678	0.00020	0.00838	0.74775	0.73917	0.00020	0.00838	0.84015	0.83157	0.00020	0.00838	0.72188	0.71330	0.00020	0.00838
	Rigid (>17 tonnes)	km	0.91352	0.89992	0.00032	0.01328	1.11108	1.09748	0.00032	0.01328	1.30862	1.29502	0.00032	0.01328	1.14282	1.12922	0.00032	0.01328
	All rigids	km	0.77712	0.76839	0.00027	0.00846	0.94565	0.93692	0.00027	0.00846	1.11420	1.10547	0.00027	0.00846	0.96141	0.95268	0.00027	0.00846
	Articulated (>3.5 - 33t)	km	0.75195	0.74086	0.00012	0.01097	0.93717	0.92608	0.00012	0.01097	1.12239	1.11130	0.00012	0.01097	0.91865	0.90756	0.00012	0.01097
	Articulated (>33t)	km	0.77775	0.76455	0.00015	0.01305	1.03261	1.01941	0.00015	0.01305	1.28745	1.27425	0.00015	0.01305	1.09377	1.08057	0.00015	0.01305
	All artics	km	0.82486	0.80967	0.00015	0.01504	1.02748	1.01229	0.00015	0.01504	1.23010	1.21491	0.00015	0.01504	1.08222	1.06703	0.00015	0.01504
	All HGVs	km	0.80368	0.79141	0.00020	0.01207	0.99117	0.97890	0.00020	0.01207	1.17866	1.16639	0.00020	0.01207	1.02370	1.01143	0.00020	0.01207

Activity	Type	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Managed motorbikes	Small	km	0.08463	0.08248	0.00185	0.0003
		miles	0.1362	0.13274	0.00298	0.00048
	Medium	km	0.1031	0.10012	0.00238	0.0006
		miles	0.16594	0.16114	0.00383	0.00097
	Large	km	0.13528	0.1332	0.00148	0.0006
		miles	0.21771	0.21436	0.00238	0.00097
	Average	km	0.11529	0.11279	0.00191	0.00059
		miles	0.18553	0.18151	0.00307	0.00095

Small km
Small miles
Medium km
Medium miles
Large km
Large miles
Average km
Average miles

FAQs

Do the conversion factors take into account the age of vehicles?

The conversion factors are based on information from the Department for Transport, which regularly analyses the mix of cars/vans on the road in the UK through Driver and Vehicle Licensing Agency (DVLA) records and automatic number plate recognition (ANPR) data. The conversion factors are updated each year to reflect changes in the spectrum of cars/vans of different types and ages being driven.

I know the average mpg of my passenger vehicles as well as mileage. Can this be used to improve my calculations?

The miles per gallon (mpg) of the car should be used to convert the distance travelled into litres of fuel used (refer to the 'conversions' listing to find values to assist this calculation). The conversion factor for litres of fuel can then be applied. This will give a more accurate view of the actual emissions from the car (the conversion factors for car mileage represent the average mpg of the whole UK car population, so knowing your car's actual mpg and using this value will yield more precise results).

I'm confused about whether I should use these factors or the Scope 1 vehicle factors. I know this is related to my organisational boundary, but I'm still unsure if these conversion factors are appropriate for my organisation's vehicles or not.

This tab is for use by organisations using the financial control or equity share boundaries that lease assets from another party. In these cases, check the lease type. If it is an operating lease, use the conversion factors on this tab to report vehicle emissions as Scope 3. Otherwise, use the other conversion factors in the 'Passenger travel' and 'Delivery vehicles' tabs and report emissions as Scope 1. For further information, please read the 'Leased assets guidance'.

Which tables do I need to use to capture all the emissions resulting from the use of my plug-in electric vehicles?

Please refer to the 'Passenger vehicles' FAQ for tables providing this information.
Note: The Plug-in Hybrid Electric Vehicle category also includes Range-Extended Electric Vehicles (also known as REEVs, ER-EVs or REX).

Why are emission factors for certain types of electric vehicle missing?

At the moment there are only a limited number of electric vehicle models on the market, and certain categories are not yet represented **by battery electric vehicle or plug-in hybrid electric vehicles**. Emission factors will be added in future updates for these vehicle types, when models in these categories become available in the UK market/fleet.

For information about how the conversion factors have been derived, please refer to the 'Methodology paper' that accompanies the conversion factors.

Conversions

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Emissions source:	None	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	-	**Version:**	1.0	**Year:**	2018

The conversion values should be used to change units (such as those for energy, mass and volume) into alternative units. This is particularly useful where an organisation is collecting data in units of measure that do not have conversion factors that can be directly used to determine a carbon emission total.

Using the abbreviation table

The abbreviation table simply demonstrates common abbreviations that may be found within the carbon reporting arena and their long-hand form. This table is entirely for reference.

Using the conversions table

To convert from the units of measure in the columns on the left hand side of the table to the units of measure in the column headers in the same tables, simply multiple by the factor displayed where the two units meet on the table.

For example, to convert from kWh to GJ, multiply the kWh value by 0.036.

		Symbol	Number	Standard form
Abbreviation	Kilo	k	1,000	10^{3}
	Mega	M	1,000,000	10^{6}
	Giga	G	1,000,000,000	10^{9}
	Tera	T	1,000,000,000,000	10^{12}
	Peta	P	1,000,000,000,000,000	10^{15}

		GJ	kWh	therm	toe	kcal
Energy	Gigajoule, GJ		277.78	9.47817	0.02388	238,903
	Kilowatt-hour, kWh	0.0036		0.03412	0.00009	860.05
	Therm	0.10551	29.307		0.00252	25,206
	Tonne oil equivalent, toe	41.868	11,630	396.83		10,002,389
	Kilocalorie, kcal	0.000004186	0.0011627	0.000039674	0.000000100	

		L	m^3	cu ft	Imp. gallon	US gallon	Bbl (US,P)
Volume	Litres, L		0.001	0.03531	0.21997	0.26417	0.0062898
	Cubic metres, m^3	1000		35.315	219.97	264.17	6.2898
	Cubic feet, cu ft	28.317	0.02832		6.2288	7.48052	0.17811
	Imperial gallon	4.5461	0.00455	0.16054		1.20095	0.028594
	US gallon	3.7854	0.0037854	0.13368	0.83267		0.023810
	Barrel (US, petroleum), bbl	158.99	0.15899	5.6146	34.972	42	

		kg	tonne	ton (UK)	ton (US)	lb
Weight/mass	Kilogram, kg		0.001	0.00098	0.00110	2.20462
	tonne, t (metric ton)	1000		0.98421	1.10231	2204.62368
	ton (UK, long ton)	1016.04642	1.01605		1.12000	2240
	ton (US, short ton)	907.18	0.90718	0.89286		2000
	Pound, lb	0.45359	0.00045359	0.00044643	0.00050	

		m	ft	mi	km	nmi
Length / distance	Metre, m		3.2808	0.00062137	0.001	0.00053996
	Feet, ft	0.30480		0.000	0.0003048	0.00016458
	Miles, mi	1609.34	5280		1.60934	0.86898
	Kilometres, km	1000	3280.8	0.62137		0.53996
	Nautical miles, nmi or NM	1852	6076.1	1.15078	1.852	

		m	ft	in	cm	yd
Length / distance	Metre, m		3.28084	39.37008	100	1.09361
	Feet, ft	0.30480		12	30.48000	0.33333
	Inch, in	0.02540	0.08333		2.54000	0.02778
	Centimetres, cm	0.01	0.03281	0.39370		0.01094
	Yard, yd	0.91440	3	36	91.44000	

Fuel properties

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Emissions source:	None	**Expiry:**	31/07/2019	**Factor set:**	Standard Set
Scope:	-	**Version:**	1.0	**Year:**	2018

The fuel properties can be used to determine the typical calorific values/densities of most common fuels.

		Year	Net CV GJ/tonne	Gross CV GJ/tonne	Density* kg/m^3	Density* litres/tonne	Net CV kWh/kg	Gross CV kWh/kg	Notes:
Commonly Used Fossil Fuels	**Aviation Spirit**	2018	45.02	47.39	711.24	1,406	12.51	13.17	
	Aviation Turbine Fuel	2018	43.93	46.24	798.09	1,253	12.20	12.84	
	Burning Oil	2018	43.89	46.20	801.28	1,248	12.19	12.83	
	Coal (domestic)	2018	28.59	30.09	850.00	1,176	7.94	8.36	
	Coal (electricity generation)	2018	24.86	26.17			6.91	7.27	1
	Coal (electricity generation - home produced coal only)	2018	23.92	25.18			6.65	7.00	2
	Coal (industrial)	2018	25.82	27.18			7.17	7.55	
	Coking Coal	2018	30.24	31.83			8.40	8.84	
	Diesel (100% mineral diesel)	2018	42.93	45.67	837.52	1,194	11.93	12.69	
	Diesel (average biofuel blend)	2018	42.79	45.50	838.80	1,192	11.89	12.64	
	Fuel Oil	2018	40.72	43.32	984.25	1,016	11.31	12.03	
	Gas Oil	2018	42.57	45.29	853.97	1,171	11.83	12.58	
	LPG	2018	45.92	49.30	517.16	1,934	12.75	13.70	
	Naphtha	2018	45.47	47.87	672.04	1,488	12.63	13.30	
	Natural Gas	2018	48.38	53.75	0.75	1,342,097	13.44	14.93	
	Other petroleum gas	2018	46.60	50.65	366.30	2,730	12.95	14.07	
	Petroleum coke	2018	33.97	35.76			9.44	9.93	
	Petrol (100% mineral petrol)	2018	44.79	47.14	730.99	1,368	12.44	13.10	
	Petrol (average biofuel blend)	2018	43.92	46.16	734.04	1,340	12.20	12.82	

		Year	Net CV GJ/tonne	Gross CV GJ/tonne	Density* kg/m^3	Density* litres/tonne	Net CV kWh/kg	Gross CV kWh/kg
Other fuels	**Biodiesel (ME)**	2018	37.20	38.70	890.00	1,124	10.33	10.75
	Biodiesel (BtL or HVO)	2018	44.00	46.32	780.00	1,282	12.22	12.87
	Bioethanol	2018	26.80	29.70	794.00	1,259	7.44	8.25
	BioETBE	2018	36.30	39.63	750.00	1,333	10.08	11.01
	Biogas	2018	20.00	22.22	1.15	869,565	5.56	6.17
	Biomethane	2018	49.00	54.44	0.73	1,376,922	13.61	15.12
	CNG	2018	48.38	53.75	175.00	5,714	13.44	14.93
	Grasses/Straw	2018	13.40	15.68	160.00	6,250	3.72	4.35
	Landfill Gas	2018	12.30	13.66	1.30	769,231	3.42	3.79
	LNG	2018	48.38	53.75	452.49	2,210	13.44	14.93
	Wood Chips	2018	13.60	14.76	253.00	3,953	3.78	4.10
	Wood Logs	2018	14.71	16.26	425.00	2,353	4.09	4.52
	Wood Pellets	2018	16.85	18.29	650.00	1,538	4.68	5.08

		Year	Net CV GJ/tonne	Gross CV GJ/tonne	Density* kg/m^3	Density* litres/tonne	Net CV kWh/kg	Gross CV kWh/kg
Gases	**Methane (CH_4)**	2018	50.00	55.55	0.72	1,394,700	13.89	15.43
	Carbon Dioxide (CO_2)	2018	0.00	0.00	1.9770	505,817	0.00	0.00

1 Gross CV and Net CV taken from Coal 'Power stations - home produced plus imports', DUKES 2015 (July 2016), Tables A.2 and A.3 respectively.

2 Gross CV and Net CV taken from Coal 'Power stations' (home produced coal only), DUKES 2015 (July 2016), Tables A.2 and A.3 respectively.

* Please note that these units are referring to volume/mass, which is the inverse of density (known as Specific Volume).

35+ PLANNING APPLICATION

PROPOSED SOUND INSULATION GRANT SCHEME

NEW SCHEME

We recognise that aircraft noise is a key issue for local communities, particularly for those residents living closest to the Airport.

We have undertaken a review of the current scheme and also those offered by other UK and international airports.

Our proposed new scheme would:

- cover a larger geographic area, meaning more households will be eligible;
- take account of additional noise metrics;
- remove the need for the householder to contribute; we would pay up to 100% of the cost; and
- be based on a tiered system to provide the highest funding for the noisiest areas to support those who are most impacted.

The grant would pay for noise insulation measures such as double glazing, mechanical ventilation and loft insulation.

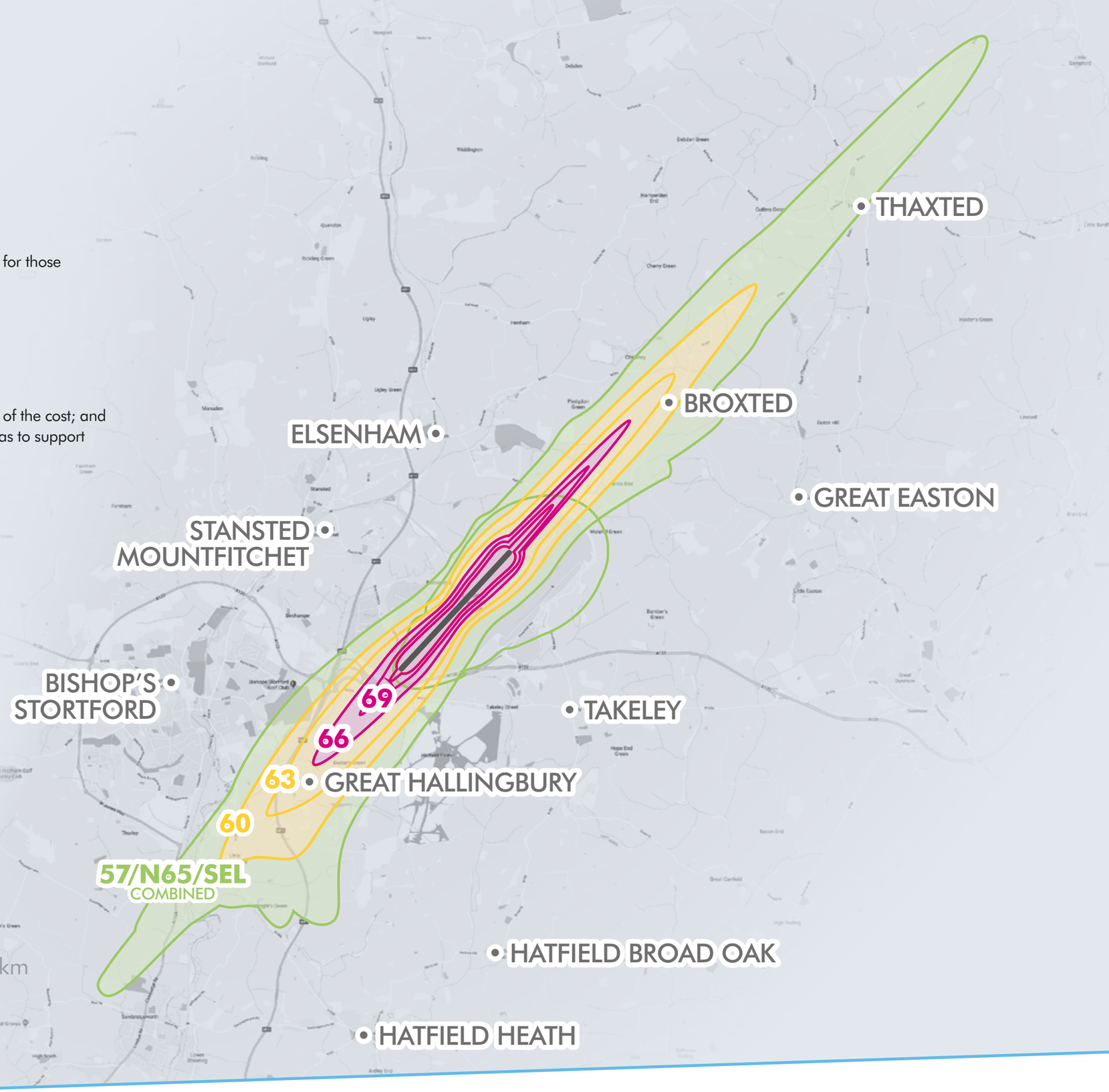
ELIGIBILITY

The current sound insulation grant scheme provides support to those within the 63 noise contour (63 dB $L_{Aeq,16h}$). The proposed scheme, which is summarised in the table below and the figure opposite would provide support to those exposed to much lower noise levels, offering grants to those within the 57 noise contour (57 dB $L_{Aeq,16h}$).

NOISE IMPACT	NOISE CONTOUR	GRANT MAXIMUM
UPPER	69 and 66 dB $L_{Aeq,16h}$	£10,000
MIDDLE	63 and 60 dB $L_{Aeq,16h}$	£8,000
LOWER	57 dB $L_{Aeq,16h}$/N65 200 / 90 dBA SEL*	£5,000
	600m distance/55 dB $L_{Aeq,16h}$ ground noise	

*90 dB(A) SEL footprint for the noisiest aircraft operating at night (23:00 to 06:00)

For households subject to the highest levels of noise (69dB $L_{Aeq,16h}$ noise contour or more), we will also provide assistance with the costs of relocating.



0 2 4 6 8 10km

MAG London Stansted Airport

UTT/18/0460/FUL – STANSTED AIRPORT
Birchanger, Elsenham, Stansted, Takeley parishes

(MAJOR)

PROPOSAL:	**Airfield works comprising two new taxiway links to the existing runway (a Rapid Access Taxiway and a Rapid Exit Taxiway), six additional remote aircraft stands (adjacent Yankee taxiway); and three additional aircraft stands (extension of the Echo Apron) to enable combined airfield operations of 274,000 aircraft movements (of which not more than 16,000 movements would be Cargo Air Transport Movements (CATM)) and a throughput of 43 million terminal passengers, in a 12-month calendar period**
LOCATION:	**Stansted Airport**
APPLICANT:	**Stansted Airport Limited (STAL)**
AGENT:	**Mr A Andrew, STAL**
EXPIRY DATE:	**30 November 2018**
CASE OFFICER:	**Karen Denmark**

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1. NOTATION

1.1 Within Development Limits, Ancient Woodland, Local Wildlife Site, site covers area of Policies AIR1-7 in the adopted Uttlesford Local Plan (2005).

2. DESCRIPTION OF SITE

2.1 The application site relates to Stansted Airport, including all land airside and landside. Physical works are only proposed airside adjacent to the runway.

3. PROPOSAL

3.1 The proposal relates to the construction of a rapid access taxiway (RAT), a rapid exit taxiway (RET), and a total of 9 additional stands over two locations. These additional facilities would enable the optimal use of the runway, improving efficiency in the peak hours. The stands are required to provide overnight parking for home-based airlines. The proposal also seeks to uplift passenger numbers from the currently consented 35 million passengers per annum (mppa) to 43mppa.

3.2 The airport currently has planning permission for a total of 274,000 aircraft movements. This is restricted to no more than 243,500 passenger air transport movements (PATMs), no more than 20,500 cargo air transport movements (CATMs). There was a further condition limiting the number of “general aviation” movements to 10,000 per annum. This limit applies to aircraft not carrying “for hire or reward” passengers or cargo, or non-scheduled air transport services where the passenger seating capacity does not exceed ten.

3.3 This application does not propose to increase the number of aircraft movements from 274,000. Originally it sought a unified total of 274,000 which could have

consisted of any combination of flights. The Environmental Statement was carried out with a specific assumption of an increase in passenger flights to 253,000 PATMs in 2028 at 43mppa, with “other” flights being reduced to 5000 per annum. Officers sought clarification with regards to the description and it was subsequently confirmed that no more than 16,000 CATMs were proposed. This would permit 258,000 ATMs for passenger and/or general aviation movements.

4. ENVIRONMENTAL IMPACT ASSESSMENT

4.1 The application with an Environmental Statement in line with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. This consists of Volume 1 which is the Environmental Statement (ES) and two volumes of appendices. There is also a Non-Technical Summary (NTS).

Regulation 4(5) of those Regulations requires the local planning authority to ensure that they have, or have access as necessary to, sufficient expertise to examine the environmental statement.

In this regard, the case officer has worked in conjunction with:

officers from: Essex County Council (ECC), Hertfordshire County Council (HCC), East Herts District Council (EHDC), Place Services (ECC), Network Rail, Highways England (HE), Natural England, and UDC’s Environmental Health Manager (Protection), Senior Health Improvement Officer, and the Communities Manager.

Further expertise has been provided to ECC and HE by Jacobs and AECOM respectively.

Officers have also been advised by consultants from:

WYG (air quality) (WYG), and Bickerdike Allen Partners LLP (BAP).

Consultation advice has been given by:

Thames Water and Environment Agency (EA).

5. APPLICANT’S CASE

5.1 The application is also accompanied by a Transport Statement, a Planning Statement, Design and Access Statement, and a Statement of Community Involvement.

6. RELEVANT SITE HISTORY

6.1 (The 2008 Planning Permission, also referred to as Generation (Gen) 1): UTT/0717/06/FUL – Extension to the passenger terminal; provision of additional aircraft stands and taxiways, aircraft maintenance facilities, offices, cargo handling facilities, aviation fuel storage, passenger and staff car parking and other operational and industrial support accommodation; alterations to airport roads, terminal forecourt and the Stansted rail, coach and bus station; together with associated landscaping and infrastructure as permitted development under application UTT/1000/01/OP but without complying with condition MPPA1 and varying condition AMT1 to 264,000 ATMs. Refused 2006, allowed on appeal 2008.

6.2 (The 2003 Planning Permission): UTT/1000/01/OP - Extension to the passenger

terminal; provision of additional aircraft stands and taxiways, aircraft maintenance facilities, offices, cargo handling facilities, aviation fuel storage, passenger and staff car parking and other operational and industrial support accommodation; alterations to airport roads, terminal forecourt and the Stansted rail, coach and bus station; together with associated landscaping and infrastructure. Approved 2003.

6.3 UTT/1150/80/SA – Outline application for expansion of Stansted Airport by provision of new passenger terminal complex with capacity of about 15mppa east of existing runway, cargo handling and general aviation facilities, hotel accommodation, taxiways (including widening of proposed taxiway) to be used as an emergency runway), associated facilities (including infrastructure for aircraft maintenance and other tenants' developments) and related road access. Approved by Secretaries of State 5 June 1985.

7. POLICIES

The Development Plan - Uttlesford Local Plan (2005)

7.1 S4 – Stansted Airport Boundary
AIR1 – Terminal Support Area
AIR2 – Cargo Handling/Aircraft Maintenance Area
AIR3 – Southern Ancillary Area
AIR4 – Northern Ancillary Area
AIR5 – Long Term Car Park
AIR6 – Landscaped Areas
AIR7 – Public Safety Zone
GEN1 – Access
GEN3 – Flood Protection
GEN4 – Good Neighbourliness
GEN5 – Light Pollution
GEN6 – Infrastructure Provision to Support Development
GEN7 – Nature Conservation
ENV2 – Development affecting Listed Buildings
ENV4 – Ancient Monuments and Sites of Archaeological Interest
ENV7 – The Protection of the Natural Environment – Designated Sites
ENV9 – Historic Landscapes
ENV11 – Noise Generators
ENV12 – Protection of Water Resources
ENV13 – Exposure to Poor Air Quality

National Policies

7.2 NPPF (2018)
Planning Practice Guidance

7.3 Aviation Policy Framework (March 2013)
Beyond the Horizon: The future of UK aviation – Next steps towards an Aviation Strategy (April 2018)
Beyond the Horizon: The future of UK aviation (June 2018)

Other Policy

Regulation 19 Uttlesford Local Plan
The Spatial Vision: Theme 2 – Support Sustainable Business Growth
SP2 – The Spatial Strategy 2011 - 2033

SP11 – London Stansted Airport
Airports National Policy Statement (June 2018)
Stansted Airport Sustainable Development Plan

8. CONSULTATION

8.1 The application has been advertised and two periods of consultation have been carried out, the first ending on 30 April 2018 and the second on 30 August 2018. The Council has also engaged proactively with statutory consultees. This report has had regard to consultation responses. In addition, the Council will be holding three sessions over two days of public speaking as part of a further consultation period. These are to be held on 6 and 7 November 2018.

9. APPRAISAL

The issues to consider in the determination of the application are:

A The principle of the development
B Surface Access and Transport
C Air Noise
D Ground Noise
E Surface Access Noise
F Air Quality
G Socio-Economic Impacts
H Carbon Emissions
I Climate Change
J Public Health and Wellbeing
K Water Resources and Flood Risk
L Non-significant Topics
M Cumulative Effects
N Other issues

A The principle of the development

9.1 The Local Plan sets out limits on the physical extent of the airport. Section 16 of the Plan sets out the background to the airport. The airport is within an area covered by Local Plan general Policy S4 which relates to the airport as a whole and includes the area of the application. S4 makes provision for individual area policies called development zones. The zones ensure that all airport direct and associated uses can be accommodated within the airport boundary. Industrial and commercial development unrelated to the airport will not be permitted on the site. The adopted Uttlesford Local Plan splits the airport into 6 separate policy sections. These policies, AIR1 to AIR6 relate to the types of development that will be permitted in each area of each of those policies, or not permitted in respect of Policy AIR6.

9.2 In terms of physical development, the proposed rapid access taxiway (RAT) and rapid exit taxiway (RET) and aircraft stands fall within the area covered by Policy S4 and outside the development zones. The adopted policy is silent in terms of specific development in this area although the extent of its coverage does support development directly related to or associated with Stansted Airport. Policies AIR1 to AIR6, whilst applying to different areas of the airport, are not specifically relevant to the proposals in this application.

9.3 The NPPF (2018, paragraph 213, requires that due weight be given to existing local policies according to their degree of consistency with that Framework. NPPF paragraph 104 requires planning policies (e) provide for any large scale transport facilities that need to be located in the area, and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. Paragraph 104(f) requires planning policies to recognise the importance of maintaining a national network of general aviation (GA) airfields, and the Government's General Aviation Strategy. The Local Plan, paragraph 1.2, makes clear that because Stansted Airport is in Uttlesford, national airports policy is particularly significant to the District. Policy S4 provides for Stansted Airport but does not itself provide for infrastructure required to support its intensified operation, expansion and contribution to the wider economy. Policy S4 and the development zone Policies AIR1-6 have been assessed as being in accordance with the NPPF and can be afforded full weight, subject to their compliance with the government's policy in respect of aviation.

9.4 The NPPF (2018) is a material consideration. It establishes the presumption of sustainable development. The three overarching strands, economic, social and environmental objectives, are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives).

9.5 Whilst the NPPF has a balanced view towards sustainable development, the Aviation Policy Framework and the governments approach towards aviation development in general, recognises that there is the potential for environmental impacts which would need to be weighed against the social and economic benefits of such proposals.

9.6 As referred to above, the Local Plan, paragraph 1.2 informs the background of Policy S4 and makes clear that because Stansted Airport is in Uttlesford, national airports policy is particularly significant to the District. The particularly significant national airports policies are the Aviation Policy Framework (2013) and the recent "Beyond the Horizon" (June 2018).

9.7 The Aviation Policy Framework (2013) (APF) is a material consideration (see paragraph 5.6) and refers to Stansted Airport (see, for example, paragraph 1.41). Paragraph 1.60 states the government's "strategy for a vibrant aviation sector: short term" comprising a suite of measures focused on: making best use of existing capacity; encouraging new routes and services; better integrating airports into the wider transport network.

9.8 The APF recognises the role the aviation industry has in the economy, helping to deliver connectivity. Aviation is recognised for bringing benefits to society and individuals, including travel for leisure and visiting family and friends. One of the main objectives of that Framework is to ensure that the UK's air links continue to make it one of the best connected countries in the world so that it can compete successfully for economic growth opportunities.

9.9 Paragraphs 5 to 10 state the benefits of aviation. Paragraph 10 sets out the short to medium term priority of making better use of existing runway capacity at all UK airports. However, this expansion should not happen at any cost and it is recognised that this needs to be a balanced approach with the economic benefits being weighed against the environmental impacts. In particular, the APF highlights contributing to reducing global emissions, limiting noise and better industry/stakeholder collaboration.

9.10 In April 2018, the government published its response to its call for evidence in July 2017 on its emerging aviation strategy, and in June 2018, it published a document setting out its current position on making best use of existing runways. The April 2018 document is entitled "Beyond the horizon: The future of UK aviation. Next steps towards an Aviation Strategy". The June 2018 document is entitled "Beyond the horizon: The future of UK aviation. Making best use of existing runways" (BTH June 2018).

9.11 BTH June 2018, paragraph 1.4 referred to Stansted at paragraph 1.4, footnote 2. The government "Policy Statement" is at paragraphs 1.25-1.29. The Policy Statement is a material consideration. Paragraph 1.26 states:

"Airports that wish to increase either the passenger or air traffic movement caps to allow them to make best use of their existing runways will need to submit applications to the relevant planning authority. We expect that applications to increase existing planning caps by fewer than 10 million passengers per annum (mppa) can be taken forward through local planning authorities under the Town and Country Planning Act 1990. As part of any planning application airports will need to demonstrate how they will mitigate against local environmental issues, taking account of relevant national policies, including any new environmental policies emerging from the Aviation Strategy. This policy statement does not prejudge the decision of those authorities who will be required to give proper consideration to such applications. It instead leaves it up to local, rather than national government, to consider each case on its merits."

9.12 Paragraph 1.27 states that applications to increase caps by 10mppa or more or deemed nationally significant, would be considered under the Planning Act 2008. The application is to increase the cap by less than 10mppa and is to increase the cap by 8mppa (from 35mppa to 43mpp). At the time of writing this report, a third party called "Stop Stansted Expansion" (SSE) has made a claim for judicial review of a decision by the Secretary of State to not direct that the application be deemed to be a nationally significant infrastructure project.

9.13 Paragraph 1.29 develops the APF (2013) strategy measure of making best use of existing capacity into a more recent particular statement of policy on best use in bold that:

"Therefore, the government is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have negative as well as positive local impacts, including noise levels. We therefore consider that any proposals should be judged by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts and proposed mitigations. This policy does not prejudge the decision of those authorities …"

9.14 The BTH (June 2018) Policy Statement is evidence based and was consulted on. It can be given full weight. The Policy Statement supports making best use of existing capacity having regard to all relevant considerations.

9.15 Current information that the Council has indicates that the emerging Aviation Strategy Green Paper will be published for consultation in late autumn.

9.16 The Airports National Policy Statement (2018) (ANPS) has been presented to Parliament under the Planning Act 2008 and for the purposes of nationally

significant infrastructure projects seeking consent under that Act. It recognises the capacity problems at airports in London and the South East. This is starting to result in adverse impacts on the UK economy, and affecting the country's global competitiveness (paragraph 1.2).

9.17 Paragraph 1.12 states that:

"The Airports NPS provides the primary basis for decision making on development consent applications for a Northwest Runway at Heathrow Airport, and will be an important and relevant consideration in respect of applications for new runway capacity and other airport infrastructure in London and the South East of England."

9.18 Paragraph 1.41 states, however:

"The Airports NPS does not have effect in relation to an application for development consent for an airport development not comprised in an application relating to the Heathrow Northwest Runway, and proposals for new terminal capacity located between the Northwest Runway at Heathrow Airport and the existing Northern Runway and reconfiguration of terminal facilities between the two existing runways at Heathrow Airport."

9.19 Paragraphs 1.38-1.39 also explain the relationship of the NPS policy with the APF (2013). Paragraph 1.38 states:

"The Airports NPS sets out Government policy on expanding airport capacity in the South East of England, in particular by developing a Northwest Runway at Heathrow Airport. Any application for a new Northwest Runway development at Heathrow will be considered under the Airports NPS. Other Government policy on airport capacity has been set out in the Aviation Policy Framework, published in 2013. The Airports NPS does not affect Government policy on wider aviation issues, for which the 2013 Aviation Policy Framework and any subsequent policy statements still apply."

9.20 Paragraph 1.39 then states:

"On 21 July 2017, the Government issued a call for evidence on a new Aviation Strategy.[22] Having analysed the responses, the Government has confirmed that it is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have positive and negative impacts, including on noise levels. We consider that any proposals should be judged on their individual merits by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts."

Footnote 22 identifies: *"the new Aviation Strategy as "Beyond the Horizon: The Future of Aviation".*

9.21 Paragraph 1.42 states:

"As indicated in paragraph 1.39 above, airports wishing to make more intensive use of existing runways will still need to submit an application for planning permission or development consent to the relevant authority, which should be judged on the application's individual merits. However, in light of the findings of the Airports Commission on the need for more intensive use of existing

infrastructure as described at paragraph 1.6 above, the Government accepts that it may well be possible for existing airports to demonstrate sufficient need for their proposals, additional to (or different from) the need which is met by the provision of a Northwest Runway at Heathrow. As indicated in paragraph 1.39 above, the Government's policy on this issue will continue to be considered in the context of developing a new Aviation Strategy."

9.22 At a general level, the APF (2013) set out the Aviation Forecasts in paragraphs 1.50 – 1.56 and paragraph 1.54 concluded that the major South East Airports would be likely full by 2030, and possibly either later or sooner.

9.23 More recently and also at a general level, Section 2 of the ANPS (July 2018) sets out the overall need for additional airport capacity in the UK in overall terms (see paragraphs 2.9 and 2.33). Section 2 is a material planning consideration. Section 2 highlights the overall economic benefits of both air freight and tourism. Paragraphs 2.10-2.18 explain the need for new airport capacity. It considers that aviation demand is likely to increase significantly between now and 2050. All major airports in the South East are expected to be full by the mid-2030s, with four out of the five full by the mid-2020s. Demand is expected to outstrip capacity by at least 34% (paragraph 2.12). The government states that not increasing capacity would be damaging to the economy and result in negative impacts on passengers (paragraphs 2.16-17).

9.24 The ANPS also refers to the work of the Airports Commission which published its final report in July 2015. In line with paragraph 2 of the APF, Paragraph 2.28 of the ANPS states:

"The Commission's remit also required it to look at how to make best use of existing airport infrastructure, before new capacity becomes operational. The Commission noted in its final report that a new runway will not open for at least 10 years. It therefore considered it imperative that the UK continues to grow its domestic and international connectivity in this period, which it considered would require more intensive use of existing airports other than Heathrow and Gatwick."

9.25 The BTH (June 2018), paragraph 1.4, explains that the 2017 forecasts by the Department for Transport, include London airports including Stansted, and "reflect the accelerated growth experienced in recent years and that demand was 9% higher in London in 2016 than the Airports Commission forecast. This has put pressure on existing infrastructure…". The Department "UK Aviation Forecasts" (October 2017), paragraph 1.3, states that the "purpose of these forecasts is primarily informing longer term strategic policy rather than providing detailed forecasts at each individual airport in the short term; the uncertainty reflected by future demand growth scenarios at the national level is compounded at the level of the individual airport", and the forecasts are provided for continuity and transparency of forecasting methodology.

9.26 It is reasonable to consider that the requirement for more intensive use of other airports, such as Stansted, by making best use of their infrastructure, is a government imperative based on evidence and consultation and so can be given significant weight here.

9.27 The Regulation 19 Uttlesford Local Plan is a material consideration. It carries limited weight at the present time due to it being at an early stage in the plan-making process. Furthermore, a further period of consultation is due to be undertaken between 16 October and 27 November 2018 on an Addendum of

Focussed Change covering three issues, none specifically related to this proposal. The Spatial Vision identifies the importance of Stansted Airport in the London Stansted Cambridge Corridor. This also states that the environmental impact of London Stansted Airport will be effectively managed. It further sets out the need for safe and affordable environmentally sustainable alternatives to the use of the car for access to and from the airport.

9.28 Theme 2 of the Regulation 19 Plan is to "Support Sustainable Business Growth". This aims to accommodate development by utilising the permitted capacity of the existing runway and provide for the maximum number of connecting journeys by air passengers and workers to be made by public transport. It also aims to ensure that appropriate surface infrastructure and service capacity will be provided without impacting on capacity to meet the demands of other network users (such as commuters) and enabling local residents to access rail, bus and coach services to and from the airport.

9.29 Policy SP2 states that "Sustainable growth of London Stansted Airport will be supported in principle, subject to conformity with the environmental and transport framework set out in Policy SP11 – London Stansted Airport."

9.30 Policy SP11 is broken up into different sections, not all of which directly relate to this application. The sections relevant to this application are:

"Policy SP 11: London Stansted Airport

Sustainable growth of London Stansted Airport will be supported in principle and is designated as a Strategic Allocation in the Local Plan. The Strategic Allocation (see Policies Map) includes land within the existing airport operational area and incorporates the North Stansted Employment Area. The wider strategic allocation serves the strategic role of London Stansted Airport and associated growth of business, industry and education, including aviation engineering, distribution and service sectors and the airport college which are important for Uttlesford, the sub-regional and national economy.

Access to London Stansted Airport

London Stansted Airport's role as a national, regional and local transport interchange will be maintained. The necessary local and strategic transport infrastructure and rail, coach, bus, pedestrian and cycle capacity to accommodate the passenger and employee trips and other journeys via connections at the airport must be maintained and enhanced. An integrated approach must be demonstrated within the framework of a surface access strategy.

To assist development of new rapid transit options between the airport and new and existing communities, land will be safeguarded to allow access at the terminal. The council will seek financial contributions from the airport operator for the delivery of an appropriate scheme.

Airport Development

Proposals for the development of the airport and its operation, together with any associated surface access improvements, will be assessed against the Local Plan policies as a whole. Proposals for development will only be supported where all of the following criteria are met:

1. *They are directly related to airport use of development, apart from within the North Stansted Employment Area;*
2. *They contribute to achieving the latest national aviation policies;*
3. *They are in accordance with the latest permission;*
4. *Do not result in a significant increase in Air Transport Movements or air passenger numbers that would adversely affect the amenities of surrounding occupiers, or the local environment or transport networks (in terms of, noise, disturbance, air quality and climate change impacts);*
5. *Achieve further noise reduction or no increase in day or night time noise in accordance with the airport's most recent Airport Noise Action Plan (approved by the Secretary of State on a five yearly basis);*
6. *Include an effective noise control, monitoring and management scheme that ensures that current and future operations at the airport are fully in accordance with the policies of this Plan and any planning permission that has been granted;*
7. *Include proposals which will over time result in a proportionate diminution and betterment of the effects of aircraft operations on the amenity of local residents and occupiers and users of sensitive premises in the area, such as through measures to be taken to encourage fleet modernisation or otherwise;*
8. *Incorporate sustainable transportation and surface access measures in particular which minimise use of the private car, and maximise the availability and use of sustainable transport modes and seek to meet modal shift targets, all in accordance with the London Stansted Sustainable Development Plan;*
9. *Incorporate suitable road access for vehicles including any necessary improvements required as a result of the development and demonstrate that the proposals do not adversely affect the adjoining highway network; and will not lead to detriment to the amenity of the area and neighbouring occupiers;*
10. *Be consistent with the latest Sustainable Development Plan for the Airport.*

London Stansted Airport Strategic Allocation

Development proposals at the London Stansted Airport Strategic Allocation will ensure:

15. *Appropriate strategic landscaping will be provided both on and off site, which shall have regard to the potential for significant visual prominence within the wider area of built development and which does not increase risk to aviation operations arising from structures, lighting, bird strike or open water and having regard to operational and national security considerations; and*
16. *The height and design of buildings will reflect the site's countryside setting, its visibility from surrounding countryside; and*
17. *Provision is made for sustainable drainage and the disposal of surface water in order to prevent any harm occurring to neighbouring land.*

Strategic Landscape Areas

*Development will not be permitted within those areas identified as strategic landscape areas on the Policies Map Inset." **
* (NB, the numbering does not match that in the Regulation 19 Plan as there has been a formatting error in the document)

9.31 Members are reminded that the Regulation 19 Local Plan has not yet been submitted for examination and thus not tested for soundness. With regards to Draft Policy SP11 20 people/organisations have made comments on the policy. The key issues raised are:

- Whether it is possible in practice to have “sustainable growth” of London Stansted Airport.
- Strengthening of the policy with a requirement for specific ongoing noise impact reduction and for Stansted to take responsibility for working with communities to reduce the community noise burden.
- Concerns over the best way to word the criteria of the policy for Airport Development to be “in accordance with the latest permission”
- Objection to the references to the Stansted Airport Sustainable Development Plan and Stansted Airport Noise Action Plan which are produced by Stansted Airport and UDC has no control over their contents and which could be inconsistent with UDC policy.
- Objection to allowing off airport parking
- Support for allowing off airport parking but object to aspects of criteria

9.32 As can be seen above, the adopted Uttlesford Local Plan Policy S4 makes no provision except in development zones for expansion of existing airport infrastructure at Stansted. The reasoned justification refers to the particular significance of national airports policy. The material consideration of the APF (2013) supports making better use of existing runway capacity and through measures to make best use of existing capacity. The most recent particular Policy Statement guidance, the BTH (June 2018), supports in paragraphs 1.25-1.29, making best use of existing runways, taking account of all relevant considerations. It is reasonable to attribute significant weight to the national policy of supporting best use of existing runways, whereas the APF offers general policy support for maximising the capacity of the airport at both local and national level, subject to the environmental impacts being managed or mitigated.

9.33 It is on this basis that the applicant is applying for an increase in passenger numbers from the permitted 35mppa to 43mppa. This would be achieved within the context of the currently permitted aircraft movements of 274,000. This limit is currently made up of 243,500 passenger aircraft movements (ATM), 20,500 cargo aircraft movements and 10,000 general aviation movements. However, it is proposed that the current caps become unified and include a maximum of 16,000 cargo aircraft movements.

9.34 The basis of the current annual caps is the 2008 Planning Permission (reference UTT/0717/06/FUL; appeal reference APP/C1570/A/06/2032278), granted by the joint decision of the Secretaries of State for Communities and Local Government and for Transport, and is subject to: condition MPPA 1, Passenger Throughout, caps that throughout to 35mppa; condition ATM1, Air Transport Movements, caps those movements at 264,000 ATMs, and condition ATM2 caps general aviation aircraft movements at 10,000; each cap applying in any twelve month period.

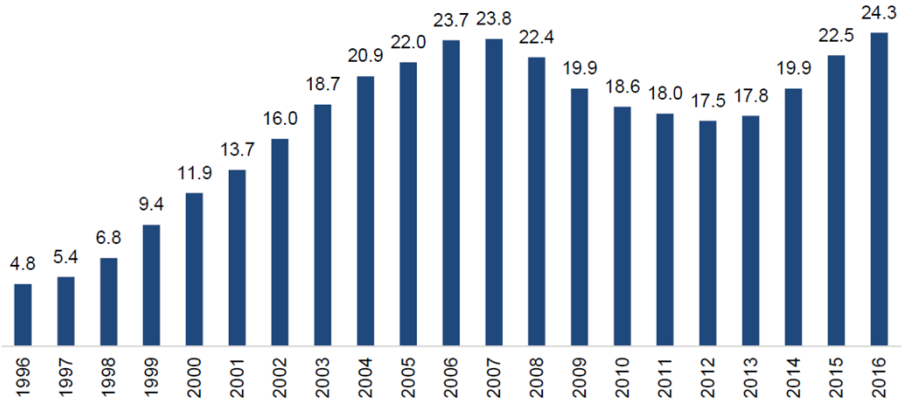
9.35 It is reasonable to consider that the 2008 Planning Permission is a realistic fall back position. The forecast demand for throughput show that it is likely that the 35mppa cap would be reached during 2022-23 (see figure 4.13 of the ES below).

9.36 Looking forwards, the BTH (June 2018) includes at paragraph 1.4 a summary of the Department for Transport "UK Aviation Forecasts" (October 2017), paragraph 1.3 of those forecasts makes clear that their "purpose … is primarily informing longer term strategic policy rather than providing detailed forecasts at each individual airport in the short term; the uncertainty reflected by future demand growth scenarios at the national level is compounded at the level of the individual airport".

9.37 Section 2 of the ANPS (July 2018) sets out overall level of need in particular between paragraphs 2.10 and 2.18 and addresses the alternatives at paragraphs 2.21, 2.2 and 2.28. Paragraph 2.22 states that the Airports Commission noted that "the need for make best use of existing infrastructure would remain" and 2.28 states that it is imperative to grow the domestic and international connectivity in the 10 years before a new runway at Heathrow was operational and that this would require more intensive use of existing airports.

9.38 The Department for Transport "UK Forecasts" referred to in paragraph 1.4 of BTH (June 2018) commence at a baseline 2016 with 24mppa identified at Stansted (Table 10) and address forecasts at 10 year increments: 2030, 2040 and 2050 but without intervening increments. Paragraph 1.4 states that "While the department aims to accurately reflect existing planning restrictions on the expansion of airports, the forecasts should not be considered a cap on the development of individual airports. In some circumstances, more recent airport specific data and forecasts might be used, in conjunction with additional relevant information, to inform planning decisions".

9.39 MAG purchased Stansted Airport in 2013 and following that date it has recorded specific local information about it and seen rapid intensification: there has been an initial slow and recently a more rapid increase in passenger throughput. The Environmental Statement, Chapter 4, sets out Aviation Forecasts (February 2018) in annual increments to 2028, by an independent aviation specialist: ICF Aviation Services Group. Passenger numbers increased from 17.8m in 2013 to 24.3mppa in 2016. To the year ending July 2018, actual throughput was measured at 27mppa (7.3% up on the previous year) according to CAA data, being a higher percentage than the Department for Transport's scenario forecasts. Data to 2016 is set out in Figure 4.5 in the Environmental Statement (see below).



Source: CAA

Figure 4.5: 1996-2016 Historical passenger growth at Stansted Airport (mppa)

(Reproduced from page 4-7 of Environmental Statement Volume 1)

9.40 Aircraft sizes have also increased over the years, with the average passenger aircraft size being 184 seats at Stansted in 2016. This had an average loading of 87%, around 160 passengers per PATM. This is an increase from 77% loading and 133 passengers per PATM since 2006. PATMs in 2016 were approximately 152,000 and CATMs were 14,000.

9.41 Forecasts were calculated assessing relationships between air travel demand and Gross Domestic Product (GDP). The post-Brexit Oxford Economics' central case was used. Demand was then allocated to the London airports based on a historical base of 2016, local catchment, existing network, and price and operational considerations. In terms of capacity, ES paragraph 4.7, bullet 1, notes that Heathrow is considered to be at capacity with no new runway being operational until 2030. Paragraph 4.47 notes that Gatwick is expected to reach its capacity of 300,000 ATMs (currently at 277,000 in 2016 (ES), and at 286,000 in June 2017 (Gatwick website)). Luton is currently capped at 18mppa with throughput of approximately 14.5mppa in 2016. London City airport is capped at 6.5mppa (throughput of approximately 4.5mppa in 2016). London Southend is assumed to be capped at 2mppa. Passenger throughput at Southend declined in 2016 to 875,549 from a previous high of 1.1mppa in 2014.

9.42 Figures 4.11 and 4.12 in the Environmental Statement sets out the passenger demand forecasts for the London airports. Comparison between the two shows a level of unmet demand in the London area from 2022, assuming existing constraints remain in place.

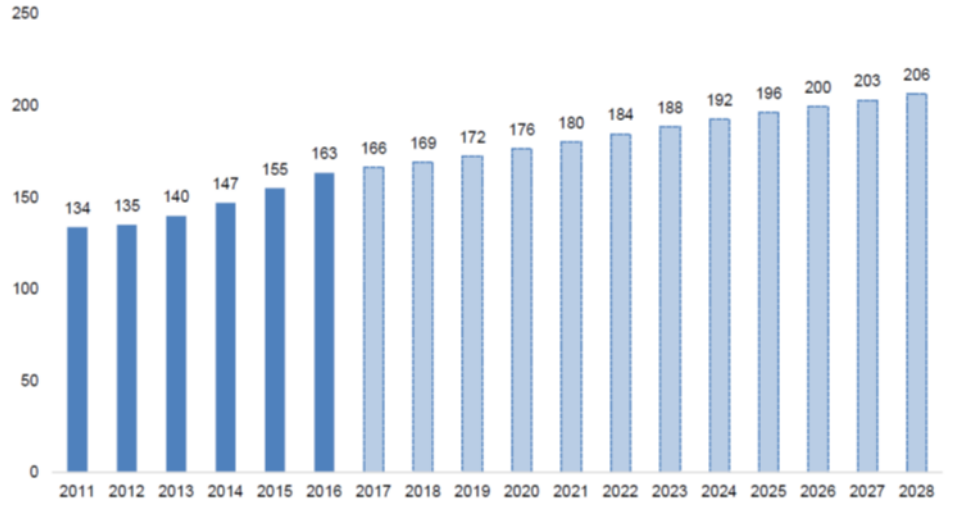


Figure 4.11: London passenger demand forecast (mppa, unconstrained)

(Reproduced from page 4-13 of Environmental Statement Volume 1)

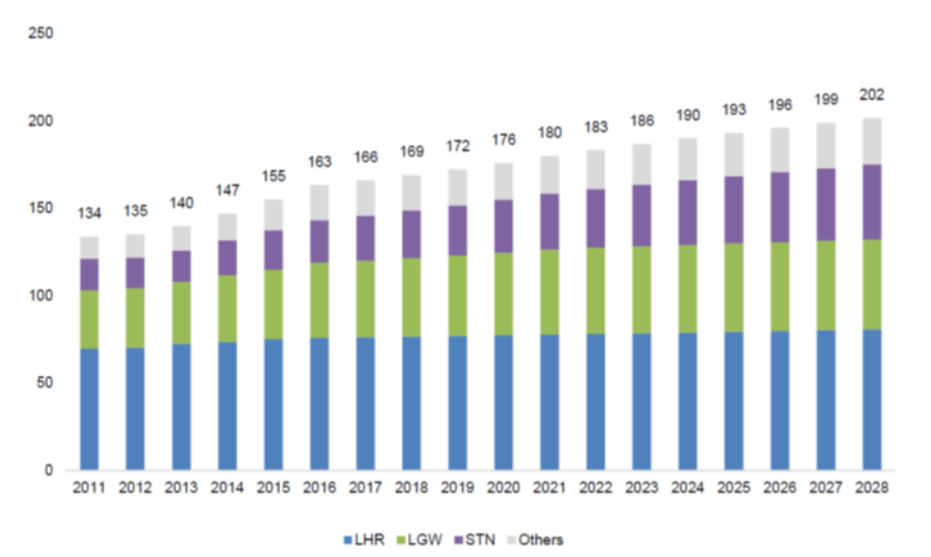


Figure 4.12: London passenger demand forecast (mppa, constrained)

(Reproduced from page 4-14 of Environmental Statement Volume 1)

9.43 The expected growth is envisaged to be accommodated by larger planes with the potential for average loadings to be 170 passengers per ATM in comparison to 160 at present. This would be coupled with long-haul route development.

9.44 The proposal includes the construction of a new RAT and RET and 9 additional aircraft stands. Paragraphs 4.15-4.19 of the Planning Statement set out the reasons for the additional infrastructure.

9.45 Principally, the RAT and RET provide facilities which would permit the optimisation of the runway. The runway is capable of handling large, wide body aircraft but the majority of aircraft are smaller narrow body aircraft. The layout of the runway does not provide for best use of the runway, requiring aircraft to have longer than necessary taxiing periods. The additional RAT and RET would

enable aircraft to enter and exit the runway at more optimal points. This would have additional benefits such as reduced fuel burn time, reduction in noise and pollution associated with that burn time and the taxiing movements.

9.46 The additional stands are required to provide for increased parking, typically overnight, in the busy summer periods. This will enable more airport-based aircraft to be operational in the peak morning period.

9.47 Figures 4.13 and 4.14 from the Environmental Statement show the proposed forecasts for passenger growth and ATM forecasts.

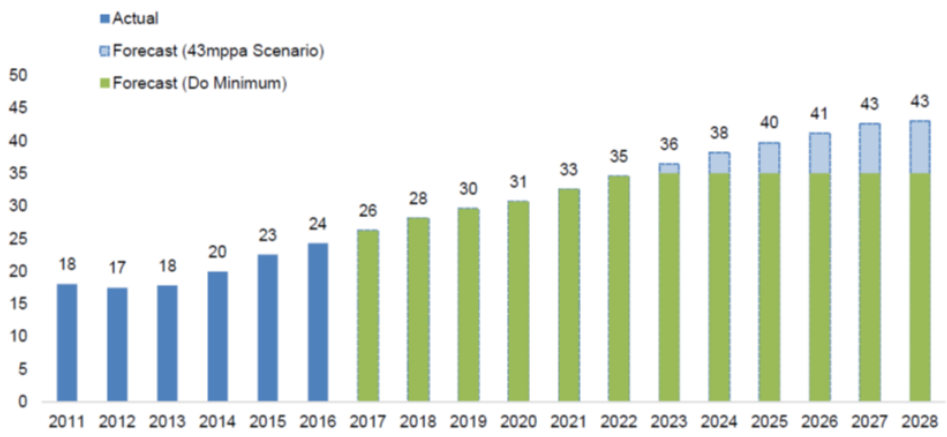


Figure 4.13: Stansted passenger forecast (mppa, constrained)

(Reproduced from page 4-14 of Environmental Statement Volume 1)

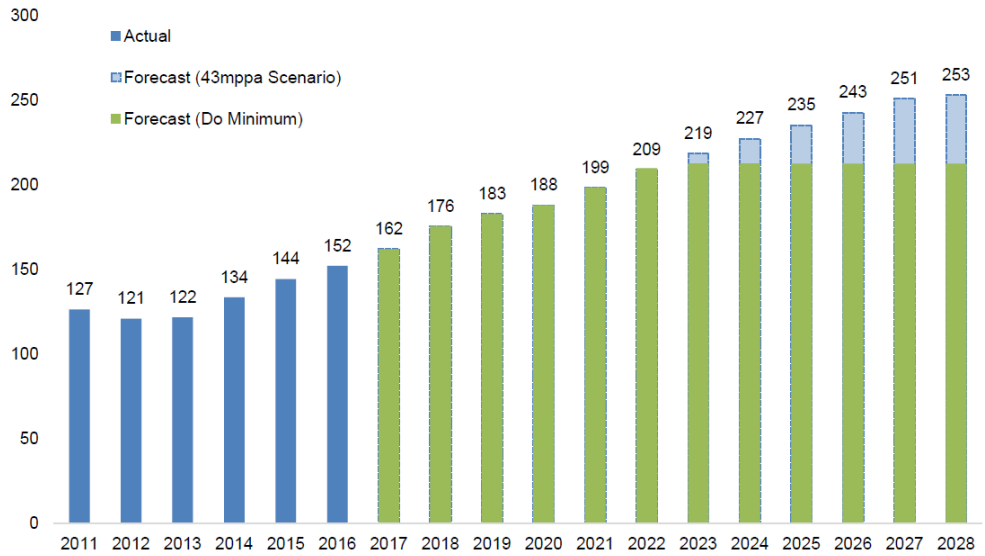


Figure 4.14: Stansted PATMs forecast (000s, constrained)

(Reproduced from page 4-15 of Environmental Statement Volume 1)

9.48 Figures 4.13 and 4.14 differ between 2016 and 2028 from the forecast trajectory between 2016 and 2030 of the Department for Transport "UK Aviation Forecasts" (October 2017). The ES compares, at paragraphs 4.65-4.70 of Chapter 4, its forecast with those for the airport of the Department. The ES forecasting approach reflects paragraph 1.3 of the Department's Forecasts which states that "at the airport level the department's forecasts may also differ from local airport forecasts. The latter may be produced for different purposes and may be informed by specific commercial and local information – such information is particularly relevant in the short-term. For example, an airport might have reached an agreement with an airline to increase frequencies or routes". As anticipated by the Department, the ES forecasts differ, as ES paragraph 4.69 explains, due to differences in forecasting methodologies including the absence of short-term adjustments from the Department forecasts referred to in ES paragraph 4.49, such as route development.

9.49 It is reasonable to consider that the ES and Figures above appropriately show the forecast growth of Stansted airport based on the local and commercial knowledge of the applicant.

9.50 The NPPF (2018), paragraph 8 sets out the three mutually dependant objectives of sustainable development: economic; social; and environmental. Paragraph 8(a) states that the economic objective includes identification and provision of infrastructure. Paragraph 80, requires that significant weight be placed on the need to support economic growth. BTH (June 2018), paragraph 1.29, requires that careful account be taken of all relevant considerations, particularly economic impacts.

9.51 In addition to the forecasts addressed in the ES, ANPS (July 2018), Section 2, paragraphs 2.1-2.9, set out the overall importance of aviation to the UK economy. ES, Chapter 11, Socio-Economic Impacts, addresses the economic benefits from the application. In particular, between paragraphs 11.44-11.171. Table 11.14 summarises the socio-economic impacts and includes:

- an increased range and frequency of flights; enabling an additional 1.2 million business passengers to travel through the airport and contribute to attractiveness of the area for inward investment;
- enabling 2.2 million foreign leisure passengers to arrive through the airport and 4.6 million UK passengers to make leisure trips abroad. In-bound leisure passengers support about 13,00 jobs and would provide a GVA of about £336m in 2028; enabling 800 tonnes of cargo to be carried; employing 300 people to build the development (£23.4 GVA over 10 months) and generating an additional 5,400 (and GVA of £357.3m) over the Do Minimum scenario.

9.52 As set out in the BTH (June 2018) the making of best use of the existing runway capacity (here, of Stansted Airport) has to take account of relevant environmental considerations. This means that, within the NPPF (2018), the economic benefits of the proposals must be weighed against the environmental and social objectives. In order to assess the environmental objective, the environmental impacts arising from the application are assessed in the accompanying Environmental Statement covering the principal environmental issues in respect of the proposals. The remainder of this report will discuss each chapter of the ES.

Approach of the Environmental Statement

9.53 As set out above, Regulation 4(5) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires the local planning authority to ensure they have, or have access as necessary to, sufficient expertise to examine the environmental statement. The expertise provided has been sufficient or the local planning authority to examine the environmental statement.

9.54 The Environmental Statement (ES) assesses the environmental impacts of the proposals across a range of topics. The approach of the ES is to consider the baseline of existing environmental conditions. This is generally set at 2016 with slight variations depending on the availability of baseline data.

9.55 The ES considers how the baseline conditions may change over time before the proposed development is implemented. Therefore, where possible, the existing baseline data has been extrapolated and modelled to identify the likely 'projected baseline' conditions in 2021 (the commencement date for construction) and 2023 (the date at which 35mppa is projected to be reached).

9.56 The projected 35mppa baseline is referred to as the 'Do Minimum' scenario rather than 'Do Nothing' scenario. This is because certain planned changes to the airport will occur prior to the 35mppa cap being reached in 2023, with or without the operational development to the existing runway and lifting of the existing annual passenger cap. These planned developments will either be built out under the extant parts of the 2003 and 2008 planning permissions or implemented by the applicant in accordance with its permitted development rights under Class F of Part 8 of the Town and Country Planning (General Permitted Development) (England) Order 2015. These developments include:

- New Arrivals Terminal (permitted 2017) – works anticipated to commence in 2019 with completion in summer 2020
- Echo apron and stands – granted under the 15mppa+ planning permission (reference UTT/1000/01/OP). This last element has commenced and anticipated to be completed by late 2018
- Additional car parks – land for additional surface car parking exists on the south side of the airfield and there is future potential for multi-level parking on existing car parks. One such example is the multi-level car park currently under construction in the Green short stay car park.

9.57 All planned permitted developments are assumed to be in place and operational by 2020. Therefore, there will be no cumulative construction or other 'in combination' effects. The year 2023 is envisaged as being the transitional year, the point at which the existing 35mppa cap is envisaged to be reached and the environmental impacts would then differ between the Do Minimum (35mppa) and development case (43mppa) scenarios. Final assessment is made of impacts in 2028, the year it is envisaged 43mppa would be reached. The primary comparison to be made is between the 'Do Minimum' and the 'development case' in line with the assessment made by the Generation 1 planning inspector in his report of 14 January 2008. The local planning authority is considering the impacts of the proposals over and above the permitted development, ie the difference between Do Minimum and the 'development case'. This is because the Do Minimum scenario already has planning permission and is expected to go ahead irrespective of the decision in respect on this application, and in light of the ES forecasts, reasonably represents a fall-back position.

9.58 Table 2.3 (page 2-19) of the ES sets out the assumptions for existing baseline, construction baseline and the Do Minimum baseline.

	2016 (Existing baseline)	2021 (Construction baseline)	2023 (Do Minimum baseline)
Total passengers ('000s)	24,300	32,600	35,000
Passenger ATMs ('000s)	152	199	213
Cargo AMTs ('000s)	12	13	14
Other ('000s)	16	19	19
Total Movements ('000s)	181	231	247

9.59 Table 2.4 (page 2-20) sets out the summary key statistics between the Do Minimum and Development Case.

	2023 Transitional Year		2028 Principal Assessment Year	
	Do Minimum Scenario	Development Case	Do Minimum Scenario	Development Case
Total passengers ('000s)	35,000	36,400	35,000	43,000
Passenger ATMs ('000s)	213	219	212	253
Cargo ATMs ('000s)	14	14	17	16
Other ('000s)	19	20	20	5
Total Movements ('000s)	247	253	249	274

9.60 Table 2.5 (page 2-22) sets out the Impact Magnitude Matrix which sets out how impacts are assessed.

Sensitivity/value of receptor	Magnitude of effect or impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

9.61 Table 2.6 sets out the significance criteria which determine the level of magnitude of effect or impact.

Level of significance	Description
Major	Very large or large change in environmental or socio-economic conditions, which is irreversible and pronounced. Effects, both adverse and beneficial, which are likely to be important considerations at a national, regional or district level because they contribute to achieving national, regional or local objectives, or could result in exceedance of statutory objectives and/or breaches of legislation. **Major effects are deemed significant in the context of EIA.**
Moderate	Intermediate change in environmental or socio-economic conditions leading to measurable effects, both adverse and beneficial, which are likely to be important considerations at a local or district level. **Moderate effects are deemed significant in the context of EIA.**
Minor	Small change in environmental or socio-economic conditions. These effects may be raised as local issues but are unlikely to be of importance in the decision making process. **Minor effects are not normally deemed significant in the context of EIA.**
Negligible	No discernible change in environmental or socio-economic conditions. An effect that is likely to have a negligible or neutral influence, irrespective of other effects. **Negligible effects are not significant in the context of EIA.**

Development Programme and Construction Environmental Management

9.62 Physical infrastructure works are required as part of the proposals. These consist of the construction of a Rapid Access Taxiway (RAT) and Rapid Exit Taxiway (RET) and nine aircraft stands, six in the middle part of the airfield (known as the Yankee Remote Stands) and three to the north of the existing Echo Stands. The total area of land required for the development is around 7 hectares and this will be made impermeable by the development. The ES sets out the timetable for construction as being a 12 month period starting in 2021 and to be completed by mid-2022.

9.63 Physical infrastructure works result in short-term impacts which would include noise and disturbance in respect of vehicular movements and the construction works. Environmental impacts will arise as a result of noise, dust, vibration and waste materials. Due to the nature of the works these will need to be undertaken at night when sensitivities are higher. The environmental impacts will be considered in each of the topic chapters.

9.64 The issue of the additional infrastructure has been raised in many of the representations. These claim that the additional infrastructure works result in the proposals being contrary to the government's support for best use of existing runways as this infrastructure would increase airport capacity.

9.65 The 2008 Planning Permission for 35mppa (UTT/0717/06/FUL) included a RAT and RET for 25mppa and an additional RAT and RET being required for runway operations at 35mppa. Whilst the 25mppa infrastructure has been constructed, the RAT and RET proposed for 35mppa, located at the northern end of the runway, have not been carried out. Therefore, the current application proposals do not increase the area of infrastructure required for optimised use of the runway, rather they propose to relocate the RAT and RET to enable more efficient operations better suited to the way the airport operates today.

B Surface Access and Transport

9.66 Chapter 6 of the ES assesses the environmental impacts of surface access. This chapter needs to be read in conjunction with the accompanying Transport Assessment (Volume 3 of the ES) and the updates and additional information contained in the Consultation Response and Clarifications document produced in July 2018.

9.67 Adopted Uttlesford Local Plan Policy GEN1 sets out the requirements for development in terms of access. Essentially, these are the requirement for the main road network to be able to accommodate the traffic flows safely, design mustn't impact on other road users, and the proposals encourage movement by means other than the private car. The policy is generally consistent with the NPPF, although there is more emphasis in the NPPF to sustainable transport modes whilst acknowledging that there will be differences in opportunities between rural and urban areas. The NPPF is more positively worded in seeking to minimise the need to travel and maximise cyclist and pedestrian and public transport opportunities. This policy should therefore be given moderate weight.

9.68 Policy GEN6 requires development proposals to make appropriate provision for supporting infrastructure, including transport provision. This policy is generally consistent with the NPPF, but the latter recognises the need for viability of development to be considered. In addition, there is a requirement to take into account the Community Infrastructure Regulations. The policy should be given moderate weight.

9.69 The provisions for infrastructure can be made by the applicant or, where cumulative impacts result in mitigation being required, by financial contribution. All provisions (including financial contributions) are required to meet all the tests as set out in the CIL Regulations and paragraph 56 of the NPPF (2018). These tests are:

a) Necessary to make the development acceptable in planning terms;
b) Directly related to the development; and
c) Fairly and reasonably related in scale and kind to the development.

9.70 The NPPF (2018) has an overall presumption in favour of sustainable development. Paragraph 8 sets out the parameters for assessing if development is sustainable. Section 9 promotes sustainable transport. Paragraph 103 requires that the planning system actively manage patterns of growth in support

of the objectives identified in paragraph 102 (a)-(e). Measures include opportunities to promote first walking, cycling and then facilitating access to public transport, and to ensure the environmental impacts of traffic and transport infrastructure are identified, assessed and taken into account, including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains (see paragraphs 108 and 110). In addition to economic impacts, BTH (June 2018), paragraph 1.29, requires that careful account is taken of all relevant considerations, particularly environmental impacts and proposed mitigations.

9.71 Section 5 of the ANPS (July 2018) sets out the assessment of impacts in relation to the Northwest Runway at Heathrow. The assessments will not be the same for development proposals at Stansted Airport, but the principles in relation to the assessments will be similar and therefore it is appropriate to consider the approach set out in that document.

9.72 Paragraph 5.5 of the ANPS states:

"The Government's objective for surface access is to ensure that access to the airport by road, rail and public transport is high quality, efficient and reliable for passengers, freight operators and airport workers who use transport on a daily basis. The Government also wishes to see the number of journeys made to airports by sustainable modes of transport maximised as much as possible. This should be delivered in a way that minimises congestion and environmental impacts, for example on air quality."

9.73 Alternative means of transport to the private car and minimising environmental impacts are fundamental principles of sustainable development. As set out in the Transport Assessment (Volume 3 of the ES), in 2017 around 51.2% of air passengers used public transport, and around 27% of staff (paragraph 2.66). Table 4.2 (as amended in the Addendum) shows that the public transport mode share for air passengers has been consistently around the 49-51% mark since 2010. This has been roughly evenly split between rail and coach services with fluctuations and variations depending on marketing strategies by the operators. Since 2000, the most significant changes have been the reduction in the private car/hire car/taxi mode share for air passengers from about 66% to 49% (2017) and an increase in the bus/coach mode share from 7% to 21% (also 2017).

9.74 The Surface Access Chapter of the ES assesses the potential impacts of operational and construction traffic and access to the airport by road, including public transport, and rail. The baseline is 2016 with survey data setting out the current position. Three scenarios are then considered:

- 2021/22 – 12 month construction period
- 2028 Do Minimum (35mppa) scenario; and
- 2028 Development Case (43mppa)

9.75 Assessments include trip generation, impacts on highways including impacts on pedestrians due to severance, delay, amenity, fear and intimidation and accidents and safety. Impacts on public safety and walking and cycling are also undertaken.

9.76 Assumptions have been made as set out on page 6-19 of the ES. These include public transport mode share remaining constant for air passengers, a 10% modal

shift to public transport by employees and retention of existing passenger and employee origins for future years to take account of modelling uncertainty.

9.77 Assessments have been made in respect of the strategic highway network (M11 and A120), airport roads, and local roads. As agreed in principle with ECC, highway peaks of 07:00 – 08:00 and 17:00 – 18:00 and an airport peak of 16:00 – 17:00 have been assessed. The AM peak arrival period for passengers is 05:00 – 06:00. In addition, assessments have been undertaken in respect of the rail network. The peak hours on the rail network are 07:00 – 10:00 and 16:00 – 19:00, and an assessment daily from 00:00 to 23:59.

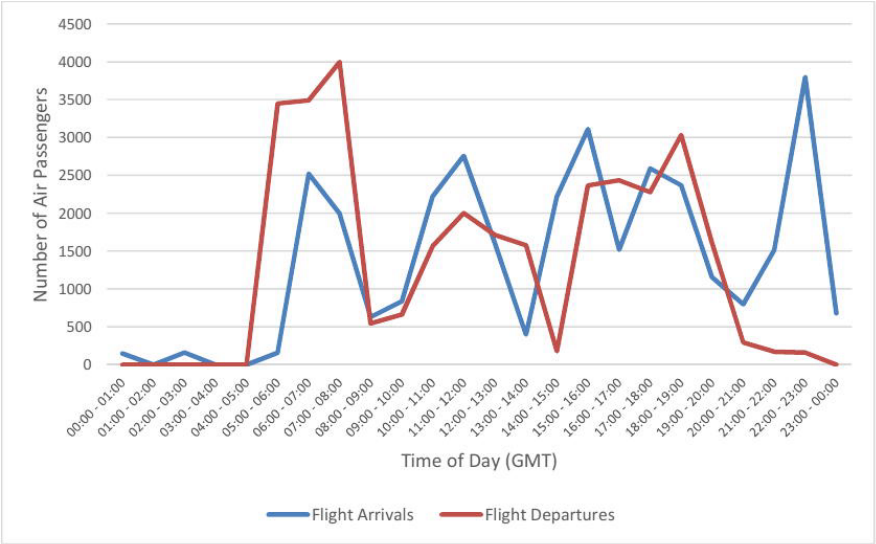
Surface Access Assumptions and Scene Setting

9.78 Operational phase surface access impacts are assessed in two scenarios – the Do Minimum whereby passenger numbers are expected to reach 35mppa in 2023 (already granted consent) and then remain constant. The Development Case scenario sees passenger numbers continuing to increase from 2023 to 43mppa in 2028.

9.79 The Transport Assessment which informs Chapter 6 of the ES is based on summer operations (March to October), which is normal modelling for airport assessments.

9.80 Current runway operations at the airport have a peak of departures in the 06:00 – 09:00 time slot. There is a smaller peak between 10:00 – 14:00 and then again between 16:00 – 20:00. Arrivals have peaks and troughs throughout the day centred around 07:00, 11:00, 15:00; 17:00 – 18:00 and 22:00. Figure 4.3 in the Transport Assessment shows the 2016 Daily Flight Profiles.

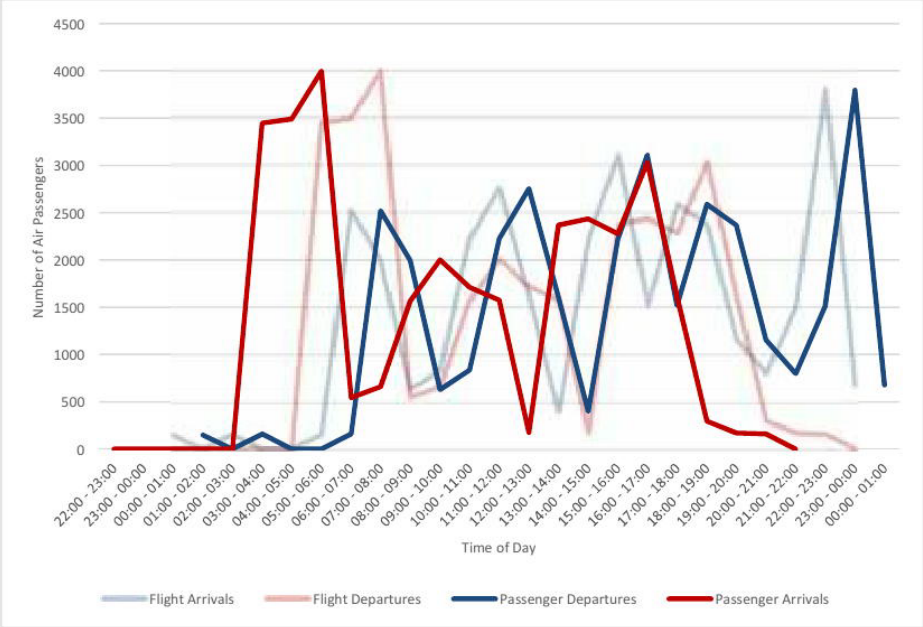
Figure 4.3: 2016 Daily Flight Profiles – Arrivals and Departures



(Reproduced from Environmental Statement Volume 3, page 29)

9.81 Figure 4.4 shows the same data with the passenger arrival and departures superimposed. NB, in Figure 4.4 the information shown in Figure 4.3 is the lighter colour red and blue. Figure 4.4 shows the 2-hour “lead in” time needed for departing passengers and the 1-hour “lag” time for arriving passengers.

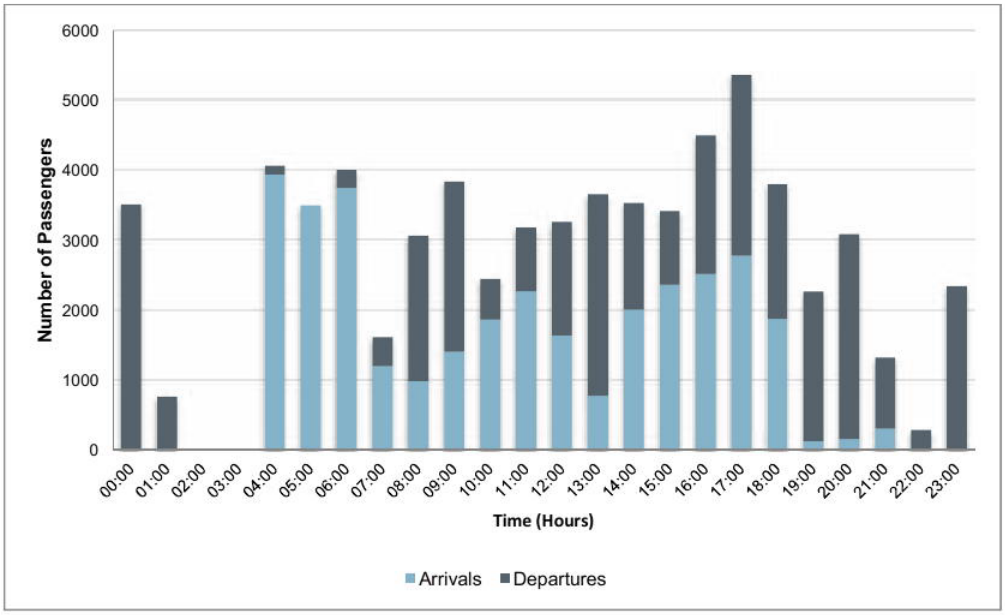
Figure 4.4: 2016 Surface and Flight Arrivals and Departure Profiles



(Reproduced from Environmental Statement Volume 3, page 30)

9.82 Table 4.5 shows the average daily profile for surface airport arrivals and departures in 2016.

Figure 4.5: Average Daily Profile for Surface Airport Arrivals and Departures (2016)



(Reproduced from Environmental Statement Volume 3, page 31)

9.83 Table 4.7, page 32, sets out the average typical daily passenger surface arrival and departure profile on an hourly basis. The assumption, based on typical average, is that the number of arrivals and departures are the same. An average day will see 66,684 passengers passing through the airport. Of these, 33,342 arriving/departing by car, including taxi, 18,004 by train and 15,338 by coach.

Taking into account “lead” and “lag” times, peak arrivals are 04:00 – 06:00 and peak departures are after midnight.

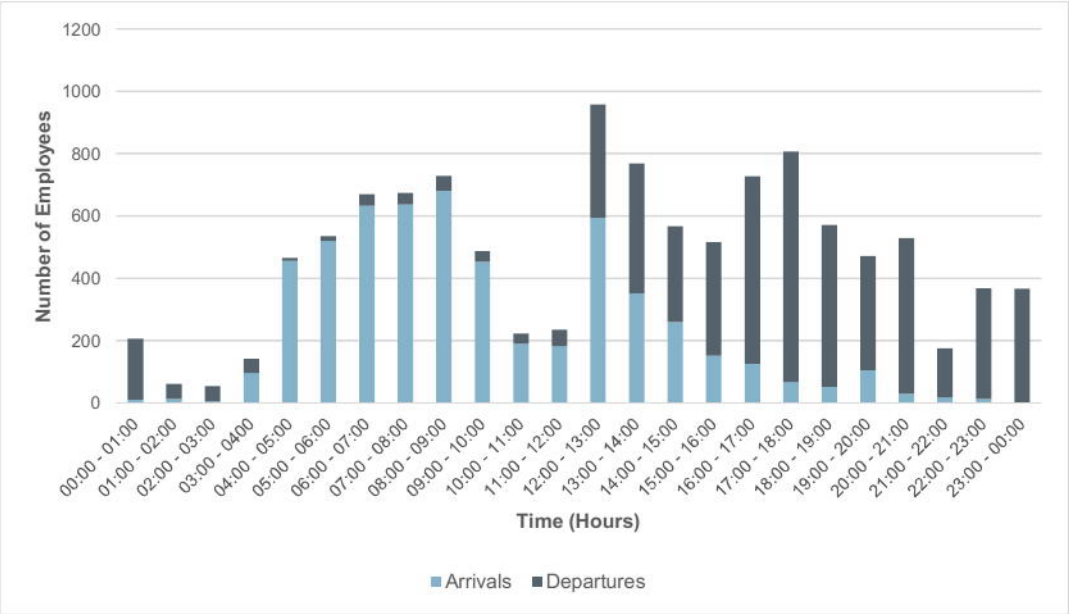
9.84 In terms of employees, baseline data was established via staff travel survey data. This established there were 10,963 employees in 2015. Transport modes were 64.9% by private car, 5.7% car passenger, 26.9% public transport and 2.5% were classified as other. A small number of staff do cycle to work.

9.85 Historical data shows that car use has fallen from 87.6% in 2002/3 with a steady decline to the present rate of 64.9%. Car passengers have fluctuated between a low of 4.1% in 2002/3 to a high of 7.1% in 2011. Public transport use has increased from 7% in 2002/3 to its current level.

9.86 Employees predominantly come from Essex, Hertfordshire and Greater London. Around 24.5% live in East Hertfordshire, 18.3% in Uttlesford, 15% in Braintree District, and 7.4% in Harlow.

9.87 Working patterns indicate that around 66% of employees work 5 days a week and 25.2% work 3-4 days a week. Figure 4.6 shows the average day surface arrivals and departure profile for employees. The data from the 2015 survey were applied to the employee population data to derive a consistent 2016 baseline.

Figure 4.6: Employee Average Day – Surface Arrivals and Departures Profile (2016)



(Reproduced from Environmental Statement Volume 3, page 36)

9.88 This demonstrates that the peak employee arrivals at the airport is 08:00 – 09:00, peak departures is 17:00 – 18:00, and the peak combined is 12:00 – 13:00 reflecting shift change over times.

9.89 Miscellaneous activities within the airport boundary have also been included within the transport data. These include, but are not limited to,

- External visitors, eg Enterprise House
- Visitors to Aerozone

- Non-airport related users of hotel facilities, eg conferences, use of bars/restaurants/leisure facilities
- Stansted Express season ticket holders who park in the Green short stay car park and commute by rail
- Minibus services from off-airport car park operators
- Service and delivery trips
- Cargo

Highways

9.90 Impacts on highways have been considered in the ES and the accompanying Transport Assessment and Transport Assessment Addendum. These consider the impacts of the proposals on the strategic and local road network, including J8 of the M11.

9.91 The baseline assessment year is 2016 and conditions have been established by means of desktop research, site visits and a range of traffic surveys and publicly available data. Traffic counts are a mix of commissioned Automated Traffic Counts (ATCs) supplied from ECC and Manual Classified Counts (MCCs conducted by Intelligent Data Collection in 2015, HE TRIS data traffic counts (2016) Annual Average Daily Traffic Flow (AADT); and ATC and MCC conducted by Nation Wide Data Collection (2017) on behalf of the applicant.

9.92 TEMPro (v7.2) has been used to estimate growth rates from the 2016 baseline. In addition, 2016 passenger and employee information for Stansted Airport was added to account for the growth of airport traffic, not captured using TEMPro v7.2. Cumulative schemes also include the development of Northside which has not yet had a planning application submitted.

9.93 Assessments have been made of AADT flows for an extensive external road network, including M11 J8. In addition, peak hour analysis has been undertaken with a four hour AM peak of 06:00-10:00 and a PM peak of 15:00-19:00.

9.94 Average car occupancy rates of 1.6 passengers per vehicle have been used. The ES Addendum notes that the average rates were based on a misinterpretation of survey data and the actual average loading should be 1.8. The revised figure has not been used to adjust the figures as it is considered that the lower figure of 1.6 gives a more robust worst case scenario.

9.95 Flows on the local and strategic road networks have been assessed for the 07:00-08:00 AM peak hour and the 17:00-18:00 PM peak hour. This data is set out in Tables 7.9 and 7.10 respectively in the Transport Assessment (pages 91-92). It will be noted that the % increase between 2016 to 2028mppa is significantly larger than the % in the final column. This is because the tables assess the impacts from baseline to the consented 35mppa. The final column assesses the difference between the consented 35mppa and the proposed development of 43mppa.

Table 7.9: Traffic Impact – AM Network Peak (07:00-08:00)

Link	2016 Existing Baseline	2028 (35mppa)	% increase (2016 to 2028 35mppa)	2028 (43mppa)	% increase (2028 35mppa to 2028 43mppa)
Parsonage Road	233	281	20.6%	282	0.3%
Stansted services	458	600	31.0%	624	0.4%
Bamber's Green	47	55	17.0%	55	0.0%
Thremhall Avenue	1273	1749	37.4%	1954	11.7%
Molehill Green Road	139	163	17.3%	163	0.0%
Church Road (B)	332	361	8.7%	368	1.9%
Round Coppice Road	533	1050	97.0%	1069	1.8%
Hall Road	202	238	17.8%	238	0.0%
A120 (east of Stansted Airport)	2916	3610	23.8%	3669	1.6%
A120 (east of M11 J8)	4171	5228	25.3%	5433	3.9%

Table 7.10: Traffic Impact – PM Network Peak (17:00-18:00)

Link	2016 Existing Baseline	2028 (35mppa)	% increase (2016 to 2028 35mppa)	2028 (43mppa)	% increase (2028 35mppa to 2028 43mppa)
Parsonage Road	368	432	17.4%	435	0.7%
Stansted services	604	623	3.1%	687	10.3%
Bamber's Green	79	93	17.7%	93	0.0%
Thremhall Avenue	1786	2509	40.5%	2958	17.9%
Molehill Green Road	180	212	17.8%	212	0.0%
Church Road (B)	479	637	33.0%	647	1.6%
Round Coppice Road	686	1172	70.8%	1227	4.7%
Hall Road	291	355	22.0%	355	0.0%
A120 (east of Stansted Airport)	3725	4379	17.6%	4497	2.7%
A120 (east of M11 J8)	5329	5818	9.2%	6266	7.7%

9.96 In terms of the strategic highway network, flows to and from the airport have been analysed and the percentage increase in traffic flows for the AM and PM peak are shown in Tables 7.11 and 7.13 respectively (pages 93-94).

Table 7.11: Percentage Increase in Junction Link Traffic Flows (07:00-08:00)

Road Link	% Increase	
	2016 baseline to 2028 35mppa	2028 35mppa to 2028 43mppa
M11 Junction 8 Motorway Services	20%	3%
A120 West (Bishop's Stortford Bypass)	24%	1%
M11 North of J8	18%	1%
A120 East of J8	23%	3%
B1256 Dunmow Road	18%	0%
M11 South of J8	25%	2%
Priory Wood West	51%	3%
Priory Wood East	17%	0%
Round Coppice Road South	50%	2%
Long Border Road	18%	0%
Round Coppice Road North	35%	2%

Table 7.13 Percentage Increase in Junction Link Traffic Flows (17:00-18:00)

Road Link	% Increase	
	2016 baseline to 2028 35mppa	2028 35mppa to 2028 43mppa
M11 Junction 8 Motorway Services	12%	9%
A120 West (Bishop's Stortford Bypass)	20%	2%
M11 North of J8	15%	4%
A120 East of J8	15%	12%
B1256 Dunmow Road	18%	0%
M11 South of J8	11%	11%
Priory Wood West	17%	12%
Priory Wood East	18%	1%
Round Coppice Road South	37%	6%
Long Border Road	18%	0%
Round Coppice Road North	23%	6%

9.97 Employee growth is projected to grow from a 2016 baseline of 11,600 to 13,200 in 2028 in a Do Minimum scenario (35mppa) and 16,200 in 2028 in the Development Case scenario (43mppa).

9.98 The forecast increase in passenger numbers would have impacts on both the strategic and local road network. The responsibility for these falls to Highways England and Essex County Council respectively. There are also potential impacts on the local road network in Hertfordshire for which Hertfordshire County Council is responsible.

9.99 Sensitivity testing has been carried out in respect of the strategic road network, in particular the M11 junction 8 (J8). This was required to better understand the impact of airport growth from 35mppa to 43mppa and whether the proposed mitigation was appropriate against a background of proposed growth in the Uttlesford Local Plan.

9.100 The testing indicated that performance at the junction is due to deteriorate with or without the airport expansion to 43mppa. The applicant's proposed J8 mitigation measures (for the Interim+ scenario) would improve network performance at

43mppa compared to the 2033 'do minimum' scenario with 35mppa and with ECC's Interim J8 scheme in place. However, the modelling confirms that the network is currently close to capacity, and will be over capacity in 2033. The sensitivity testing also indicates that minor adjustments to the modelled assumptions have significant impacts, particularly to the west of J8 and to the B1256. There is, therefore, a need for the mitigation measures.

9.101 The key locations on the Strategic Road Network (SRN) most likely to experience severe adverse impacts as a result of the airport's proposed expansion are M11 junction 8 interchange and the A120 Priory Wood roundabout which is the next junction a short distance east of the M11. The A120 to the west of the M11 is a local highway managed by Essex County Council (ECC), and forms a bypass of Bishop's Stortford. Birchanger Motorway Service Area is served directly off the M11 J8 gyratory.

9.102 ECC are currently preparing to implement a major improvement to a short section of the A120 west of M11 J8 to support economic growth. These improvements are likely to be able to accommodate some of the traffic growth arising from the airport expansion beyond the current 35mppa limit. However, they are not sufficient to cater for 43mppa. Further improvements are therefore necessary to address the potentially severe impacts on the SRN at M11 J8 and at the A120 Priory Wood roundabout. A mitigation scheme was therefore submitted by the applicant which, in terms of capacity and safety should be adequate to address these impacts.

9.103 The mitigation works relate to additional carriageway widening on key approach/exit arms to/from the M11 J8 signalised roundabout and a series of amendments to lane allocations and limited physical adjustment designed to enhance the capacity of the junction, along with the separate signalisation of the westbound entry of Priory Wood Roundabout. HE has concluded that the additional capacity achieved through these amendments provide mitigation that more than compensates for the additional traffic anticipated to arise from the proposed increase in operations of the airport.

9.104 In parallel with the ECC scheme and the airport's additional improvements, calls have been made for more extensive improvements to the M11 to be included in a future Roads Investment Strategy (RIS). The next RIS covering the period 2020 to 2025 is currently being prepared on behalf of the Department for Transport (DfT). Study work is still progressing to support the development of the next RIS, which is not due to be published by DfT until the latter part of 2019, so it is not yet known whether a scheme to upgrade the M11 or its junctions could be included. However, the possibility of such a scheme being included has had to be acknowledged in the context of this application.

9.105 In light of the above, HE are minded therefore to recommend conditions to be attached to any planning permission. These relate to delivery of the specific set of mitigation improvements to the SRN as proposed by the applicants. In proposing these conditions, HE are, however, mindful of the need to adopt a flexible approach that will enable the sensible coordination or adaptation of works for the benefit both of users of the road network and the airport, and to respond to factors that are currently unknown.

9.106 Such an approach is especially relevant to future RIS programmes and timetables. As such, while the recommended conditions relate to specific improvement plans HE's aim is principally to achieve the required outcomes

within an appropriate timetable but to allow either: (i) for the proposals to be reviewed and, if appropriate, revised to better achieve the outcomes in the light of emerging conditions; or (ii) for the possibility of the proposals to be superseded by another more extensive scheme or schemes that would achieve the same outcomes. In the event of the latter HE believe a financial contribution by the applicant equivalent to the cost of the proposed mitigation scheme would therefore be appropriate

9.107 The majority of the impact would be on the strategic road network, the M11 and A120. However, employees are likely to increase impacts on local roads and those roads closest to the airport would experience the greatest of those impacts.

9.108 ECC carried out sensitivity testing on local roads, focussing on Takeley because it has the highest concentration of employees close to the airport. The sensitivity testing resulted in higher figures attributed to the growth from 35mppa to 43mppa. However, this resulted in an estimated impact of 1.7%, which ECC consider is acceptable.

9.109 In addition to the J8 measures as summarised above, mitigation measures would be required for the local roads to resolve issues at potential hot spots. ECC recommends a local road fund of £800,000 be set up, which could be secured by way of s106 Legal Obligation. The mechanism for allocating the funding would be the Stansted Airport Transport Forum. The Highways Working Group of the SATF takes an overview of network safety and access by road, bicycle and on foot, and is chaired by Essex County Council.

9.110 Alongside this, monitoring of the airport road network is recommended to ensure that early action is taken if congestion on the airport network itself occurs, as this could impact harmfully on the strategic or local road network. Such monitoring already takes place by the applicant because they are responsible for this element of the highway network.

9.111 In terms of the Hertfordshire local road network, HCC is satisfied that the technical work demonstrates that the proposal should not have a significant impact upon the wider Hertfordshire highway network. However, there are concerns about uncertainties given the significant time frame for growth and the fact that unforeseen impacts could arise.

9.112 The Local Roads Fund currently has a radius of 5 miles, which includes local roads in the Hertfordshire area, and therefore, the mitigation proposed above is considered to be appropriate to cover the concerns of HCC.

Bus/Coach Services

9.113 In terms of coach and bus services, these are operated by private companies. At present there are 6 routes operated under franchise arrangements by National Express and Airport Bus Express to and from various destinations in London. In addition, there are 6 other routes operated under a regional franchise by National Express to Cambridge/Thetford/Norwich, Heathrow/Gatwick/Brighton, Luton/Oxford, Ipswich/Colchester/Heathrow, Luton/Coventry/Birmingham, and Cambridge/Nottingham/Liverpool. There is a night shuttle bus serving Golders Green, Tottenham Hale, Edmonton Green and Enfield which provides Airport Travel Card holders with a free service that arrives at the airport at 03:40 in readiness for a 04:00 start.

9.114 Coach demand in respect of arrivals has been between 150,000 and 200,000 passengers per month and a similar demand for departures.

9.115 There are 12 local bus services operating via the Airport. These are to Basildon, Southend, Chelmsford, Bishop's Stortford, Saffron Walden, Colchester and Harlow Town. These provide a total of 204 bus services per week day, 199 on Saturday and 118 on Sunday.

9.116 During the construction period it is envisaged that there may be a small increase in the number of workers in the local area using public transport. However, this is assessed as having a negligible impact on the bus and rail network.

9.117 In terms of the operational phase, the predicted growth in bus and coach travel demand is set out in Table 6.26 in the ES (page 6-47).

	07:00-08:00		17:00-18:00		05:00-06:00		16:00-17:00	
	Inbound (air depart)	Outbound (air arrival)	Inbound (air depart)	Outbound (air arrival)	Inbound (air depart)	Outbound (air arrival)	Inbound (air depart)	Outbound (air arrival)
2028 35mppa	509	285	632	627	1250	32	729	862
2028 43mppa	749	208	823	811	1446	31	897	1078
Change	**240**	**-77**	**191**	**184**	**198**	**-1**	**168**	**219**
% change	**47.2%**	**-27.0%**	**30.2%**	**29.3%**	**15.8%**	**-3.1%**	**23.0%**	**25.4%**

9.118 Bus and coach patronage/loading data is not readily available and as such an assessment of capacity has not been undertaken. However, increases in demand are unlikely to adversely affect bus and coach services. Indeed, it is likely to act as a catalyst for improving services with operators increasing services to meet demand. On a quarterly basis, bus and coach operators attend commercially confidential meetings with local authority and airport staff as part of the work of the Transport Forum's Bus and Coach Working Group. At these meetings, existing services and potential improvements and enhancements are discussed and evaluated. These can include rebranding, fresh marketing, new buses or coaches, timetable enhancements, route extensions and new routes. Subject to a proven business case, funding may be available from the £2m pot committed by the airport operator under the Generation 1 unilateral undertaking signed in 2008, or from the car park levy.

9.119 Increases in demand for services may require improvements to be carried out to the bus/coach station at the Airport. These improvements are likely to include extra bays, revised bay allocation management (in terms of managing queue interactions) and weatherproofing for passengers. These can be delivered as part of the mitigation measures secured by way of s106 Legal Obligation, and overseen by the Bus and Coach Working Group.

9.120 ECC has suggested new or additional routes to specific locations, and whilst these aspirations are welcomed, it will be necessary for there to be a viable business case for bus/coach operators to deliver the services. These can be explored further through the SATF's Bus and Coach Working Group, which ECC chairs. The Working Group is also attended by officers from UDC and Herts CC.

9.121 HCC and EHDC have also identified key routes that they would wish to see delivered, in particular a new east-west express coach service linking St Albans,

Hatfield, Stevenage, Welwyn Garden City, Hertford, Ware and Stansted Airport. Again, the aspiration is welcomed. However, employment data clearly identifies that there is no significant demand for bus routes from these locations with very low numbers of employees coming from the Hertfordshire area outside of Bishop's Stortford, which is well served by public transport links to the airport. This proposal could be explored further through the Bus and Coach Working Group.

9.122 A key funding mechanism for SATF is the Transport Levy which is raised from car parking transactions at the airport (currently 25p per passenger parking transaction and £10 per annum for staff parking).

9.123 It is proposed to extend the Transport Levy to the Kiss and Fly transactions at 10p per transaction. The combined income from the levy is predicted to be around £12m of funding to 2028, increasing to £20m in 2033 (assuming operations remain at 43mppa). This is in addition to the Bus Fund, a ring fenced sum of money. This was originally £2m as part of the 2008 Unilateral Undertaking.

9.124 A third source of funding for the bus network comes from the sale of airport travel cards to staff. This is predicted to increase to £1.4m per year at peak employment. This is a minimum increase assuming the same levels of staff public transport use and no future improvements. This would generate in at least £15.5m worth of revenue generated for bus operators from airport staff alone.

9.125 The Bus and Coach Working Group is proposed to be refreshed and the terms of reference updated. This would enable flexibility in the delivery of sustainable transport options given the changes in technology and approaches to delivery of services. Approximately £1m of the original Bus Fund has been spent in improving services associated with passenger growth from around 17mppa to 26mppa. The applicant is proposing to top up the ring fenced bus fund to £2m.

9.126 The principles of funding and the refresh of the Bus and Coach Working Group and terms of reference are accepted by the consultees. However, negotiations are still on-going regarding the appropriate level of funding to be secured by way of the s106 Legal Obligation.

Walking and Cycling

9.127 Given the rural location of the airport there are limited options for accessing the airport by walking and cycling, especially by passengers. In 2015 the percentage of employees walking to work was 0.6% and those cycling 0.4%.

9.128 STAL currently operates a Staff Travel Plan which forms part of the legal obligations in respect of the development of the Airport. This is proposed to continue and would form part of the obligations in a new s106 Legal Obligation if planning permission was to be granted.

9.129 STAL promotes the use of walking and cycling for employees, a source of funding for which is the car park levy. Stansted Airport's Cycling and Walking Strategy (2016) forms part of the overarching Sustainable Development Plan (SDP) for the airport. It includes the following measures:

- Improve cycle access from the west and north to Bishop's Stortford, Birchanger, Stansted Mountfitchet and Elsenham

- Cycle crossing facilities on J8 of M11 motorway
- Extend the Sawbridgeworth – Bishop's Stortford link; and
- Storage, shower and secure parking at key locations on site, including Northside.

9.130 Given the relatively low walk and cycle mode share, only modest increases in these trips between the 2028 Do Minimum and Development Case scenarios are considered feasible and any improvements to infrastructure and quality of access will occur gradually over time through the implementation of the walking and cycling strategy measures. These measures will be promoted and overseen by the Highways Working Group.

9.131 ECC Highways acknowledges that cycling will contribute a small proportion of the modal share, but consider there is a potential to increase the number of employees accessing the airport by bike, particularly to the south, east and west of the airport. They consider that a Walking and Cycling Strategy should be produced as part of the Airport Surface Access Strategy. This should include improving the airport highway network for cyclists and provide funding to support the implementation of cycle routes to key villages where there is a concentration of employees, such as Takeley.

9.132 Similarly, HCC has identified routes from various locations in Bishop's Stortford, and an ambitious project linking the airport to Bishop's Stortford, Sawbridgeworth, Harlow, Gilston, Ware and Hoddesdon. These schemes have not been demonstrated by HCC as being required in direct connection with the airport expansion, particularly given the low percentages of staff cycling to work.

9.133 Mitigation measures are best delivered in line with the recommendations of ECC with a Walking and Cycling Strategy. The funding and delivery of such measures identified as being required would be via SATF, funded by the Transport Levy.

Rail

9.134 Baseline data provided by Abellio Greater Anglia (AGA) in respect of rail services indicate that an average daily loading of passengers from Stansted Airport towards London Liverpool Street was 10,011. From London Liverpool Street to Stansted Airport average daily loadings were 11,329 passengers per day. Assessments have been carried out over 24 hour periods, with emphasis on peak periods of 07:00 – 10:00 and 16:00 – 19:00.

9.135 Current rolling stock is in the form of two train types, Class 379 (2011) and 317/5. The latter is made up of 8 carriages (2 x 4-car units) whilst the former can consist of 4, 8 or 12 carriages. Class 317/5 has a total capacity of 964 passengers, made up of 584 seated and 380 standing. Class 379 (2011) have capacities of 345, 690 and 1035 respectively. Four carriage trains have a seating capacity of 209 and 136 standing.

9.136 Table 6.8 sets out the baseline train loadings for 2016 on the Stansted Express.

	Depart Liverpool Street – Stansted Airport			Depart Stansted Airport – Liverpool Street		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Line loading (seating capacity only)	23%	94%	40%	75%	37%	39%
Line loading (total capacity incl. standing)	14%	57%	24%	45%	22%	23%

9.137 The assessment is carried out on the basis that there will be no physical infrastructure constructed during the assessment period, apart from completion of the third track between Tottenham Hale and Angel Road (Meridian Water). Works to lay the third track are currently underway. The Anglian Route Study (2016) produced by Network Rail indicated that based on current rolling stock there is expected to be a capacity gap of approximately 1000 passengers by 2023 and 2100 by 2043 in the peak hour on the Cambridge and Stansted services into Liverpool Street.

9.138 The study concluded that lengthening two of the Cambridge and Stansted services from eight carriages to 12 carriages between 08:00 and 08:59 would meet the capacity gap by the end of Control Period 6 (CP6: 2019 – 2024). This has resulted in the franchisee investing in a new fleet of Stansted Express trains from 2019 which will all be 12 carriages long.

9.139 In respect of CrossCountry services from Stansted Airport to Birmingham New Street, these services run at a frequency of 1 per hour. Loading data was supplied by DfT in the form of average loading on each service (not specifically in relation to Stansted Airport) and is set out in Table 6.9.

	Arrive at Cambridge from Stansted Airport			Depart from Cambridge to Stansted Airport		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Line loading (seating capacity only)	39%	54%	29%	33%	77%	35%
Line loading (total capacity incl. standing)	32%	43%	23%	27%	62%	28%

9.140 AGA has also provided train loading data for the off-peak Stansted to Cambridge service which runs half-hourly to the Cross Country service. The data shows that these services operate with significant spare seating capacity during the day. Under the new franchise, this service will be extended to Norwich once the new “bi-mode” trains are delivered.

9.141 The ES set out a growth rate of 1.5% across the rail network, as agreed with Network Rail. An assumption of 26% rail mode share was made in the ES and Network Rail requested a stress test of 35% mode share. Tables 3.1 and 3.2 in Annex 6 – Transport Assessment Addendum set out the line loadings for the Stansted Airport – London Liverpool Street line using the stress test mode share.

Table 3.1 – Forecast Stansted Express Line Loadings (35% Rail Mode Share) – Seating Capacity

	Depart Liverpool Street – Stansted Airport			Depart Stansted Airport – Liverpool Street		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
2028 (35mppa)	16%	68%	29%	56%	26%	28%
2028 (43mppa)	23%	73%	34%	56%	32%	32%
2028 (43mppa) Sensitivity Test	29%	86%	41%	66%	43%	41%

Table 3.2 – Forecast Stansted Express Line Loadings (35% Rail Mode Share) – Total Capacity (incl. standing)

	Depart Liverpool Street – Stansted Airport			Depart Stansted Airport – Liverpool Street		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
2028 (35mppa)	11%	48%	20%	39%	18%	19%
2028 (43mppa)	16%	51%	24%	39%	23%	22%
2028 (43mppa) Sensitivity Test	20%	60%	29%	46%	30%	29%

9.142 Paragraph 3.20 of Annex 6 does point out that presenting the information in this format does dilute the impact of the airport's increased passenger throughput on train capacity, particularly on the busiest services. Hourly data presented to Network Rail (not included in the application due to sensitivity of the data) show that demand may exceed seating availability on four Stansted Express services heading northbound during the PM peak, should airport passenger rail mode share rise to 35% by 2028 with the growth of the airport to 43mppa. Whilst this would impact on seating availability, there would be sufficient standing capacity to accommodate the passenger numbers.

9.143 As an indicator of rail demand to/from the airport, ticket sales information, as set out in Table 3.3 in Annex 6, indicates that around 25% of rail journeys from London Liverpool Street are to Stansted Airport, and around 42% from Stansted Airport to London Liverpool Street. Around 9% of ticket sales in both directions relate to journeys from Tottenham Hale to or from Stansted Airport. In 2018 only 1% of journeys were from Stratford. Other train journeys from other stations accounted for 5-6% of ticket sales.

9.144 The increase in demand for Stansted Express services for the proposals when compared to the Do Minimum scenario is shown as being 8% in demand in both directions. This would be of minor negative significance. In terms of impacts on the Stansted to Cambridge route, the increase in demand is calculated to be an additional 177 inbound daily passengers and 177 outbound daily passengers in the Development Case scenario. This would have a negligible effect on services on this line.

9.145 Impacts on interchanging at Tottenham Hale Station have been considered, although no detail in respect of platform capacity has been supplied to the

applicant. An assessment of the daily demand via the interchange to and from the underground station and services to/from Stansted Airport has been made. The following table is a summary of Tables 3.5 – 3.7 of Annex 6, which assesses the 2016 baseline against the 2028 Do Minimum and Development Case sensitivity tests.

	AM Peak		PM Peak		Daily	
	To underground	From underground	To underground	From underground	To underground	From underground
2016 baseline	2%	8%	2%	6%	14%	24%
2028 Do Minimum	4%	10%	9%	8%	18%	30%
2028 Development Case	4%	16%	11%	9%	22%	37%

9.146 The difference between the 2028 Do Minimum and Development Case sensitivity test scenarios results in there being 5 less passengers going to the underground and 23 more passengers coming from the underground in the AM peak. In the PM peak the numbers are 11 extra to and 15 extra from the underground. The daily figures are 141 to and 204 from the underground. This is viewed as being a negligible impact on Tottenham Hale Station.

9.147 It is noted that representations have been received in respect of existing capacity issues at Tottenham Hale Station, including concerns raised by Network Rail. However, existing problems at the station are not a matter for this application to resolve. In respect of future growth, Network Rail confirms that the additional information in respect of this issue has been considered and they have no objections to the proposals.

9.148 Capacity at Stansted Airport rail station is deemed to be sufficient to meet future rail demand. Platform 1 can accommodate two trains simultaneously in formations of up to 12 carriages and platform 2 can accommodate four carriage trains, currently used by Cross Country services.

9.149 Network Rail has been consulted on the proposals and they have confirmed that they are satisfied with the findings in the ES and the additional information submitted. They accept the conclusions that higher capacity rolling stock on the London services can accommodate passenger growth from the airport in the timescale assessed. They do not object to the application, but do note that increased rail passengers resulting from increased air passengers would mean that longer term rail capacity schemes on the West Anglia Main Line are likely to be needed sooner. These are capacity schemes that would be required with or without the expansion of the airport.

Construction Impacts

9.150 Paragraph 6.142 of the ES sets out that approximately 27,700 construction vehicles (two-way) are estimated over the 12 month construction period. The average and peak daily construction traffic flows would be around 100 and 200 respectively. HGV movements are not expected to exceed a peak of around 20 two-way movements per hour at any point of the day.

9.151 Construction vehicles would enter and exit the airport via Long Border Road and Bassingbourn Roundabout directly from the A120. The proposed construction

pound would be located close to the CEMEX concrete plant off Long Border Road.

9.152 Construction work would be undertaken during the day and night with night activities being limited to Monday to Friday. The exception will be the works required for the RAT and RET which will require 96 six hour periods on 48 consecutive Saturday/Sunday nights during the construction period when the runway will need to be closed.

9.153 Construction vehicles are estimated to increase traffic flows by around 0.7% and this would be of negligible significance. As such, this is expected to have a negligible impact on pedestrian movement, capacity, severance, delay, fear and intimation and amenity. The same negligible impacts are predicted for cyclists and public transport.

9.154 The impact of construction traffic has been assessed by ECC Highways who have raised no objections in respect of this issue.

C Air Noise

9.155 Chapter 7 of the ES assesses the impacts of air noise. This chapter needs to be read in conjunction with the accompanying noise assessment set out in Appendix 7 (Volume 2 of the ES) and the updates and additional information contained in Annex 3 of the Consultation Response and Clarifications document produced in July 2018.

9.156 Air noise is produced by aircraft on departure from the start of the departure roll along the runway and, on arrival, it ceases at the point of departure onto a taxiway. All taxiing is defined as ground noise, as is all noise generated by aircraft and servicing equipment on stands.

9.157 Adopted Uttlesford Local Plan Policy ENV11 states that noise generating development will not be permitted if it would be liable to affect adversely the reasonable occupation of existing or proposed noise sensitive development nearby, unless the need for the development outweighs the degree of noise generated. This policy is generally consistent with the NPPF but the NPPF is more specific with regard to existing businesses recognising the need to balance the needs of business and the protection of existing amenities. The policy therefore carries moderate weight.

9.158 Paragraph 170(e) of the NPPF (2018) states that development should contribute to and enhance the environment by preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of noise pollution. Paragraph 180(a) states that planning decisions should ensure that new development is appropriate for its location taking account of likely effects as well as the potential sensitivity of the site or wider area to impacts that could arise. In doing so, they should mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life.

9.159 In March 2010 DEFRA published the Noise Policy Statement for England (NPSE). This sets out the aims of the Noise Policy as:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

9.160 It emphasises the need to balance the consideration of the economic and social benefit of the activity under examination with proper consideration of the adverse environmental effects, including the impact of noise on health and quality of life. This should avoid noise being treated in isolation in any particular situation, i.e. not focussing solely on the noise impact without taking into account other related factors.

9.161 Section 5 of the ANPS (July 2018) sets out the assessment of impacts in relation to the Northwest Runway at Heathrow. The assessments will not be the same for development proposals at Stansted Airport, but the principles in relation to the assessments will be similar and therefore it is appropriate to consider the approach set out in the document.

9.162 Paragraph 5.44 identifies that the impact of noise from airport expansion is a key concern for communities affected. High exposure to noise is an annoyance, can disturb sleep, and can also affect people's health. Paragraph 5.45 notes that it is not just the number of aircraft overhead that results in aircraft noise but also engine technologies and airframe design, the paths the aircraft take when approaching and departing from the airport, and the way in which the aircraft are flown.

9.163 There is recognition that over recent decades there have been reductions in aviation noise (air and ground) due to technological and operational improvements and that this trend is expected to continue. It notes that new generation aircraft coming into service have a noise footprint typically 50% smaller on departure than the ones they are replacing, and at least 30% smaller on arrival.

9.164 The government recognises that evidence has shown that people's sensitivity to noise has increased in recent years, and there has been growing evidence that exposure to high levels of aircraft noise can adversely affect people's health.

9.165 Paragraph 5.47 states that the government wants to strike a fair balance between the negative impacts of noise and the positive impacts of flights, which reflects the aims of the NPSE.

9.166 There is no European or national legislation which sets legally binding limits on aviation noise emissions. Stansted Airport, as a noise-designated airport, is required to produce annual noise exposure maps. The International Civil Aviation Organisation introduced the concept of a 'Balanced Approach' to noise management (resolution A33/7). This is given legal effect in the UK through EU Regulation 598/2014 – the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach. This has four pillars:

i) Reduction of noise at source
ii) Land use planning and management
iii) Operational procedures
iv) Operational restrictions

9.167 The Balanced Approach operates by a preference for measures within Pillar i) before Pillar ii) and so on. Operational restrictions include the current night flight restrictions and are a last resort when measures within Pillars i) – iii) are deemed insufficient mitigation.

9.168 BTH (June 2018), paragraph 1.22 identifies that it is important that communities surrounding airports seeking to make best use of their existing runways share in the economic benefits of this, and that adverse impacts such as noise are mitigated where possible. Paragraph 1.29 states that careful account be taken of such relevant considerations.

9.169 Chapter 3 of the Aviation Policy Framework (2013) relates to noise and other local environmental impacts. Whilst this document predates the NPPF and the ANPS it is still the government's current policy and it also sets out, at paragraph 3.3, the aspiration to "strike a fair balance between the negative impacts of noise (on health, amenity (quality of life) and productivity) and the positive economic impacts of flights". It expects the benefits of aviation growth to be shared between the aviation industry and local communities. This means that the industry must continue to reduce and mitigate noise as airport capacity grows. As noise levels fall with technology improvements the aviation industry should be expected to share the benefits from these improvements.

9.170 Paragraph 3.12 sets out the policy of the APF to "limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise, as part of a policy of sharing benefits of noise reduction with industry." The government's recently revised objective for aviation noise as set out in its Air Navigation Guidance 2017 (to the CAA) is to "limit and where possible reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise". There is no more detailed definition of the terms used.

9.171 Paragraph 3.21 of the APF identifies that some people consider themselves annoyed by aircraft noise even though they live some distance from an airport in locations where aircraft are at relatively high altitudes, other people living closer to an airport seem to be tolerant of aircraft noise and may choose to live closer to the airport to be near to employment or to benefit from the travel opportunities.

9.172 It is clear from the representations received that people living some distance from the airport consider themselves to be adversely affected by noise from aircraft. This is despite them being a considerable distance outside of the 57dB 16hrLeq noise contour, or even the 51dB 16hrLeq. Annoyance at distance can be heightened by increased overflying against a relatively tranquil background.

9.173 Noise in respect of Stansted Airport is controlled and monitored under a variety of conditions and legislation, including legislation outside of the scope of the planning system. For example, the Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003 requires the airport operator to produce strategic noise maps and to adopt a Noise Action Plan (NAP) approved by Defra, to be updated every five years. In respect of night noise, this is controlled by the Night flight restrictions at Heathrow, Gatwick and Stansted. This sets a noise quota and flights quota and the current regulations were set in October 2017 and run to

October 2022. The operation of the night flight restrictions is separate to this planning application and is not affected by it. DfT consultation on new post-2022 restrictions is expected to start in the second half of 2019.

9.174 In terms of controlling day time noise levels, a condition on the 2008 Planning Permission sets a maximum area of 33.9km2 for the daytime noise contour of 57dB Laeq,16h. This is monitored by the strategic noise maps mentioned in paragraph 9.173above. In addition, condition ATM1 limits the number of air transport movements (ATMs) to 264,000 per 12 calendar month period, of which no more than 243,500 shall be passenger ATMs (PATMs) and no more than 20,500 shall be Cargo ATMs (CATMs). There is a further limit of not more than 10,000 ATMs per 12 calendar month period for aircraft taking off or landing which are not carrying passengers or cargo, or non-scheduled air transport services where the passenger seating capacity does not exceed 10 (known as General Aviation (GA)).

9.175 For the purposes of the ES aircraft noise modelling has been produced by the CAA's Environmental Research and Consultancy Department (ERCD), using their Aircraft Noise Contour (ANCON) model (current version 2.3). The ERCD is a specialist body within the CAA with national and international expertise on the assessment of aircraft noise. They produce noise contours for the designated London airports, and they generated the noise contours used by the Airports Commission. Their work is robust, authoritative and also impartial.

9.176 Aircraft noise modelling in the UK commonly uses the aggregate daily 16-hour noise levels experienced over the busy 92-day summer period between 16 June and 15 September, when effects are likely to be the most acutely felt. However, it is increasingly accepted that noise is not experienced in an averaged manner and whilst the use of LAeq 16hr remains government policy (reinforced by SoNA 2014), other metrics such as those that measure actual numbers of overflights are being used as supplementary indicators.

9.177 Further comparative modelling has been undertaken for a typical busy summer day in recognition of non-uniform responses to aggregation. The baseline is modelled against the 2028 Do Minimum and Development Case scenarios. This modelling does not indicate any materially different effects over the aggregate modelling outcomes for either daytime or night-time movements.

9.178 All assessments of potential impacts are made on the basis of assumptions made on the likely fleet mix. These assumptions have been challenged by those making representations, including SSE. The Council's expert advisors (BAP) note that fleet sensitivity tests have been carried out and that changes to the rate of the uptake of new variant aircraft of up to 10% will be insignificant. They consider that there is no reason to distrust the tests and that the assumptions appear reasonable.

9.179 The NPSE sets out the principles for the effective management of noise. Using NPSE descriptions, Table 7.3 of the ES (page 7-13) sets out the Airborne aircraft noise effect levels.

Effect level *	Noise level (dB)		Typical Action
	Daytime	Night-time	
NOEL	LAeq, 16h ≤ 51	LAeq, 8h ≤ 45	None required
LOAEL	51 < LAeq, 16h ≤ 63	45 < LAeq, 8h ≤ 54	Identify, mitigate and reduce to a minimum
SOAEL	63 < LAeq, 16h ≤ 69	54 < LAeq, 8h ≤ 63	Avoid
UAEL	LAeq, 16h ≥ 63	LAeq, 8h ≥ 63	Prevent

* NOEL – No observed level of effect
* LOAEL – Lowest observed adverse effect level
* SOAEL – Significant observed adverse effect level
* UAEL – Unacceptable adverse effect level

9.180 For the purposes of this planning application, the air noise study area is approximately 25km x 30km which contains all dwellings and other noise sensitive properties forecast to experience noise at or above LOAEL.

9.181 In terms of perception, the Council's Environmental Health Manager (Protection) advises that it is widely accepted that a 1dB increase in sound pressure level would not be perceptible. A 3dB increase would be just perceptible as an apparent change in loudness. So although a 3dB increase is a doubling of sound pressure, this increase is only just perceptible to the human ear. It should be noted that a 5dB increase will be clearly noticeable and a 10dB increase is typically considered twice as loud, so 85dB will sound twice as loud as 75dB.

9.182 A range of assessments have been carried out to assess potential noise impacts. These include the traditional 57dB LAeq, 16hr noise contours, plus 54dB and 51dB contours to reflect increased intolerance at lower noise levels. In addition, new assessments of Nx values (number above) have been produced. These identify the number of incidents above a certain noise level, for example the N65 identifies the number of times 65dB LAmax is exceeded. However, whilst it is known that noise levels will be at least 65dB LAmax these assessments do not establish the maximum noise level. Therefore, those falling within these areas could be affected by noise levels of 65.1dB LAmax or in excess of 85dB LAmax for example.

9.183 Different sensitivity criteria have been used for different types of receptor and these are set out in Table 7.4, reproduced below.

Receptor	Significance Criteria	Value of Δ* denoting significance			
		Negligible	Minor	Moderate	Major
Dwellings and other residential buildings Healthcare facilities	Day (07:00 – 23:00) Change in LAeq, 16h ≥ΔdB where outdoor LAeq, 16h >51dB Night (23:00 – 07:00) Change in LAeq, 8h ≥ΔdB where outdoor LAeq, 8h >45dB and SEL > 90dBA	< 3dB	≥ 3dB	≥ 6dB	≥ 9dB
Education facilities	Day (07:00 – 23:00) Change in LAeq, 16h ≥ΔdB where outdoor LAeq, 16h >51dB or outdoor LAmax >75dB	< 3dB	≥ 3dB	≥ 6dB	≥ 9dB
Places of worship Community facilities	Day (07:00 – 23:00) Change in LAeq, 16h ≥ΔdB where outdoor LAeq, 16h >51dB	< 3dB	≥ 3dB	≥ 6dB	≥ 9dB

*Δ (delta) represents the change in noise level

9.184 Within the air noise study area 20 schools, 5 healthcare facilities, 8 places of worship and 4 community facilities have been identified (see Table 7.5 in Chapter 7 of the ES).

9.185 Baseline data for 2016 has been established by way of attended daytime and night time noise surveys and unattended noise surveys in various locations including towns and villages within the vicinity of the airport and further afield such as Thaxted, Great Easton and Stebbing.

9.186 Stansted Airport has one runway which is designated as either Runway 04 (for operations in a north easterly direction) or Runway 22 (for operations in a south westerly direction). Based on 20 year average operations the assessments are carried out on the basis of 73% of operations on Runway 22 and 27% on Runway 04.

9.187 Assessments are carried out in respect of 2016 (baseline), 2023 Do Minimum and Development Case (36.4mppa) scenarios, 2028 Do Minimum and Development Case scenarios, and an additional assessment at 2024 Development Case (38.1mppa) scenario as this is considered to be the peak noise year.

9.188 The 57dB LAeq, 16h noise contours for the scenarios are as follows:

Scenario	**Size of 57dB LAeq, 16h contour ***
2016 Baseline	24.3km2
2023 Do Minimum	30.3km2
2023 Development Case	31.2km2
2024 Development Case	32.0km2
2028 Do Minimum	25.5km2
2028 Development Case	28.7km2

* Permitted noise contour as per 2008 consent is 33.9km2.

9.189 In terms of population affected by noise in accordance with the NPSE assessment criteria, Tables 7.14 and 7.15 give details of numbers of people affected by the proposals.

Table 7.14: Population within Daytime Observed Adverse Effect Level contours*

Year	dB LAeq, 16h		
	LOAEL: 51	SOAEL: 63	UAEL: 69
2016 Baseline	12,600	200	0
2023 Do Minimum	16,944	384	0
2023 Development Case	17,634	384	0
2028 Do Minimum	11,884	284	0
2028 Development Case	15,336	334	0
25+ Permission	15,480	484	0

* All changes in numbers of people within LOAEL and SOAEL categories to be viewed in the context of noise level changes between cases being **imperceptible.**

Table 7.15 Population within Night Time Observed Adverse Effect Level contours*

Year	dB LAeq, 8h		
	LOAEL: 45	SOAEL: 54	UAEL: 63
2016 Baseline	17,800	1050	0
2023 Do Minimum	24,830	2334	<50
2023 Development Case	25,430	2834	<50
2028 Do Minimum	22,630	2084	<50
2028 Development Case	21,980	2734	0
25+ Permission	15,980	1384	0

* All changes in numbers of people within LOAEL and SOAEL categories to be viewed in the context of noise level changes between cases being **imperceptible.**
(The increase in number in the 2028 Development Case for SOAEL: 54 shows the disproportionate geographical effect of an increased area of summer night contour over Thaxted and as shown in Figure 7.9 and paragraphs 7.234-5 of the ES)

9.190 These tables indicate that there will be an increase in population during the daytime above the LOAEL when compared to the Do Minimum Scenario, being 15,336 in the Development Case scenario compared to 11,884 in the Do Minimum. In terms of night time the figures are 22,630 in the DM scenario and 21,980 in the DC scenario, a reduction.

9.191 Whilst the LOAEL is considered to be the level above which adverse effects on health and quality of life can be detected, the ES argues that the noise level changes are not perceptible as they would be <1dB (between 0.5 and 0.6dB), and as such the increases would have a negligible effect.

9.192 In respect of night time impacts, the DC scenario is predicted to impact on a lower number of people (<3%) and this is argued to be a negligible impact in a positive sense. In terms of SOAEL, the noise level changes are also imperceptible and the change in population exposed to SOAEL is a minor effect. This is considered to be the case for both daytime and night time, despite the fact that the population affected by night time noise would increase by <33%.

9.193 Further analysis of the SOAEL night time contours indicate that the increase arises from the contour affecting a slightly larger area of Thaxted. The noise increases would result from an additional 3 flights between the DM and DC cases and noise levels would increase between 0.5 and 0.6dB, which is considered to be an imperceptible change.

9.194 It is acknowledged that noise from aircraft overflying isn't perceived as an average but rather a number of specific noisy events. In order to understand these impacts Nx (number above) contours have been produced. These indicate the number of events at which a certain noise level would be reached. As explained earlier, these only recognise the number of events above that noise level but do not identify the maximum noise level. Therefore, properties within these contours are likely to be experiencing different noise levels depending on their position in relation to the noise source.

9.195 The daytime Nx contour is N65, the number of overflights that exceed 65 dB(A). The night time Nx contour is N60, the number of overflights that exceed 60 dB(A). These are produced at values of 25, 50, 100 and 200 movements per day. These are equivalent to:

- 200: 13 overflights per hour, or one every 5 minutes;
- 100: 6 overflights per hour, or one every 10 minutes;
- 50: 3 overflights per hour, or one every 20 minutes; and
- 25: 1.5 overflights per hour, or one every 40 minutes

9.196 In the DC scenario there would be 72 additional movements during the day (712 between 07:00 and 23:00) compared to the DM scenario (640 between 07:00 and 23:00). The 2016 Baseline gives rise to contour areas for N65 25 and 50 values which are larger than those for either of the 2028 DC or DM scenarios. It is only at N65 values of 100 and 200 that the 2028 contours extend to greater areas than those of the 2016 Baseline Year. This is because in 2028 the areas closest to the runway will be experiencing increased numbers of overflights at 65dB(A) or above.

9.197 The night time overflights analysis indicates that there would be little difference between the DM and DC scenarios. In 2016 there were 82 night time movements on a peak summer night. This is expected to increase to 104 and 107 in 2028 for the DM and DC scenarios. As previously discussed, night time flights are outside the scope of the planning system and are subject to government controls. However, the difference between the DM and DC scenarios is negligible. This is because in 2028 the full effect of the night flight restrictions are assumed to bite irrespective of whether planning permission is granted for the Development Case.

9.198 In terms of non-residential properties, the principal area of concern is educational facilities, an issue raised in the representations received. Analysis indicates that at the majority of schools the internal LAmax is not expected to exceed 60 dB LAmax with open windows (allowing for a 12 dB reduction from external free field

level through an open window), due to the noise benefits associated with new generation, quieter aircraft. Four schools would experience arrival and/or departure overflights at a level exceeding 72dB LAmax, namely:

- Howe Green School
- Spellbrook Primary School
- The Leventhorpe School
- Mandeville Primary School

9.199 In practice, the primary cause of noise exceedances above the recommended internal level of 60 dB LAmax is departures and arrivals by the B737-800. These occur currently and will do so in the future, irrespective of this application. The application however would permit some additional movements, over and above the DM case in 2028. For the B737-800 and similar aircraft types, the application would allow around one additional movement per hour, over and above what is forecast under the DM case in 2028, assuming a worst case 100% single mode runway operation. This is significantly less than forecast in the previous 25+ mppa application. The replacement of this type of aircraft over time by the B737Max should alleviate this effect. However, the B737Max on arrival is expected to produce maximum noise levels slightly higher than recommended at Spellbrook Primary School (73dB LAmax).

9.200 ECC has raised concerns about the potential for noise breaching the noise threshold level of 55dB LAeq30 on any school site. It hasn't been clarified as to whether this is an internal or external measurement, but the assumption has been taken that it is an internal one. Where this level is breached ECC would require a noise consultant to be employed to review the planning application against the DfE's "Building Bulletin 93: Acoustic Design of Schools – Performance Standards" to formulate mitigation measures that could be incorporated into s106 Legal Obligation. However, it should be noted that these standards are for new education facilities and not for retrofitting.

9.201 The findings of the ES are generally accepted by the Council's Environmental Health Manager and the consultants BAP. This has included consideration of the proposed mitigation scheme which would be a revised and updated version of the current Sound Insulation Grant Scheme (SIGS). It has been confirmed by the applicant that all of the potentially affected population within the 55dB Lnight contour for the 2028 DC operations would be included as per current World Health Organisation night noise guidelines.

9.202 Mitigation measures are already in place to minimise noise impacts and these would continue. These include:

- A daytime noise contour with a maximum area of 33.9km2
- Conditions restricting the number of ATMS per annum, currently controlled by types of ATMS
- Director's Notices relating to the use of Air Start units, Ground Power Units, air conditioning units and other ground servicing equipment
- A Noise Action Plan
- Sustainable Development Plan
- Sound Insulation Grant Scheme

9.203 These mitigation measures are proposed to be retained and improved, particularly in respect of the SIGS as described in the previous section of this

report. The applicant also refers to the Night Noise Surcharges and Noise Penalty Limits as mitigation for ground noise.

9.204 The current SIGS is a mitigation measure contained in the current legal obligation. This offers assistance with the cost of moving for those households within the 69dB LAeq, 16h contour. It also offers to pay 50% of the total cost of acoustic insulation for dwellings exposed to noise levels in excess of:

- 63dB LAeq, 16h;
- 57dB LAeq, 8h (night time); and
- 90dB(A) SEL departure footprint for the noisiest aircraft (QC/2) operating at night (23:30 to 06:00)

9.205 The current scheme covers 1088 properties, of which 648 have taken up the option and benefitted from insulation. The revised and updated scheme, which can be secured by way of a s106 Legal Obligation, proposes to remove the requirement for the householder to contribute financially to the cost of insulation works; will be a three-tiered offer, to target greatest support to those who are most impacted with increased grant payments. The qualification criteria are set out in Table 7.24 (page 7-72).

Noise Impact	Noise Contour	Grant Maximum
Upper	69 and 66 dB LAeq, 16h	£10,000
Middle	63 and 60 dB LAeq, 16h	£8,000
Lower	57 dB LAeq, 16h/N65 200/ 90 dBA SEL* 600m distance/55 dB LAeq, 16h ground noise	£5,000

* 90 dB(A) SEL footprint for the noisiest aircraft operating at night (23:00 to 06:00)

9.206 This revised mitigation scheme would be available to 50 properties in the upper category, 400 in the medium and 1600 in the lower categories. In addition, 5 schools, 2 healthcare facilities, 8 places of worship (7 if Ebenezer Chapel is no longer to be used as a church) and 3 community facilities would be eligible, unlike under the current scheme.

9.207 There may be practical reasons as to why SIGS may not be appropriate mitigation for an educational facility. Therefore, alternative mitigation measures may be required, which would require engagement with the relevant bodies to identify any appropriate measures. These could be secured by way of an appropriately worded condition or s106 Legal Obligation if planning permission were to be granted.

9.208 The applicant operates a noise penalty scheme, the limits of which are set by DfT as part of the airport's designation under the Civil Aviation Act 1982. Subject to consultation with stakeholders and agreement with DfT, the scheme would be tightened. Table 7.22 sets out the existing and proposed departure noise limits.

When	Times	Noise limit: (dB(A))	
		Current	Proposed
Day	07:00 to 23:00	94	89
Day Shoulder Period	06:00 to 07:00	89	84
Night Shoulder Period	23:00 to 23:30	89	84
Night	23:30 to 06:00	87	84

9.209 The fining structure would remain as current practice, as set out in Table 7.23.

Period	Time	Noise Limit	Fine ≤3 dB above limit	Additional fine >3 dB, per dB(A) or part
Daytime	07:00 to 23:00	89 dB(A)	£1000	£250
Night time	23:00 to 07:00	84 dB(A)	£1000	£1000

9.210 The fines would be paid into the Stansted Airport Community Trust Fund which would be given over to community projects. This is discussed in further detail under Chapter 14. The operation of the scheme and the fund allocation mechanism can be secured by s106 Legal Obligation if planning permission is granted.

9.211 The principle of the mitigation scheme as currently existing and proposed, is in line with the principles of the APF which seeks to ensure that future growth in aviation shares the benefits with local communities. It is also a measure whereby noise levels are reduced and financial mitigation is provided to those communities where the noise limits are exceeded.

9.212 Overall, it is reasonable to consider that the assessment methodology, approach and level of detail contained in the ES is satisfactory. The ES is comprehensive and UDC's consultants advise that they have no doubts over its integrity. The ES demonstrates that the proposed noise impacts should not be materially different between the DM and DC scenarios. Therefore, it can reasonably be concluded there are no grounds to object to the proposed application on noise impact grounds, subject to securing appropriate mitigation by means of conditions and/or s106 Legal Obligation.

D Ground Noise

9.213 Chapter 8 of the ES assesses the impacts of ground noise. This chapter needs to be read in conjunction with the accompanying ground noise assessment set out in Appendix 8.1 (Volume 2 of the ES).

9.214 Paragraphs 9.157 to 159 above set out the policy position with regards to noise.

9.215 This chapter assesses the impacts of the temporary construction period noise as well as the permanent operational noise. The principal sources of ground noise are:

- Aircraft taxiing or holding with main engines in operation at any point between the parking stand and the point at which the aircraft commences its departure roll (start of roll) or exits the runway on arrival. This includes

engine start-up and shut down when parked on the stand and all holding on the taxiways and aprons;

- Aircraft auxiliary power units (APUs) for supplying cabin air and electrical power, and other aircraft services mainly when the main engines are not operating;
- Mobile ground power units (GPUs) which supply the required electrical power to the aircraft and other equipment such as PCA units that supply pre-conditioned air during turnarounds when fixed electrical ground power (FEGP) is not available;
- Aircraft engine ground run (EGR) tests; and
- Fixed plant and equipment

9.216 Due to controls in place regarding the use of GPUs, plus due to the nominal noise impact arising from fixed plant and equipment which is subject to noise attenuation where required, these sources of noise are not considered as part of calculations of the overall ground noise impact.

9.217 Ground noise has been assessed in a similar way as air noise in that the LAeq, 16h metric has been used for daytime noise between 07:00 and 23:00, and the LAeq, 8h metric has been used for night time noise between 23:00 and 07:00. The same predicted aircraft movements and fleet mix have been used for assessing potential impacts in respect of ground noise. This includes an aggregated typical day of operations based on the 92 day summer period referred to in the air noise section.

9.218 Forecast ground noise levels have been compared to:

- The background noise levels prevailing at any assessment position in the absence of noise due to ground activities at the airport
- Threshold levels that reflect the onset of community annoyance to aircraft ground noise, ie 55 dB LAeq, 16h for daytime and 45 dB LAeq, 8h for night time

9.219 Key assumptions include all of the permitted 15 stands on Echo Apron E being operational in 2023 in both the DM and DC scenarios, and also in 2028 DM scenario. The 2028 DC scenario assumes that the additional 3 stands proposed on Echo Apron will also be in use. Echo Apron is located to the west of the bund west of Molehill Green. The proposed stands at Yankee Apron would be used for overnight parking of home-based towed aircraft and would not require the use of APUs. These stands are located towards the centre of the airfield and their use should have a negligible effect on overall ground noise levels.

9.220 Noise certification levels relate to airborne aircraft and noise levels for ground operations are not measured. As such the ERCD confirm that it is appropriate to predict ground noise levels on the basis of departure noise levels. The ground noise study area is approximately 8km x 8km, much smaller than the air noise study area because aircraft engines are at lower power and ground noise is more readily attenuated such as by natural screening.

9.221 Noise assessments have been carried out in respect of 9 locations and background noise levels have been established with a mix of attended and unattended daytime and night time surveys.

9.222 Tables 8.9 and 8.10 set out the calculated noise levels for daytime and night time at the monitoring points. For ease of reference, the case officer has added an extra column to the right end of the two tables below to indicate the difference between 2016 baseline and the 2028 DC scenario.

Table 8.9: Calculated daytime levels at various points

Receptor location	**Daytime, LAeq, 16h**						**Baseline v 2028 DC**
	25+Full capacity	2016 baseline	DM 2023	DC 2023	DM 2028	DC 2028	
P1 – Molehill Green	56.7	53.4	55.7	55.8	55.4	56.4	+3
P2 – Gaunts End	56.2	53.6	55.3	55.4	54.9	55.8	+2.2
P3 – Tye Green	56.2	54.2	55.4	55.6	54.8	55.5	+1.3
P4 – Ash Pub	54.8	54.1	55.1	55.3	54.5	52.1	-2
P5 – Bury Lodge	53.5	53.6	54.5	54.7	54.0	48.7	-4.9
P6 – Warmans Farm	49.9	48.9	50.0	50.2	49.4	47.9	-1
P7 - Takeley	46.3	44.3	45.4	45.6	44.9	45.6	+1.3
P8 - Elsenham	44.8	42.8	44.0	44.2	43.5	44.1	+1.3
P9 – Brick End	44.8	42.3	43.8	44.0	43.4	44.3	+2

Table 8.10: Calculated night time levels at various points

Receptor location	**Night time, LAeq, 8h**						**Baseline v 2028 DC**
	25+Full capacity	2016 baseline	DM 2023	DC 2023	DM 2028	DC 2028	
P1 – Molehill Green	51.5	49.9	52.1	52.3	52.3	52.5	+2.6
P2 – Gaunts End	51.0	50.1	51.7	51.9	51.8	51.9	+1.8
P3 – Tye Green	51.1	50.9	51.7	51.9	51.7	51.6	+0.7
P4 – Ash Pub	49.6	50.4	51.1	51.4	51.1	48.2	-2.2
P5 – Bury Lodge	48.3	49.7	50.5	50.7	50.5	44.8	-4.9
P6 – Warmans Farm	44.8	45.4	46.1	46.3	46.1	44.0	-1.4
P7 - Takeley	41.1	41.0	41.8	42.0	41.8	41.7	+0.7
P8 - Elsenham	39.6	39.3	40.4	40.6	40.4	40.2	+0.9
P9 – Brick End	39.5	38.8	40.3	40.5	40.4	40.4	+1.6

9.223 The above tables indicate that in 2016 baseline none of the receptors experienced daytime noise levels above the threshold of 55dB LAeq 16h, although Tye Green and the Ash Public House are approaching this level at 54.2 and 54.1dB respectively. In terms of night time noise, receptors P1-P6 experienced noise levels exceeding the threshold of 45dB LAeq 8h.

9.224 The location which would experience the greatest increase in noise levels is Molehill Green with an increase of 3dB for daytime noise and 2.6dB for night time noise in the DC scenario compared to the baseline. However, it should be noted that an increase in noise levels would also arise in the DM 2028 scenario and that the difference in noise levels at this location would be 1dB in daytime and 0.2dB in night time.

9.225 In the DC scenario three receptors would exceed the daytime 55dB LAeq, 16h threshold, compared to just one receptor in the DM scenario. In the DM scenario

Molehill Green (P1) would experience a noise level of 0.4dB above the threshold. However, in the DC scenario this noise level would be 1.4dB above the threshold. In addition, Gaunts End (P2) would experience noise levels 0.8dB above the threshold and Tye Green (P3) 0.5dB above the threshold compared to noise levels of 54.9dB and 54.8dB respectively in the DM scenario.

9.226 Similarly, in the DC scenario four receptors would exceed the night time 45dB LAeq, 8h threshold, compared to six receptors in the DM scenario. Two receptors, Bury Lodge and Warmans Farm would experience betterment with noise levels falling below the night time threshold. See table below for a breakdown in the information.

Receptor	Baseline	2028 DM	Exceed 45dB LAeq, 8h	2028 DC	Exceed 45dB LAeq, 8h	Difference between DM & DC
P1 Molehill Green	49.9	52.3	+7.3	52.5	+7.5	+0.2
P2 Gaunts End	50.1	51.8	+6.8	51.9	+6.9	+0.1
P3 Tye Green	50.9	51.7	+6.7	51.6	+6.6	-0.1
P4 Ash Pub	50.4	51.1	+6.1	48.2	+3.2	-2.9
P5 Bury Lodge	49.7	50.5	+5.5	44.8	-0.2	-5.7
P6 Warmans Farm	45.4	46.1	+1.1	44.0	-1.0	-2.1

9.227 The applicant contends that the reduction in noise levels during the night time period arises because of:

- There being virtually no increase in the number of movements between the 2028 DC and the DM scenario operating conditions due to the overriding constraints imposed by the Government's Night Noise Regulations
- The significant reduction in GA movements under the DC scenario. This has the benefit of bringing into use a greater proportion of new generation lower noise aircraft, replacing small numbers of general aviation and corporate movements which are typically by older generation, noisier aircraft.

9.228 Similarly, the contention made in respect of the reduction in daytime noise levels at the Ash Pub, Bury Lodge and Warmans Farm is directly related to the reduction in GA movements which take place on the northside apron. Receptors P4 – P6 are located in closer proximity to the area of the airfield generally associated with GA movements and are therefore more affected by these movements. Reductions in GA movements would be beneficial to these properties.

9.229 The applicant's conclusion in respect of operational noise is that there should be no adverse effects, with only minor adverse effects arising at Molehill Green due to a daytime increase of 1dB between the DM and DC scenario and an exceedance of the threshold of only 0.1dB.

9.230 The Environmental Health Manager has reviewed the ES and concludes that a comparison of data sets shows negligible impact in the 2028 DC scenario compared to the 25+ permission. The level change when compared to the DM scenario is concluded by him to be equally negligible. Comparisons with the

2016 baseline show increases of +3dB in the worse location (Molehill Green) during the day and +2.5dB at night. As this is a marginal increase over time and that the resultant level when compared to the DM scenario, there should be little impact.

9.231 In terms of night time noise, the noise levels would increase above the 45dB LAeq, 8h in 2028. Comparing ground noise contours with and without the development in place, shows they are virtually indistinguishable throughout the surrounding community, except where benefits will arise from reduced activity associated with the northside apron should permission be granted. In those areas ground noise levels are expected to reduce. It remains the case that night time aircraft movements at Stansted are subject to Government control under the Night Noise Regulations and, as a consequence, the airport will reach its cap on movements before 2028 whether or not permission is granted for this application.

9.232 Mitigation measures in respect of ground noise are partially covered by those set out in the air noise section above.

9.233 In terms of ground noise, the findings of the ES are not disputed and the proposed mitigation measures are considered to be acceptable. The Environmental Health Manager (Protection) has recommended a condition requiring a noise envelope contour to not exceed the predicted Do Minimum 54dB LAeq, 8h contour s set out in the ES. This would ensure that the overall population exposed to the SOAEL at night does not increase over what could occur if the application did not proceed.

9.234 Whilst the principle of a night noise contour at 54dB LAeq, 8h could potentially be welcomed, in this instance this would not relate to the development applied for. The application relates to the increase in passenger numbers and a change to the mix of ATMs per annum. However, it does not relate to any changes to the permitted number of flights at night, these being controlled by the Night Noise Regulations. On this basis, such a condition would fail to meet the test of being relevant to planning and to the development to be permitted (paragraph 55 of the NPPF).

Construction noise

9.235 Construction noise would only occur in the period 2021-2 in respect of the engineering works applied for in this application. Other engineering works already have the benefit of planning permission and are envisaged to be carried out prior to this timeframe. In addition, other works may come forward either as a result of other applications or as permitted development. However, the ES considers the potential impacts in respect of ground noise for the engineering works as applied for. The main focus of the construction noise assessment is the key sensitive night time period.

9.236 Table 8.25 sets out the calculated construction noise levels at the sensitive receptors together with the change assessed by the applicant.

Receptor Location	Night time noise level, LAeq, 1h (dB)			
	Baseline	Construction	Combined	Change
P1 – Molehill Green	41.0	43.1	45.2	+0.2
P2 – Gaunts End	31.0	45.7	45.8	+0.8
P3 – Tye Green	48.0	42.3	49.0	+1.0
P4 – Ash Pub	33.0	43.2	43.6	No change*
P5 – Bury Lodge	47.0	42.3	48.3	+1.3
P6 – Warmans Farm	40.0	40.1	43.1	No change*
P7 – Takeley	43.0	35.9	43.8	No change*
P8 – Elsenham	48.0	35.1	48.2	+0.2
P9 – Brick End	35.0	31.5	36.3	No change*

* Baseline level lower than 45dB threshold

9.237 The above table indicates that all locations will experience increases in noise levels, ranging from an increase of 0.2dB to 10.6dB at the Ash Public House. However, these have been assessed as having a negligible significance as the increases would either result in noise levels remaining below the threshold of 45dB or would give rise to increases of less than 3dB above existing levels. These are reasonable conclusions to have reached and these findings are not disputed.

E Surface Access Noise

9.238 Chapter 9 of the ES assesses the impacts of surface access noise. This chapter needs to be read in conjunction with the accompanying transport assessment (Volume 3 of the ES) and the traffic data set out in Appendix 9.1 (Volume 2 of the ES).

9.239 Paragraphs 9.157 to 159 in the Air Noise section above set out the policy position with regards to surface access noise.

9.240 This chapter assesses the surface access noise impacts arising from the proposed construction and operational phases of the development. Whilst rail is a form of surface access which generates noise, this has been scoped out of the assessment. The basis for this decision is the fact that the proposed capacity changes at the airport will not lead to any change to the activity on the railway. AGA separately proposes to introduce 12-car Stansted Express trains in 2019 but without any changes to the number of trains per day. This alteration to existing capacity will occur with or without the development the subject of this application.

9.241 The Design Manual for Roads and Bridges (DMRB) sets out the noise assessment procedures for undertaking highway works such as building new roads. This provides thresholds at which potential impacts may start to become apparent, based on changes in 18-hour daytime noise levels (06:00-24:00) over both short and long term scenarios. For the proposed development, the long term changes are appropriate to assess as the forecast growth of the airport would lead to gradual increases in traffic flows to 2028. Specifically, the proposed development differs from the type of development that DMRB primarily relates to. The DMRB requires a two-stage process to be undertaken, the short term on the opening of the new road and long term operational effects. In this instance there is no new road and therefore no short-term effects.

9.242 Calculations are based on the Department for Transport calculation of Road Traffic Noise (CRTN). The assessment is based on noise levels as defined at 10m from the edge of the carriageway. The method adopted is universally applied and considered to be acceptable.

9.243 In carrying out the assessment the 2028 DC scenario has been compared with the 2028 DM scenario. A further assessment is made comparing the 2028 DC with 2016 baseline.

9.244 Comparisons of the 2028 DC and 2028 DM scenarios show that noise levels would increase between 0.1dB and 0.7dB, with the largest increase being at Thremhall Avenue. Comparisons between the 2028 DM and 2016 baseline indicate that increases will be larger, ranging from 0.7dB to 3.8dB, the largest increase being at Round Coppice Road.

9.245 The changes in noise levels would be negligible, with the exception of the 3.8dB increase at Round Coppice Road in comparison to baseline levels. The nearest receptor to this road is the Novotel Hotel, more than 150m from the road. The ES states that it should be noted that this increase primarily occurs as a result of the permitted uplift of the baseline (2016) level of annual passenger throughput up to 35mppa under the 2028 DM scenario, coupled with the proposed employment allocation at Northside, rather than as a result of the additional uplift in annual passengers triggered by the proposed 43mppa development.

9.246 The other building that would be affected by the proposals is the Stansted College building which opened in September 2018. However, the ES states that the design of the building includes high performance glazing and mechanical ventilation, due to the building's proximity to the runway. These features have been included on all elevations, not just those facing the runway. On this basis, it is concluded that the increases in Round Coppice Road traffic should not have any significant effects on staff and pupils within the College.

9.247 In conclusion, the ES considers that the impacts of surface access noise would be negligible. Cumulative impacts have been taken into consideration and no mitigation is identified as being required. These are reasonable conclusions to have reached and these conclusions are not disputed.

F Air Quality

9.248 Chapter 10 of the ES assesses the impacts of air quality resulting from development-related traffic. This chapter needs to be read in conjunction with the accompanying appendices 10.1 to 10.5 (Volume 2 of the ES) and the Technical Note, Annex 4A of the Consultation Response and Clarifications Document, July 2018. In addition, the information contained in Annex 1 of this document (as amended by Revision to Annex 1: Information for Epping Forest July 2018) now requires the potential impacts on Epping Forest to be discussed under Air Quality and not Biodiversity.

9.249 Adopted Uttlesford Local Plan Policy ENV13 identifies poor air quality zones, which are not within the application site. It also states that development that would involve users being exposed on an extended long-term basis to poor air quality near ground level will not be permitted. This policy is generally consistent with the NPPF, although the latter document sets out a requirement that any development in Air Quality Management Areas and Clean Air Zones is consistent

with the local air quality action plan. The policy therefore carried moderate weight.

9.250 Uttlesford District Council has designated one AQMA in Saffron Walden. Given the distance between the application site and the AQMA is it considered that the proposals should not result in significant impacts to the AQMA.

9.251 Adopted Uttlesford Local Plan Policy ENV7 seeks to protect designated sites, such as Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR). Development will only be permitted where the need for development outweighs the particular importance of the nature conservation value of the site or reserve. The policy also seeks to protect other areas of nature conservation significance, such as local wildlife sites, ancient woodlands and other wildlife habitats. This policy is only partially consistent with the NPPF with the emphasis shifting from the need for development to the benefits needing to clearly outweigh the harm. In addition, there are additional requirements under the Habitats and Species Regulations (2010) which relate to European designated sites. Therefore, the policy has little weight.

9.252 Paragraph 181 of the NPPF states:

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

9.253 Paragraph 175 seeks to protect biodiversity, including protected species, SSSIs, ancient woodland and ancient or veteran trees, and to conserve or enhance biodiversity.

9.254 The APF (2013) sets out the government's position in respect of air quality in and around airports. It identifies sources of pollution around airports as including aircraft engines, airport-related traffic on local roads and surface vehicles at the airport. The most important pollutants are oxides of nitrogen (NOx) and particulate matter (PM).

9.255 It recognises that limits in respect of PM are largely met, but challenges remain with nitrogen dioxide, while pressures from increasing pollution, transport and land use mean that considerable efforts to improve air quality to protect health and the environment continue to be needed.

9.256 Paragraph 3.51 of the APF states that studies have shown that NOx emissions from aviation-related operations reduce rapidly beyond the immediate area around the runway. Road traffic remains the main problem with regard to NOx in the UK.

9.257 Paragraph 1.9 of "Beyond the Horizon" (June 2018) states:

"Most of the concerns raised can be addressed through our existing policies as set out in the 2013 Aviation Policy Framework, or through more recent policy updates such as the new UK Airspace Policy or National Air Quality Plan. For the majority of environmental concerns, the government expects these to be taken into account as part of existing local planning application processes. It is right that decisions on the elements which impact local individuals such as noise and air quality should be considered through the appropriate planning process and CAA airspace change process."

9.258 In the area near to the airport, adjacent East Herts District Council's adopted Local Plan has saved Policy ENV27 which relates to air quality which states:

"(I) The Council will have regard to the potential effects of a development on local air quality when determining planning applications. Consideration will be given to the impact caused by both the operational characteristics of the development (industrial, commercial and domestic) and the traffic generated by it, and development which will significantly increase air pollution will not be permitted. Where development proposals are likely to involve emissions into the air, submission of appropriate details will be required to enable a full judgement of the impact of the development to be made.
(II) Any development within designated Air Quality Management Areas must have regard to the strategy for reduction of pollutants in such areas and to guidelines for ensuring air quality is thereafter maintained at acceptable levels as set out in the national air quality strategy."

9.259 The East Herts District Plan has been the subject of Examination and the Inspector's Final Report and Schedule of Main Modifications was received on 9 July 2018. In respect of Policy EQ4, the Inspector considered that the criteria within the policy were not precise or comprehensive enough to be effective. Modification MM/24/01 rewrites the policy to make it more comprehensive, taking account of legislation and national policy on air quality. This modification results in the policy being sound.

9.260 Modification MM/24/01 states:

"I. The effect of development upon air quality is a material consideration. All applications should take account of the Council's Air Quality Planning Guidance Document, which details when an air quality assessment is required.
II. All development should take account of the Council's Air Quality Action Plan, local Air Quality Strategies, Local Transport Plans, as well as national air quality guidance.
III. All developments should include measures to minimise air quality impact at the design stage and should incorporate best practice in the design, construction and operation of all developments.
IV. Where development (on its own or cumulatively) will have a negative impact on local air quality during either construction or operation, mitigation measures will be sought that will remove overriding impacts, such as an air quality neutral or negative development. Evidence of mitigation measures will be required upfront.
V. Where on-site mitigation is not sufficient, appropriate off-site mitigation measures may be required. Where adequate mitigation cannot be provided, development will not normally be permitted.
VI. Developments must not:

- *Lead to a breach or worsening of a breach of UK or EU limit values;*

- *Lead to a breach or worsening of a breach of an Air Quality objective or cause the declaration of an Air Quality Management Area or;*
- *Prejudice the implementation of any Air Quality Action Plan or local air quality strategy."*

9.261 Following receipt of the Inspector's Final Report on the Examination of the East Herts District Plan, an Extraordinary Council meeting was arranged for Tuesday 11 September with the intention that the Council would be asked to determine to adopt the Local Plan. However, the SoS issued a Holding Direction on that date which prevented EHDC from adopting the Local Plan. Subsequently, on 12 October, the Holding Direction was lifted although, at the time of writing the report, the District Plan had not been adopted, although UDC was advised that EHDC proposed to hold an Extraordinary meeting of the Council on 23 October 2018 with a view to adopting the Plan. Notwithstanding this, given the fact that Policy EQ4 has been tested and found to be sound it carries significant weight.

9.262 East Herts District Council has designated three AQMAs and the one of concern in respect of this application is the Bishop's Stortford AQMA which is centred on the Hockerill traffic lights junction close to the town centre. East Herts has published an Air Quality Action Plan (AQAP) 2017/18 – 2019/20. SP6 of the AQAP states that air quality measures will be taken into consideration on all planning applications, particularly when these are within or closely adjoining an AQMA. SP9 of the AQAP seeks to ensure that developers have taken sufficient steps to minimise any increase in air pollution.

9.263 The ANPS (2018) sets out where planning considerations in respect of air quality are likely to be relevant. These are:

- within or adjacent to Air Quality Management Areas, roads identified as being above limit values, or nature conservation sites (including Natura 2000 sites and Sites of Special Scientific Interest);
- where there would be effects sufficient to bring about the need for new Air Quality Management Areas or change the size of an existing Air Quality Management Area, or bring about changes to exceedances of the limit values, or have the potential to have an impact on nature conservation sites; and
- after taking into account mitigation, where there would be a significant air quality impact in relation to Environmental Impact Assessment and / or to a deterioration in air quality in a zone or agglomeration.

9.264 The ES assesses the impacts of NO2, PM10 and PM2.5 for human health and NOx for the natural environment. The study area is 15km x 15km centred on the airport and focusses on the potential impacts of the development on major roads and the main towns around the airport.

9.265 Within the study area 244 representative receptors were selected for assessment (49 schools/nurseries, 7 hospitals/care homes and 188 dwellings). Sensitive ecological receptors have also been identified with 6 falling within the study area.

9.266 Paragraph 10.37 of the ES addressed Epping Forest Special Area of Conservation (SAC) which is some distance south of the airport. Following an objection from Natural England, further work has been undertaken with regards to the potential impacts of increased airport related traffic on air quality within Epping Forest SAC. This issue was originally covered in the Biodiversity section

of ES Chapter 16 (Non-Significant Topics). In light of Natural England's recent advice, this is now being treated as an elevated concern within the air quality general topic area.

9.267 It is established throughout the ES that the construction period is expected to be 2021/2 and therefore predicted to take place prior to exceeding the currently permitted 35mppa limit. Construction works would be located away from sensitive receptors. In addition, vehicular movements would not be significant and therefore should not give rise to a level of increase of emissions which would result in harmful impacts on sensitive receptors. Therefore, the construction phase, with its proposed mitigation by way of a Construction Environmental Management Plan should ensure adverse harm would not arise as a result of pollutants.

9.268 With regards to the operational phase, the following pollution sources were assessed:

- Aircraft main engines in the landing and take-off (LTO) cycle;
- Aircraft auxiliary power units (APUs) while in use on the ground
- Ground support equipment (GSE), namely airside vehicles which handle aircraft turn-arounds, load and unload baggage and cargo, and conduct inspections and essential maintenance of airfield infrastructure, particularly the runway which is in constant use;
- Other airport sources, including car parks, airport heating plant and the fire training ground; and
- Road vehicles using the local and strategic highway network around the airport.

9.269 The applicant created a model to allow for the prediction of effects at future years using industry standard modelling software which was also used to inform the recommendations made by the Airports Commission. This model requires verifying to the existing monitored levels which is achieved through replicating the existing emissions sources in the area and including them in the modelled input, then adding them to the background levels which make up all other sources not included in the model. The applicant has included sources from aircraft and vehicles on the local highway network in their model and obtained the emissions for each of these from appropriate sources.

9.270 The background pollutant concentrations used for the modelling were taken from the National Air Emissions Inventory with the road transport and aviation emissions subtracted from the background so as not to double count. The model has been verified to local monitoring to ensure that the results from the model are accurately representing the actual monitored levels. This verification showed that the modelled concentrations of NO2 were significantly under-predicted within Bishop's Stortford and Stansted Mountfitchet. However, the Council's air quality consultant confirms that the report provides enough information to consider the effect of the scheme with the required elevated background and that the effect of the scheme (inclusive of the enhanced verification factor) should be 'negligible' with increases in pollution levels being ≤0.1µg/m3.

9.271 The applicant was required to carry out sensitivity analysis for multiple years to ensure the meteorological data for the baseline year was representative. Sensitivity testing was undertaken for 2014, 2015 and 2016 and demonstrated that the baseline data was representative.

9.272 It is a generally accepted principle that emissions will reduce in future years as technology becomes more efficient and more sustainable transport measures are encouraged amongst the general population. However, the rate at which emissions will improve is disputed and the DEFRA predictions which the applicant has used for their assessment are potentially over optimistic. To provide a sensitivity analysis, the applicant was requested to carry out analysis using existing baseline emissions in future year scenarios assuming that there will be no reduction in emissions. Whilst the results from this sensitivity modelling were higher than those in the original ES, the relative significance of the effect as a result of the scheme did not change and remains in the 'negligible' band.

9.273 The Council's consultants concluded that, based on the information within the ES and the additional information supplied, there should be no predicted increase in pollutant levels at modelled receptors in Stansted Mountfitchet. The scheme would increase pollutant emissions as a result of additional vehicle movements within the Bishop's Stortford Air Quality Management Area where levels of pollutants are already above the level where health effects are likely to be observed in the most sensitive members of the population. These health effects should be considered against the benefits of the scheme and an appropriate balance of mitigation sought.

9.274 Adopted Uttlesford Local Plan Policy ENV13 predates current legislation in respect of air quality. The draft policy in the Regulation 19 Plan has yet to be tested for soundness. However, in this instance the impacts will arise in Bishop's Stortford which is within the administrative district of East Herts District Council. The East Herts District Plan has been examined and the soundness of their policy in respect of air quality was been found to be sound and has significant weight.

9.275 Policy ENV27 of the Regulation 19 East Herts District Plan requires applications to be supported by an Air Pollution Assessment in line with the Council's Air Quality Planning Guidance Document. This sets out a requirement for Major Developments to be accompanied by a detailed air quality assessment to determine the impact on public health and the local environment. The methodology to be used for the determination of pollutant concentration change should meet the requirements of the Defra Technical Guidance Note (TG.16) (Defra 2016). The use of the ADMS-Airports model is an appropriate assessment in this instance.

9.276 The Air Quality Planning Guidance Document then requires the calculation of pollutant emission costs (known as damage cost) from the development to be carried out using the most recent Defra Emissions Factor Toolkit. This will determine the level of mitigation required. To date, this work has not been carried out.

9.277 However, it should be recognised that DEFRA's "Valuing impacts on air quality: Supplementary Green Book guidance" is a supplementary document to DEFRA's Green Book which cost assesses various elements of development proposals as a balancing exercise, and not just air quality impacts in isolation. However, paragraphs 1.6 and 2.1 explain that a damage costs approach is a recommended approach only. Therefore, there is no requirement to follow that approach. The NPPF (2018) does not require that approach to be followed for Air Quality and instead seeks to limit the need to travel and offer genuine transport solutions and mitigate impacts through measures such as traffic and travel management. Decisions should take account of AQMAs. See paragraphs 103 and 181.

Paragraph 181 explains that new development inside an AQMA needs to be consistent with the air quality action plan. The application is not inside an AQMA and has addressed transport measures.

9.278 The application includes measures consistent with the NPPF and reflecting the detail of those in the East Herts Air Quality Planning Guidance for developments in the EHDC area classified as Major such as local sourcing of staff, products and raw materials, development of car sharing initiatives, provision of low emission shuttle bus, provision of low emission fuelling infrastructure (electric car charging points), provision of new or enhanced public transport services to the site, and supporting sustainable travel initiatives. The applicant is already undertaking many of these initiatives. For example, their Staff Travel Plan encourages car sharing. The Transport Forum helps to support sustainable forms of travel by funding new public transport services or routes. The Airport's Sustainable Development Plan also includes "Meet the Buyers" events where local companies have the opportunity to promote themselves to secure local business contracts.

9.279 The continuation of those mitigation measures in respect of air quality effects, in particular in relation to sustainable travel initiatives, would be required if planning permission is granted, and this could be secured by way of s106 Legal Obligation.

9.280 Turning to impacts on ecological features as a result of air quality, an assessment in accordance with the DMRB HA 207/07 and the Environment Agency's H1 Guidance has been carried out in light of paragraph 10.34 of the ES stating that deposition of pollutants derived from NOx emissions contributes to acidification and/or eutrophication of sensitive habitats leading to a loss of biodiversity. Nitrogen deposition rates and information on sensitive habitats for the designated sites were taken from the APIS (Air Pollution Information System) website.

9.281 The DMRB guidance recommends the reduction in total nitrogen deposition rates of 2% per year based on predicted improvements in vehicle technologies. Sensitivity testing using 2016 road traffic emission factors for future assessment years was also carried out following discussions between the Council's consultant and the applicant.

9.282 The original conclusions of the ES, paragraphs 10.127-132, were that there would be no significant effects on any of the identified ecological receptors within the study area. The conclusion of the sensitivity testing found that exceedances of the NO2 air quality standard are predicted at a few more receptor locations compared to the ES: at 5 receptors out of the 244 assessed in 2023 rather than one; and six receptors in 2028 rather than zero. The change in concentrations due to the proposed development at all of these locations would be very small, no greater than 0.1µg/m3.

9.283 Exceedances of the NOx air quality standard are also predicted at the western boundary of Elsenham Woods SSSI. No exceedances are predicted at any of the other ecological receptors, including the Hatfield Forest SSSI and NNR. The predicted changes in nitrogen deposition at the Hatfield Forest SSSI and NNR and the Elsenham Woods SSSI would be less than 1% of the relevant lower critical loads for those site and therefore no significant effects are anticipated.

9.284 The Council's consultant confirms that they have no concerns with regards to ecological receptors.

9.285 In terms of ecological receptors, the assessment has also been considered by Natural England. They welcome the precautionary approach carried out in the sensitivity testing and note the results but raise concerns regarding the use of TEMPro as this may not accurately reflect the actual environmental conditions over the mid-longer term that ecological receptors needs to function within.

9.286 With regards to impacts on Hatfield Forest SSSI and NNR, Natural England welcomes the commitment to continue to monitor impacts on the receptor and would wish to ensure that this continues beyond the 35mppa limit. This could be secured by way of s106 Legal Obligation with a requirement to identify and implement mitigation measures if required.

9.287 Elsenham Woods SSSI is already subject to nitrogen deposition that significantly exceeds the Critical load for its SSSI woodland habitat feature. In recognition that the proposed 35mppa+ development is predicted to increase road traffic and nitrogen deposition onto Elsenham Wood SSSI, Natural England advises it would be appropriate for Stansted Airport to undertake any necessary measures to reduce NOx outputs and nitrogen depositions. This would be consistent with the aims and targets of the Airport Sustainable Development Plan to 'reduce air pollution' deposition within the woodland habitats of the Airport owned Elsenham Woods SSSI. This could be secured by way of a condition or s106 Legal Obligation.

9.288 The Council's Ecologist has advised that monitoring of Elsenham Woods SSSI should become part of any consent should planning permission be granted. They have also advised that the Elsenham SSSI Management Plan should be updated in accordance with the Airport Sustainable Development Plan. Whilst this is recognised as being beneficial to the Elsenham Woods SSSI there needs to be a distinction between the applicants' statutory duty as the owner of Elsenham Woods SSSI under legislation outside of the planning system, and the requirements as mitigation in respect of any planning permission granted.

9.289 In terms of Quendon Wood SSSI and High Wood Dunmow SSSI, Natural England accepts the conclusions of no significant impact.

9.290 With regards to Epping Forest SSSI, this is divided up into units given its scale. Units 103 and 201 are close to the M11 between junctions 6 and 7 and SSSI unit 106 is within 200m of the M25. This proximity necessitates further assessment in accordance with DMRB guidance and consideration within the ES.

9.291 The original additional information submitted made no reference to units 103 and 201 and as such Natural England assumed that distance measurements have been taken from the centre line of the carriageway and that this distance is regarded to be greater than 200m thus eligible for screening out in strict adherence to DMRB guidelines.

9.292 An additional Technical Note was submitted on 10 August covering the SSSI receptors between junctions 6 and 7 of the M11. The plan attached to the Technical Note indicates that unit 201 (for some reason appears to be referred to as receptor 13 in the report) is within 200m of the M11, whereas unit 103 is beyond the 200m range. Using modelling of traffic flows between junctions 8 and 7 of the M11, which is likely to result in a conservative estimate as it ignores

traffic leaving the motorway at junction 7, predicted traffic flows in 2028 in the DC scenario are predicted to be 5,149 AADT (2-way). This is predicted to increase nitrogen deposition by 0.08kgN/ha/yr, which is below 1% of the minimum critical load. Levels of deposition drop off rapidly away from the road.

9.293 Natural England notes that Epping Forest SSSI unit 201 is mainly Oak-Hornbeam woodland with additional interest provided by the ponds. For the purposes of this assessment, the woodland habitat (including ground flora, veteran trees and epiphytes) and wetlands are the main SSSI interest features that need to be considered from an air quality perspective. In this context and at this location, the minimum Critical load threshold for Nitrogen is correctly identified as 10kgN/Ha/Year. Natural England note that the deposition rates fall below the 1% threshold of significance. They also note that this area of Epping Forest is already subject to Nitrogen deposition that significantly exceeds the Critical load for its SSSI woodland and wetland habitat features and this development is likely to contribute to prolonging the exceedances of Nitrogen loading.

9.294 Natural England acknowledges that the strict application of current guidelines (eg, DMRB) for SSSI and EIA-linked assessments provide an accepted justification for not regarding the impact as 'significant' and therefore not requiring further assessment or mitigation. Ideally, mindful of sustainability and SSSI targets, this section of M11 adjacent to Epping Forest SSSI unit 201 should be subject to periodic traffic monitoring and linked AQ modelling to verify the predictions to see whether further assessment and remediation is necessary. In light of the context, Natural England does not expect this provision, but for the record would support a solution that included this provision within any Highways-linked obligation. However, given the level of predicted impact it is not considered that this level of mitigation can be justified in respect of this application.

9.295 Epping Forest is also designated as a Special Area of Conservation (SAC) and therefore an assessment under the Conservation of Habitats and Species Regulations 2010 (as amended) is required. On 10 May 2018, Natural England provided Advice on the Scope of an Appropriate Assessment that it considered was required because critical loads of Nitrogen Oxides and Nitrogen deposition are currently exceeded for the SAC and a likely significant effect, alone or in combination, from the traffic resulting from the application could not be discounted. Of particular importance is unit 105 which is located within 200m of the stretch of the M25 between junctions 25 and 26.

9.296 Natural England notes that the predicted contributions to NOx Critical Levels and Nitrogen deposition Critical Loads from the M25 are well below 1%, and so it is reasonable to conclude for SSSI unit 105 that the proposed development 'alone' can avoid a likely significant effect on the SAC features within SSSI unit 105, however with reference to the Wealden case there was still a need to consider whether there is a likely significant effect 'in combination' with other plans and projects.

9.297 For SSSI unit 109, also located between junctions 25 and 26 of the M25, Natural England notes distance measurements have been taken from the centre line of the carriageways and this distance is greater than 200m. Strict adherence to the DMRB guidelines (HA 2007) indicates that it is acceptable to screen out any further HRA assessment for SSSI unit 109, either 'alone' and/or 'in combination'.

9.298 Natural England welcomed the detail provided in the Habitats Regulations Assessment to enable further consideration of the 'in combination' effects and advises that if the background concentration/deposition is currently exceeding the environmental benchmark and the new development contribution will cause an additional small increase then, a decision will have to be made on a case by case basis. For this case, the complexities involved with the likely 'in combination effects' associated with the HMA Local Plans and the highlighted concerns about the ecological sensitivity of Epping Forest SAC (and SSSI) features has required this proposed development to be considered in more detail.

9.299 The revised Epping Forest District Council traffic assessments and linked Local Plan HRA are not yet available for consideration. To enable Natural England to meet the consultation timescales for this application the council has provided advice based on the information that is available, rather than requesting a further extension to the consultation period to allow for this additional third party 'in combination' information. Natural England notes the reasonable assumption that the M25 carries a wide range of longer distance trips and acknowledges that the local road B1393, which runs through Epping north to M11 J8 has no direct connection for traffic to access the M25 at this assessed location. Natural England notes the predicted AADT increase of 12 for the B1393 that can be attributed to the Stansted Airport 35+ development, which is very small compared with the predicted increases >1000 AADT that have been attributed to the Local Plan growth (available HRA figures). Based on assurances from the applicants that the assessments have adhered to available standard guidelines it is reasonable to conclude that the Stansted Airport development would not significantly contribute to traffic levels on the local Epping road network, whereas the growth associated with HMA Local Plans will significantly contribute to the local roads and potentially other major roads including the M25. With an absence of locally validated 'in combination' traffic and AQ assessments for the B1393 at this stage. Natural England is minded to accept the use of TEMPro growth for assessment purposes and note for future reference the predicted AADT contributions that would be required to meet 1% NOx threshold.

9.300 The Epping Forest Survey Note (Appendix 3 of the document Revision to Annex 1: Information for Epping Forest July 2018) helpfully provides additional detail that supports Natural England's previous advice. Natural England notes that a condition survey undertaken in 2009 confirms that the 'zone of influence' within the SSSI unit 105 is Nitrogen polluted when considering its Lichen Indicator Scores and other notable field signs (eg, signs of stress, elevated insect damage and dominance nitrogen-loving field layer where present). This aligns with their observations and concerns that 'Epping Forest SSSI unit 105 (within SAC) has been subject to Nitrogen deposition above Critical Loads for a prolonged period resulting in Natural England identifying the unit as a 'SSSI Threat' and an 'SAC IPENS (Improvement Programme for England's Natura 2000 sites) issue' since at least 2009. This is reducing the capacity for sensitive SAC features and their supporting habitats to maintain or achieve favourable condition and/or favourable conservation status.'

9.301 Natural England note the applicant's evidence of the lack of clear trend between the % lichen cover and the change in the distance from the M25, but also recognise the increase from 'Nitrogen Polluted' to 'Very Nitrogen Polluted' (based on Lichen Indicator Score / Nitrogen Air Quality Index) with increasing proximity to the M25 (ie, comparing c200m with c50m distances from the M25). Natural England's considers that the assessment helpfully contributes to their understanding of how the features of this specific area of the SSSI, SAC are

performing at different distances from the M25 and also demonstrates the challenges within the short timescales of the planning process to obtain definitive proof that elevated NOx and Nitrogen deposition from development will cause a significant and quantifiable impact.

9.302 When considering the 'in combination' figures generated by TEMPro for the Stansted 35+ traffic on the M25, Natural England notes the maximum increase in nitrogen deposition into this discrete area of SSSI unit 105 of the SAC is predicted to be 0.02kgN/ha/yr. This is well below the 1% level of the Critical Load for this woodland area of the SAC and the modelled reductions in Nitrogen deposition at increasing distances from the M25 is a reasonable assumption based on general studies. Natural England state that it is not yet clear to them what the likely increase in Nitrogen deposition will be from the B1393 onto this area of the SSSI unit 105 that can be attributed to the increased traffic generated by the HMA Local Plans. It is anticipated that the effect of the forthcoming Local Plans on the local roads and the adjacent SAC areas (including the B1383 and SSSI unit 105) will have to be considered as part of their HRA assessment process.

9.303 However, based on available and submitted information, Natural England broadly accepts, in its further representation of 31 August 2018, that the application of the distance criteria and the 1% significance threshold at this location for this development and generally accepts that the Stansted 35+ development can avoid an adverse effect on the integrity of Epping Forest SAC, either alone and in combination with other relevant plans or projects.

9.304 This does not mean that Natural England could then rule out a likely impact on the SSSI features within SSSI unit 105 caused by this scale of development-linked Nitrogen deposition if it were considered in combination with unexpected levels of growth beyond TEMPRo assumptions, but it merely acknowledged that the strict application of current guidelines (eg, DMRB) for SSSI and EIA-linked assessments provide an accepted justification for not regarding the impact as 'significant' and therefore not requiring further assessment or mitigation. Ideally, mindful of sustainability and SSSI targets, this section of M25 adjacent to Epping Forest SSSI unit 105 should be subject to periodic traffic monitoring and linked AQ modelling to verify the predictions to see whether further assessment and remediation is necessary. In light of the context, Natural England advised that it does not expect this provision, but for the record would support a solution that included this provision within any Highways-linked obligation.

9.305 Notwithstanding the advice of Natural England on 31 August 2018 that it "broadly accepts the application of the distance criteria and the 1% significance threshold at [location unit 105] for this development and generally accepts that the Stansted 35+ can avoid an adverse effect on the integrity of Epping Forest SAC, either alone or in combination with other relevant plans or projects", in parallel and to ensure that the Council complies with Regulation 63 of the Conservation of Habitats and Species Regulations (2017), and pursuant to the Advice of Natural England in relation to its scope and in light of its representations, Place Services was commissioned to carry out an Appropriate Assessment (https://uttlesford.moderngov.co.uk/documents/s8354/Place%20Services.pdf). This Assessment (11 October 2018) concluded in paragraphs 4.5 to 4.32 and Table 4.34 that, alone, the 35+ Project "Do Minimum" scenario there is no potential for Adverse Effects on Integrity of the Epping Forest SAC due to changes in air quality from traffic generation as a result of increased traffic flow

on the M25 from the 35+ project along under the "Do Something" scenario. It also concluded, at paragraphs 4.37 to 4.59, in particular paragraphs 4.58-4.59, that the 35+ development, acting in combination with the plan and projects in Table 4.56 "only makes an insignificant contribution to perpetuating the situation of the Critical Loads and Levels being exceeded". Paragraph 4.58 assessed in conclusion such contribution of emissions from the 35+ development as "de Minimis". The Conclusion summarises the assessment, at paragraph 5.3, along or in combination: the Annex I SAC will not be reduced by the Project; there will be no direct adverse effects by the Project on Annex II species; there will only be "de Minimis" indirect adverse effects on SAC Annex II species; there will be no change to habitat composition from the Project; and the Project will not interrupt or degrade the processes that support the SAC and species justifying designation. That conclusion was also supported by particular advice summarised in paragraphs 5.4-5.6 that included further vegetation surveys. The conclusion at paragraph 5.7 is that the application will have no Adverse Effect on the Integrity of the Epping Forest SAC objectives, alone or in combination. Therefore, Regulation 63 does not prevent the development, subject to other considerations, being granted consent and Uttlesford District Council can demonstrate its compliance with the UK Habitats Regulations 2017. In addition, paragraph 177 of the NPPF (2018) does not prevent the development engaging the paragraph 11 presumption in favour of sustainable development since an appropriate assessment is not required and has now been done.

9.306 The conclusions of Natural England are also noted, but their request for monitoring at Epping Forest appears to not have taken account of the Appropriate Assessment above and would not satisfy the tests as set out in Paragraph 56 of the NPPF due to the fact that the proposals would not result in any significant impact on this ecological receptor.

G Socio-Economic Impacts

9.307 In more detail that has been set out above in relation to the economic contribution of the application proposals and need, Chapter 11 of the ES assesses the socio-economic impacts of the proposal. This chapter needs to be read in conjunction with the accompanying appendices 11.1 and 11.2 (Volume 2 of the ES).

9.308 The NPPF (2018) sets out the principles of sustainable development and the document must be read as a whole. In respect of economic development, paragraph 80 states:

"Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential."

9.309 The ANPS (2018) sets out the importance of aviation to the UK economy in Section 2. This includes employment and economic benefits, including those associated with freight and tourism.

9.310 Paragraph 2.9 refers to the position in respect of Brexit. It states:

"The importance of aviation to the UK economy, and in particular the UK's hub status, has only increased following the country's decision to leave the European Union. As the UK develops its new trading relationships with the rest of the world, it will be essential that increased airport capacity is delivered, in particular to support development of long haul routes to and from the UK, especially in emerging and developing economies."

9.311 Notwithstanding the benefits of the aviation industry, the government recognises that there are constraints due to capacity issues. Aviation demand is likely to increase significantly between now and 2050 and all major airports in the south east of England are expected to be full by the mid-2030s, with four out of five full by the mid-2020s (paragraph 2.12).

9.312 Paragraph 2.14 states that the consequences of not increasing airport capacity in the South East of England would be detrimental to the UK economy and the UK's hub status. Restrictions on international connectivity would result in airlines seeking to maximise profits with routes being prioritised to other locations. In addition, operating at capacity means there would be little resilience to unforeseen disruptions, leading to increased delays.

9.313 Paragraph 2.16 sets out the Government's position with regards to not expanding airport capacity. It states:

"The Government believes that not increasing capacity will impose costs on passengers and on the wider economy. The Airports Commission estimated that direct negative impacts to passengers, such as fare increases and delays, would range from £21 billion to £23 billion over 60 years. Without expansion, capacity constraints would impose increasing costs on the rest of the economy over time, lowering economic output by making aviation more expensive and less convenient to use, with knock-on effects in lost trade, tourism and foreign direct investment."

9.314 Chapter 1 of the APF (2013) sets out the aviation industry's contribution to the UK economy, including the fact that it provides better access to markets, enhances communications and business interactions, facilitates trade and investment and improves business efficiency through time savings, reduced costs and improved reliability for business travellers and air freight operations.

9.315 One of the main aviation objectives is to ensure that the UK's air links continue to make it one of the best connected countries in the world. This includes increasing links to emerging markets so that the UK can compete successfully for economic growth opportunities. This will increase in importance following Brexit.

9.316 In addition to national and aviation policy, the importance of economic development is set out in a raft of local strategies, policies and guidance including:

- The London-Stansted-Cambridge-Corridor (LSCC) Growth Commission
- South East LEP Strategic Economic Plan
- Economic Plan for Essex
- Haven Gateway Partnership A120 Campaign
- Uttlesford District Council Regulation 19 Local Plan

- Uttlesford Economic Development Strategy
- Uttlesford Corporate Plan 2017-21
- Local Plans for surrounding local authorities
- Stansted Airport Sustainable Development Plan

9.317 The methodology for assessing socio-economic impacts is the same used in the ES accompanying the Generation 1 application as well as a range of other aviation projects and endorsed by the Airports Commission.

9.318 The ES assesses the impacts on the following:

- User benefits
- Wider socio-economic effects
- Employment effects
- Employment study areas
- Airport related employment
- Construction employment

9.319 In terms of user benefits, the ES argues that the increase in access to air services will increase business investment, support business growth and tourism. It predicts that in the DC scenario there would be an increase of 1.2 million business passengers and 6.8 million leisure passengers in comparison with the DM scenario.

9.320 Given the capacity constraints within the London airports system, it is contended by the applicant that this proposal would enable an extra 8 million passengers to access flights whose demand would not otherwise be met. As such, the development case is assessed by the ES as being moderately beneficial.

9.321 The ES predicts that the potential to provide for an additional 1.2 million business passengers per annum would increase the attractiveness of the area for investment. In addition, in terms of business efficiency and productivity, this is predicted to produce an increase in annual UK GVA of £1.2 billion. As around 79% of the passengers will be from the East of England and London the impact at that level is estimated to be £0.95 billion. The wider impacts are predicted to be £5.6 billion at UK level and £4.4 billion at the London and East of England level. Therefore, this is seen as being a major beneficial impact.

9.322 In respect of in-bound tourism, the average spend of a visitor arriving by air is around £700 per visit, and this rises to £860 per business passenger. The predicted increase of 1.1 million leisure passengers into the UK would result in an additional estimated spend of £779 million in 2028. This additional expenditure is estimated to support an additional 13,900 jobs in the tourism industry which would create GVA of £336 million (2016 prices) in 2028. On the basis that these passengers would not be able to visit the UK due to capacity constraints without this planning permission, the proposed development is assessed as being major beneficial.

9.323 In respect of international trade, all UK airports account for 48% of exports and 46% of imports by value, but less than 1% of the total volume of exports and imports which reflects the high value, low weight characteristics of air freight. In 2016, goods with a value of £6.3 billion were exported through Stansted to non-EU destinations, while goods with a value of £6 billion were imported. Overall,

Stansted accounted for 5% of all non-EU trade carried through UK airports in volume terms but almost 7% in value terms.

9.324 The ES concludes that the proposals would result in an additional 800 tonnes of cargo passing through the airport, representing an increase of 0.2% on the Do Minimum scenario, thus being a minor beneficial effect.

9.325 It should be noted that the 2008 consent permits 20,500 CATMs and this application seeks to limit the number of CATMs to 16,000. Therefore, it is considered that the proposals would be neutral in their impacts in terms of cargo as this growth could happen without the benefit of this planning permission being granted. Indeed, it could be argued that the proposals would result in a negative impact in respect of cargo due to the reduction in the number of CATMs per annum. However, in reality the moving annual total of CATMs has only exceeded 14,000 once in information provided by MAG to UDC under Condition ATM5 of the Generation 1 planning permission.

9.326 The employment effects would arise from both the construction and the operational phases of the proposals. The construction period (2021-2) is predicted to give rise to almost 200 direct jobs and 100 indirect jobs over the period. This is predicted to give an estimated £16.2m GVA for direct employment and £7.2 million GVA for indirect employment. These benefits are assessed as being negligible given the size of the construction industry and the short length of the construction period.

9.327 The operational phase of the proposal is estimated to give rise to an additional 3,000 direct on-airport jobs and 2,400 indirect and induced jobs in comparison to the DM scenario. This is predicted to give a GVA of £198.5 million for direct employment and £158.8 million for indirect and induced employment, totalling £357.3 million. The benefits are assessed as being moderately beneficial.

9.328 Representations contend, by contrast, that the socio-economics chapter is not balanced, and that economic downsides (for example net tourism deficit and impacts on residential property market) are not considered. The applicant has responded that the comparison between the DM and DC scenarios is very small and any consequential effects on the net demand for housing in the study area can only be very minor.

9.329 Generalised concerns are also raised with regards to the potential impacts of Brexit and that the ES does not take this into account. However, and specifically, the economic forecasts that underpin the ICF traffic forecasts were provided by Oxford Economics in July 2016, following the Brexit Referendum result. The economic forecasts were predicated on Oxford Economics' central case. This is where the UK leaves the EU on unfavourable terms, without negotiating a significant trade deal and the trade relationship between the UK and the EU therefore reverts to WTO rules.

9.330 Essex County Council's Economic Growth, Regeneration and Skills Department has assessed the application. They consider that the increase in capacity and the development of new airfield infrastructure is important to the growth of the Essex economy. Further Foreign Direct Investment opportunities will arise from new access to international markets, such as those airlines recently signed up to operate from the airport.

9.331 The proposals would lead to the creation of further direct and indirect employment opportunities associated with the airport, providing additional jobs for the residents of Essex. The proposals would also increase supply chain opportunities for businesses related to the operation of the airport. ECC welcomes the opportunities to work with the applicant in order to identify initiatives and programmes of support to promote both business and employment growth in Essex.

9.332 In terms of skills, the applicant's commitment to STEM (science, technology, engineering and maths) engagements and its collaboration with Harlow College with the new Stansted Airport College opening in September is welcomed. In addition, their approach to apprenticeships is also recognised, although greater understanding of the numbers of Apprenticeships and Associated apprenticeship Standards was sought. This information has not been clarified, but there is a commitment from the applicant to continue the STEM opportunities, such as working with Harlow College/Stansted Airport College. The applicant continues to operate the Aerozone facility which enables school children to get an appreciation of the range of job opportunities available at an airport.

9.333 In respect of tourism, ECC recognises the benefits the proposals would bring to the local and regional economy of Essex, including tourism and leisure. Measures to promote Essex as a tourism destination are desired and in this regarding ECC has requested a yearly sum of £6000. However, they have failed to demonstrate how this request meets the tests set on in paragraph 56 of the NPPF. Notwithstanding this, the applicant has expressed a willingness to explore measures to promote Essex but does not agree that this needs to be as a result of this application.

9.334 The findings of this chapter of the ES are therefore reasonably considered to be sound and would deliver in respect of the economic growth aspirations of national and local policy.

H CARBON EMISSIONS

9.335 Chapter 12 of the ES assesses the carbon emissions impacts of the proposal.

9.336 The NPPF (2018) sets out the principle of moving to a low carbon economy as one of the overarching objectives of the environmental strand of sustainability in paragraph 8(c), and in paragraphs 153-154 although this is predominantly aimed at energy sources and use within development.

9.337 The Government's objective for aviation, set out in paragraph 2.4 of the APF (2013) is "to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions."

9.338 The Government's response to its call for evidence on a new Aviation Strategy (April 2018) sets out that the government, at a global level, will consider their overarching framework for tackling UK aviation's carbon emissions to 2050 and how this can ensure that aviation contributes its fair share to action on climate change.

9.339 This states that UK aviation accounted for around 7% of the UK's total greenhouse gas emissions in 2016, an increase from around 5% in 2005 and that this is likely to continue to increase in proportion to other sectors, such as energy and manufacturing which are easier to decarbonise.

9.340 Paragraphs 6.12 and 6.13 state:

"*In the UK, the Climate Change Act 2008 sets a legally binding target for the UK to reduce its greenhouse gas emissions by at least 80% by 2050, compared to 1990 levels. This target includes UK domestic aviation (flights which take off and land in the UK) but does not include emissions from international aviation. The government will use the Aviation Strategy to re-examine how the aviation sector can best contribute its fair share to emissions reductions at both the UK and global level.*

Globally, international aviation's carbon emissions currently account for less than 2% of total emissions, but these could increase by two to four times between now and 2050. Internationally, the UK is committed to taking action to ensure that aviation plays its part in contributing to the 'well below two degrees goal' established by the Paris Agreement in 2015, and to the International Civil Aviation Organisation's (ICAO's) goal of carbon neutral growth from 2020. Significant progress has been made towards this objective. Most notably, the UK played a crucial role in reaching agreement at the ICAO Assembly in October 2016 on the first ever sector based global climate change deal for aviation, an offsetting scheme involving the purchasing of emissions reduction credits from other sectors, known as the Carbon Offsetting and Reduction Scheme for International Aviation, or CORSIA. The Aviation Strategy will consider what further action the UK wants to encourage across ICAO's full range of policy measures."

9.341 The carbon emissions section then discusses the EU Emissions Trading Scheme (ETS), the future of which is uncertain as far as the UK is concerned. The government says that it will be seeking an approach that is at least as ambitious as the existing scheme and provides a smooth transition for the relevant sectors. Since 2012, the ETS has had its scope reduced to only cover flights within the European Economic Area, which at Stansted is currently about 89-90% of the total number of flights. The government's position is that international aviation emissions are best tackled at an international level. Stronger action at the UK level without an equivalent level of action internationally is likely to impose greater costs on airlines flying to and from the UK, thereby putting UK airlines at a greater competitive disadvantage compared to foreign airlines and potentially increasing fares.

9.342 The government says that it will consider all cost effective measures to ensure that the sector continues to contribute to the UK's emissions reductions obligations. This could include operational measures such as alternatives to engine power when taxiing and the higher uptake of renewable fuels in conjunction with carbon pricing.

9.343 The APF (2013) is now showing its age in relation to topics such as carbon emissions. However, this document also sets out the desire that this topic should be dealt with at an international level.

9.344 BTH (June 2018) the Government states that it will be using the Aviation Strategy to progress wider policy on carbon emissions. In the same document, the Government does recognise that airports making best use of their existing runways could lead to increased air traffic and emissions. Using the Committee on Climate Change's planning assumption of limiting aviation emissions to 37.5Mt of CO_2 in 2050 (the carbon capped scenario), Government modelling

indicates that emissions in 2050 would total 40.8Mt taking into account "best use" and Heathrow Runway 3. The Government accepts that there is uncertainty over future climate change policy and international arrangements to reduce CO2and other greenhouse gases, but remains confident that measures such as single engine taxiing and higher uptake of renewable fuels will lead to the 37.5Mt cap being met in 2050. Under a carbon traded scenario requiring compensatory reductions elsewhere in the global economy, the Government sees nothing to prevent the UK meeting its obligations.

9.345 The ANPS (2018) also sets out that the government has undertaken significant work in respect of assessing carbon emissions in considering the future growth of aviation. Paragraph 5.70 states:

"The Government's key objective on aviation emissions, as outlined in the Aviation Policy Framework, is to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions. This must be achieved while minimising the risk of putting UK businesses at a competitive international disadvantage. The development of the Heathrow Northwest Runway scheme being considered under the Airports NPS does not override this objective."

9.346 The approach taken in Chapter 12 of the ES is aligned with the carbon emissions assessment principles as undertaken by the Airport Commission Appraisal Framework (ACAF) when it examined the options for meeting the UK's international connectivity needs.

9.347 The ACAF identified five areas where carbon emissions may change as a result of an airport scheme. These are set out in Table 12.1 of the ES.

ACAF categories	Relevance to the proposed scheme	Scheme phase
Increased airport capacity leading to a net change in air travel	Aircraft in the air and on the ground (LTO* and CCD**)	Operation
Departure and arrival route changes through altered flight operations	Not impacted by the proposed scheme	Operation
Construction of new facilities and surface access infrastructure	Embodied carbon from construction materials	Construction
	Energy consumption during construction	Construction
Airside ground movements and airport operations	Power and heat generation on-site	Operation
	Consumption of energy generated off-site	Operation
Changes in non-aviation transport patterns brought about by a scheme	Transport associated with staff commuting and passenger travel	Operation

*LTO: Aircraft on the ground and in the landing and take-off cycle (below 3000 ft)
**CCD: aircraft in the climb, cruise and descent cycle (above 3000 ft)

9.348 Table 12.10 in the ES sets out the baseline and predicted carbon emissions for the DM scenarios for 2023 and 2028.

	Unit	Base 2016	DM 2023	DM 2028
Passenger number	mppa	24.3	35	35
ATM	no	180,619	246,568	248,820
Carbon				
Flights	$MtCO_2$	1560	2304	2274
Landside activities	$MtCO_2e$	0.003	0.004	0.004
Airside activities	$MTCO_2e$	0.007	0.010	0.010
Surface access transport	$MTCO_2e$	0.170	0.211	0.189
Total	**MtCO2e**	**1.740**	**2.529**	**2.478**
Per passenger	**$kgCO_2e$/ passenger**	**107**	**113**	**110**

9.349 In respect of emissions three scenarios were used, pessimistic, central and best practice.

Pessimistic: The pessimistic scenario assumed a small amount of improvements in aircraft and engine efficiency to represent a conservative projection of future aviation improvements. The assumed improvement rate in this scenario is consistent with the bottom-up approach (where carbon emissions have been calculated from operational data provided by STAL) used for 2016-28.
Best practice: The best practice scenario assumed improvements in all three improvements areas (aircraft and engine efficiency, air traffic management and operations, sustainable aviation fuels) and reflects the assumptions set out by Sustainable Aviation in their Sustainable Aviation Carbon Road-Map report
Central: The central scenario represents a centred projection of improvement between the pessimistic and best practice scenario.

9.350 Using the pessimistic approach, Table 12.11 sets out the carbon emissions for the DM and DC scenarios for 2023 and 2028. The improved carbon intensity (reduced emissions per passenger) in the DC scenario compared to the DM one is principally due to increased passenger throughput using the same terminal infrastructure.

	Unit	2016-2028				
		Pessimistic				
		Base 2016	DM 2023	DC 2023	DM 2028	DC 2028
Passenger number	mppa	24.3	35	36.4	35	43
ATM	no	180,619	246,568	252,607	248,820	273,966
Carbon						
Flights	$MtCO_2$	1560	2304	2.304	2274	2.504
Landside	$MtCO_2e$	0.003	0.004	0.004	0.004	0.006
Airside	$MTCO_2e$	0.007	0.010	0.010	0.010	0.011
Transport	$MTCO_2e$	0.170	0.211	0.211	0.189	0.232
Total	**MtCO2e**	**1.740**	**2.529**	**2.529**	**2.478**	**2.753**
Emissions per passenger	**$kgCO_2e$/ passenger**	**107**	**113**	**110**	**110**	**106**

9.351 In 2028 the difference between the DM and DC scenario (rounded up) would be 0.3 $MtCO_2e$. When expressed as a value per passenger, the development case would see an improvement in emissions by 4 $kgCO_2e$.

9.352 The total emissions from flights for 2050 under the three scenarios are 2.031 $MtCO_2$ (pessimistic), 1.768 $MtCO_2$ (central) and 1.484 $MtCO_2$ (best practice). These reductions from 2028 are predicated upon technology improvements, operational improvements and use of sustainable aviation fuels.

9.353 The construction phase will contribute an estimated 0.22 $MtCO_{2e}$ including emissions from the production of concrete and fuel use by construction plant on site. This represents 0.9% of Stansted's 2022 total annual emissions in the year during which construction is planned to be completed. This would fall within the UK's third carbon budget (2018-2022) of 2,544 $MtCO_2e$ proposed by the CCC. This would account for approximately 0.001% of the total allocated budget, and for approximately 0.09% of all UK construction in 2022.

9.354 Flight carbon accounts for 89% of carbon emissions at Stansted Airport in 2016 and would account for 91% in the DC scenario. The majority can be attributed to the emissions taking place in the CCD cycle of aircraft departing from Stansted Airport.

9.355 By 2028, between the DM and DC scenarios there would be a 23% increase in mppa, a 10% increase in ATMs and a 10% increase in flight carbon emissions. As such, the carbon intensity of the DC scenario would improve by around 4% (flights only) in 2028 from 105$kgCO_2$/passenger to 100$kgCO_2$/passenger compared with the DM scenario. In the DC scenario, after 2028, passenger numbers would remain around 43mppa and the carbon intensity per passenger would fall to between 56$kgCO_2$/passenger (best practice) and 77$kgCO_2$/passenger (pessimistic).

9.356 By 2050, the annual flight emissions from Stansted are projected to reduce to between 1.5$MtCO_2$ (best practice scenario) and 2.0$MtCO_2$ (pessimistic scenario). This represents between 4% and 5.3% of the 37.5$MtCO_2$ target for UK aviation by 2050.

9.357 Transport carbon emissions relating to employee and passenger travel to Stansted are the second largest source of emissions after flights, accounting for 6% of the airport's total annual emissions in 2016 and 5% of the total annual emissions in 2023 and 2028. It is predicted that the DC scenario would increase for the DC scenario between 2023 and 2028 as increases in passenger numbers would outweigh the vehicle efficiency improvements.

9.358 Carbon emissions relating to gas consumption accounted for 0.2% of the airport's annual carbon emissions in 2016. Electricity consumption is reported as zero carbon emissions reflecting the airport's 100% 'green' tariff supply contract.

9.359 In respect of landside operations, emissions are predicted to rise from around 0.003$MtCO_2e$ in 2016 to 0.0045 in the DM scenario and to 0.0055 in the DC scenario. Airside operations would see an increase from 0.7$MtCO_2e$ in 2016 to just under 0.010 in 2028 in the DM scenario and around 0.011$MtCO_2e$ in the DC scenario.

9.360 The ES concludes, at paragraphs 12.93 and 12.94, that Stansted Airport's share of UK aviation carbon emissions would rise from 4% in 2016 to between 4% and 5.3% of the UK's aviation emissions target in 2050, that this would not be a substantial change, and with annual aviation carbon emissions predicted to decrease between 2028 and 2050. It is considered that the DC scenario is

unlikely to materially impact the UK's ability to meet its 2050 national aviation target of 37.5MtCO_2e.

9.361 Concerns have been raised with regards to carbon emissions in the representations. In respect of CORSIA, the applicant confirmed that their projections are not presented with CORSIA implemented.

9.362 Concerns have been raised also in respect of the improvement factors used in the scenarios produced by Sustainable Aviation. However, comparisons between the three approaches and other studies carried out in respect of Heathrow NW runway and by the CCC (UK aviation target) demonstrate that the approaches are comparable. The three scenarios predict improvements in the range of 0.9% and 1.94%. This compares with Heathrow where improvements were predicted to be between 0.9% to 1.95%, and CCC where they were predicted to be between 0.9% an 1.8%. As such, this authority has no reason to dispute the predictions shown in the ES. Notwithstanding this, the topic is an international and national level issue as advised in the Aviation Strategy. Indeed, paragraph 6.24 of the 2018 Aviation Strategy call for evidence response states:

"The government's Aviation Strategy presents an opportunity to take stock of the considerable progress made in recent years by both industry and government and to look ahead at what further action is required between now and 2050. The government will look again at what domestic policies are available to complement its international approach and will consider areas of greater scientific uncertainty, such as the aviation's contribution to non-carbon dioxide climate change effects and how policy might make provision for their effects."

9.363 It is reasonable to conclude that the application proposals will not materially impact on the ability of the government to meet its national carbon reduction target.

I Climate Change

9.364 Chapter 13 sets out the potential impacts with regards to climate change. This is a new requirement as set out in the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 which requires an assessment of the risk of major accidents and/or disasters relevant to the development concerned, including those caused by climate change, in accordance with scientific knowledge. This chapter needs to be read in conjunction with Appendices 13.1 to 13.3 in ES Volume 2.

9.365 Paragraph 8(c) of the NPPF (2018) sets out climate change as an objective of the environmental objective of sustainable development. Section 14 of the NPPF (2018) sets out the government's planning policy in respect of climate change. In paragraph 150 it states that developments should be planned for in ways that avoid increased vulnerability to a range of impacts arising from climate change and can help to reduce greenhouse gas emissions, such as through its location, orientation and design. The latter part of the policy is not relevant to the proposals as no buildings are proposed as part of the development.

9.366 The APF (2013), Section 2, Climate Change Impacts, provides guidance on climate change and, as with carbon emissions, paragraph 2.4 sets out the government's objective similarly, together with a series of measures at different levels.

9.367 The Aviation Policy Framework states that *"the Government's objective is to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions."* This will require action at a global level. European and national level actions are also set out in the document.

9.368 Paragraph 2.55 of the APF refers to the Climate Change Act (2008) committing the UK to build resilience to the expected impacts of climate change. A Climate Change Risk Assessment is required to be produced every five years. In 2012 the CAA, NATS and ten airports published climate change adaptation reports under the Climate Change Act Reporting Power and this will be repeated every five years.

9.369 The reports identify climate variables that pose risks to the industry, including increases in extreme weather affecting operations; increases in temperature leading to runway damage; increased rainfall posing flood risk and changes in wind patterns affecting air traffic movements.

9.370 The government's position with regards to climate change is set out in the 2018 Aviation Strategy call for evidence response in paragraphs 6.12 and 6.13, quoted in paragraph 9.340 above.

9.371 The ANPS sets out the government policy in respect of climate change. It states that climate change mitigation is essential to minimise the most dangerous impacts of climate change, as previous global greenhouse gas emissions will already mean some degree of continued climate change for at least the next 30 years. Climate change is likely to mean that the UK will experience on average hotter, drier summers and warmer, wetter winters. There is potentially an increased risk of flooding, drought, heatwaves, intense rainfall events and other extreme events such as storms and wildfires, as well as rising sea levels.

9.372 The ANPS states that new development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. These must be considered when planning design, build and operation. Any ES should use the latest UK Climate Projections and should cover the estimated lifetime of the new infrastructure. Any adaptation measures should be based on the latest set of UK Climate Projections, the most recent UK Climate Change Risk Assessment, consultation with statutory consultation bodies, and any other appropriate climate projection data.

9.373 The ES chapter reviews the meteorological data for the area, both local and regional, for the period 1981-2010. A review of weather related incidents has also been undertaken, including a high level assessment of events for the period 2014-17. The assessment uses the Met Office's UK Climate Projections 2009 (UKCP09) to assess the potential weather patterns for the 2020's and 2050's.

9.374 The data indicates that the frequency of hot days, dry spells and heavy rainfall will increase in the future compared to the baseline, whilst the number of cold days will decrease. The change between baseline and 2020's is not vastly different, but there is a significant change when looking forward to the 2050's. The use of de-icing is predicted to decrease, which would be an environmental benefit.

9.375 Table 13.8 sets out the operational stage in-combination climate change effects by environmental topic. No in-combination effects were identified for the noise topics, nor public health and wellbeing topic.

Environmental topic	In-combination climate change effect	Existing or embedded mitigation
Surface access and transport	Adverse effect from increased stress on existing road and rail network in combination with increase in frequency of extreme weather events negatively impacting surface access and transport (eg damage to cabling and rails, inundation from flooding)	Existing mitigation is outline in the STAL Climate Change Adaptation Progress Report (CCAPR) and includes emergency contingency plans and coordination with road and rail operators (see risk ID CCA27)
Air quality	Adverse effects from increased prevalence of hotter and drier conditions in combination with increase in vehicle and aircraft emissions may result in changes in concentrations of nitrogen oxides (NO_x), fine particulate matter (PM_{10} and $PM_{2.5}$) and ozone (O_3). Unclear whether the concentrations will increase or decrease.	Airlines have new, cleaner fleet on order. In cases where air quality targets are not met, an action plan to restore compliance is put in place by local authorities, which may include actions with which STAL would be expected to comply. Whilst ozone is likely to increase there are limited mitigation measures available to STAL.
Socio-economic effects	Adverse effect from increase in frequency of extreme weather events in combination with direct and indirect job creation during operation leading to increased stress on local infrastructure.	Existing mitigation is outlined in the STAL CCAPR and includes emergency contingency plans and coordination with road and rail operators (see risk ID CCA27).

9.376 Mitigation measures identified (other than the CCAPR) are operational matters which would lie outside of the planning system. These include monitoring of resilience plans, weather trends, local data and risks to infrastructure. Mitigation in respect of high temperatures, strong winds and high precipitation impacts and risks are:

- To review the demand placed on energy supplies to heat and cool buildings with mechanical and ventilation systems (HVAC)
- To review temperature thresholds for cooling systems within the main terminal building, satellite piers, and ancillary buildings, to ensure effective and efficient provision of cooling given projections for increased passenger numbers and higher temperatures in the future;
- To review allowances for maximum aircraft operating temperatures in collaboration with the airline operators to determine whether they are within tolerance of hot day (>25°C) occurrences which are likely to increase due to climate change
- To check weather data and potential impacts on operations

9.377 On the basis of the information submitted in the ES, it is considered that the applicant has reasonably met the requirements of the EIA Regulations and no significant effects are identified.

9.378 It is acknowledged that representations have raised issues in respect of climate change and also carbon emissions. This was also the case in respect of the Generation 1 application where the Inspector stated that the Inquiry into STAL's appeal against the Council's refusal to grant planning permission was not the forum for challenging the merits of current government policy or for debate on the direction of future policy. He stated that they were matters for Parliament and outside the scope of the appeal. Whilst these two issues remain to be dealt with at a national level by the government, the Inspector's comments remain valid in respect of the consideration of this application.

J Public Health and Wellbeing

9.379 Chapter 14 of the ES reviews public health and wellbeing and should be read in conjunction with the Health Impact Assessment contained in Appendix 14.1 (ES Volume 2). This is a new requirement set out in paragraph 4(2)(a) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. This stipulates that the ES must identify, describe and assess in an appropriate manner in light of each individual case, the direct and indirect significant effects of the proposed development on population and public health.

9.380 The NPPF (2018) sets out the government's principles for sustainable development. In terms of the social strand there is a requirement that developments support communities' health, social and cultural well-being.

9.381 Paragraph 180 of the NPPF (2018) states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:
a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."

9.382 The Appraisal of Sustainability which accompanies the ANPS demonstrates that airport expansion will attract additional air traffic, which impacts upon quality of life and wellbeing, in particular through noise, air quality, housing, community facilities, and access to nature and cultural heritage. Whilst this application does not seek to increase ATMs it does seek to alter the composition of the ATMs, most notably a reduction in cargo flights and general aviation movements.

9.383 The construction and use of airports infrastructure has the potential to affect people's health, wellbeing and quality of life. Infrastructure can have direct impacts on health because of traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water, hazardous

waste and pests. It can also impact on sites of local or regional interest for biodiversity which also play a role in the wellbeing of communities.

9.384 The APF states the Government's intention that decisions in respect of aviation should be in accordance with sustainable development principles. This means making the necessary decisions now to realise its vision of stimulating economic growth and tackling the deficit, maximising wellbeing and protecting our environment, without negatively impacting on the ability of future generations to do the same.

9.385 'Health' is commonly defined as *"a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity"* (WHO).

9.386 The basis of the assessment in this application is to apply a broad socio-economic model of health that encompasses conventional health impacts such as disease, accidents and risk, along with wider health determinants vital to achieving good health and wellbeing such as employment and local amenity. It considers both physical and mental health, and also addresses equality and social impacts where possible. It considers three broad domains of public health practice:

- Health protection (ie environmental pollution and standards set to protect health)
- Health promotion (ie healthy lifestyles, socio-economic status and equalities); and
- Health care (ie provision, effectiveness and equality of access to healthcare services)

9.387 The assessment follows a source-pathway-receptor approach to identify and assess health impacts that are plausible and directly attributable to the proposed development. Table 14.1 sets out the potential health pathways summary.

Health pathway	Potential for impact	Impact type*
Construction		
Exposure to air pollution including dust, noise, ground or water contamination	The proposed physical infrastructure to be constructed is minimal, with no potential for significant environmental impacts identified in ES Chapter 5 or in the relevant ES topic chapters. Construction-stage health pathways are therefore not considered to give rise to any likely significant health or wellbeing effects and are scoped out of the further assessment in this chapter.	Temporary. Direct, indirect or secondary
Construction traffic (safety, amenity, severance)		
Construction workforce (housing/services demand, crime, infectious diseases)		
Construction employment, supply chain spending		

Health pathway	Potential for impact	Impact type*
Operation		
Airport/aircraft air pollutant emissions	Change in air quality at residential and other sensitive locations	Direct
	Impact on habitats and resulting change in amenity value of green/ recreational space	Direct
Airport/aircraft noise	Change in noise environment at residential and other sensitive locations	Direct
	Change in amenity value of green/ recreational space	Direct
Surface access road traffic generation	Contribution to air pollution and noise exposure	Direct
	Change in amenity value of green/ recreational space	Direct
	Change in road safety	Direct
	Change in capacity or demand for public transport	Direct
	Community severance	Direct
	Impacts on non-motorised users (NMUs)	Direct
	Change in congestion, access to services	Direct
Governance (airport and regulator)	Public participation and empowerment concerning operational impacts	Direct
Increase in airport's economic activity with more passengers and flights	Direct employment generation	Direct
	Education/training opportunities	Direct
	Supply chain spending – indirect employment/wealth generation	Indirect
	Additional employees' impact on services, housing capacity, community cohesion	Indirect
Increase in flight capacity and/or connections	Increased opportunity for leisure travel and social connections	Direct
	Increased opportunity for business travel with economic benefit, with resulting employment/wealth benefit	Indirect, secondary
Flood risk	Risk to life or property; displacement from housing; impaired access to services	Direct
Water contamination	Drinking water contamination	Direct

* Impact type is 'permanent' (ie persisting for the foreseeable future) unless otherwise specified

9.388 *Socio-economics:*

As discussed earlier in this report, the proposals would give rise to an additional 3000 direct employment opportunities and 2400 indirect or induced opportunities. Direct and indirect/induced employment has the potential to offer important long-term health and wellbeing benefits affecting up to 5,400 people.

9.389 Indirect quality of life, wellbeing and possibly health benefits would also be associated with the predicted £357m of GVA per annum by 2028. These would arise through increase personal wealth and increased public revenue enabling spending on public services that affect health.

9.390 It is predicted that around 2.3 million additional leisure trips would be enabled by the proposals by 2028. These trips have social and family benefits, or offer cultural, recreational or educational experiences. This can improve general and mental health and thus quality of life.

9.391 The regional level benefits are assessed as having a major beneficial effect, supporting actions to address the Essex health objectives for 'people not in education, employment or training', 'loneliness and social isolation' and the Hertfordshire objective 'economic wellbeing'.

9.392 *Surface access:*

9.393 Additional demands placed on surface access should not result in adverse impacts on road safety, active travel or community severance. There should be negligible impacts in terms of road safety in respect of Junction 8 of the M11 and its link roads. Negligible impacts on driver delay on local minor and trunk roads and a minor impact on Junction 8 were identified.

9.394 In terms of impacts on health and wellbeing, the proposals should not result in adverse impacts in terms of road traffic growth. There should be no significant adverse impact on health and wellbeing due to increased congestion and reduced access to services is therefore considered unlikely.

9.395 The surface access chapter indicates that there would be a minor adverse impact on some rail, bus and coach travel services from the proposed development due to the increased usage. However, it is also recognised that local bus and coach service operators can respond quickly to new demand and that the proposed development may provide a catalyst for public transport improvements. Therefore, any adverse wellbeing impact is likely to be very minor, if present.

9.396 Overall, the magnitude of impact on health and wellbeing is considered to be negligible and would not result in a significant impact in terms of demands on surface access.

9.397 *Air Quality:*

The predicted negligible changes in air quality should have no measurable extra adverse health outcomes per annum, with an increase of fewer than one emergency hospital admission or an effect on mortality equivalent to fewer than one additional death at typical ages predicted.

9.398 Vulnerable individuals, such as those in healthcare facilities or with existing respiratory diseases, will in some cases have greater susceptibility to health impacts from air pollutant changes. The ES argues that this cannot be quantified from statistical risks applicable to the general population, but given the negligible magnitude of air pollutant concentration changes predicted additional risks are unlikely to be significant.

9.399 *Noise:*

The predicted changes in air noise are considered to not result in any measured adverse health outcomes for ischemic heart disease (IHD), stroke or dementia, with an increase of fewer than one additional annual incident case predicted.

9.400 Approximately four to six additional cases of hypertension prevalent within the population are predicted, and additional cases of depression or anxiety associated with high annoyance are also possible. The magnitude of change predicted is very small, being less than 1% of the baseline rate.

9.401 An increase of around 339 people who consider themselves highly annoyed by aircraft noise is predicted, which is around a 28% increase compared to the do minimum scenario. However, a small reduction in the number of people with high sleep disturbance is predicted due to the very limited change in the L_{night} contours with the proposed development. The increase in the population predicted to be affected by noise should fall within the area designated for the revised SIGS mitigation package.

9.402 There would be a 13% increase in the number of daytime noise events above the assessment threshold at the most-affected school, Howe Green; the most-affected church, St Giles in Great Hallingbury; and the most-affected healthcare facility, Falcon House residential care home in Little Hallingbury. There may be minor potential for increased disruption to learning, to the care environment at Falcon House, or an impact on the quality of life for worshippers at the affected churches.

9.403 Overall, the magnitude of impact on health is considered to be minor adverse. The magnitude of impact on wellbeing and quality of life, taking into account the predicted changes in annoyance and sleep disturbance, is considered to be a minor adverse effect.

9.404 *Amenity, Green Space and Physical Activity:*

Significant reductions to the amenity of green space resulting in significant effects on quality of life and wellbeing are unlikely as a result in increases in noise due to the negligible increases predicted.

9.405 Some areas of the countryside, including parts of Hatfield Forest, will be affected by a greater level of activity exceeding 25 events a day with noise events greater than 65dB. The magnitude of impact would result in a minor adverse effect on quality of life and wellbeing due to reduction in the amenity of green space. The impacts would adversely affect actions to address the Hertfordshire objective ‘Open space provision’ and NPPF objective ‘Open space provision and rights of way’.

9.406 *Flood Risk and Water Contamination:*

No impact on health and wellbeing due to water contamination or flooding is predicted.

9.407 *Governance:*

The application is accompanied by a Statement of Community Involvement detailing the consultation and public engagement undertaken by the applicant.

9.408 The applicant engages actively with local stakeholders through the quarterly Stansted Airport Consultative Committee, Parish and District Council liaison meetings, annual community impact surveys, outreach events, complaints monitoring and a noise track keeping system, and reporting of all air quality and noise impacts. Any adverse wellbeing and quality of life impacts due to poor governance are minimised and a negligible impact is predicted overall.

9.409 Mitigation measures have been briefly discussed in the relative chapters. These include:

- Travel Plan – joint working with public transport providers
- A new SIGS for dwellings and other noise-sensitive properties
- A Community Fund to support projects for cultural and community wellbeing (see attached map for proposed funding areas)
- Stansted Airport College – complements the Airport Employment and Skills Academy

9.410 Further mitigation is not required as a result of the findings of the ES, but the applicant is seeking to develop a closer working relationship with the Directors of public health/local public health teams, potentially via participation in the Stansted Airport Consultative Committee. This approach is supported by ECC.

9.411 Discussions have been ongoing with various parties as to how the Community Fund could be refreshed and operated to ensure effective mitigation in terms of public health and wellbeing. This mitigation can be secured by way of s106 Legal Obligation with appropriate terms of reference to ensure community involvement with the relevant stakeholders. Previously, the fund has operated successfully under clauses of the 2003 s106 agreement and the 2008 unilateral undertaking. Although both these time-limited obligations have now expired, the applicant has continued to voluntarily top up the fund each year in addition to the accumulated noise funds.

J Water Resources and Flood Risk

9.412 Chapter 15 of the ES discusses the potential impacts on water resources and flood risk. This should be read in conjunction with the Flood Risk Assessment (FRA) in Appendix 15 (Volume 2) and the response to ECC LLFA consultation response set out in Annex 5: Water Technical Note in the Consultation Response and Clarifications document.

9.413 Adopted Uttlesford Local Plan Policy GEN3 seeks to direct new development to areas of low flood risk and to ensure that new development does not increase flood risk to other areas. This policy is only partly consistent with the NPPF with approaches to flooding issues having developed considerably in the time since the policy was adopted. Therefore, the policy has limited weight with full weight being given to the NPPF and associated guidance.

9.414 Policy ENV12 seeks to prevent development which would cause contamination of groundwater, particularly in protection zones, or result in contamination of surface water. This policy is consistent with the NPPF and carries full weight.

9.415 The NPPF (2018) sets out the government's approach with regards to flood risk and how decisions should be made in respect of development proposals. In this instance, the physical infrastructure works are located within an area designated

as Flood Zone 1 which has a low probability of flooding (less than 1 in 1,000 annual probability of river flooding in any year).

9.416 The ANPS (2018) refers to the NPPF for the approach to flood risk. It identifies that there is the potential for airport expansion to result in increased risk from climate change effects, particularly to increased surface water runoff rate and pressure on potable water supply. There may also be effects on groundwater.

9.417 Sensitive receptors have been identified as:

- Stort River catchment, Pincey Brook and other associated ordinary watercourses that are tributaries to the main rivers
- Existing groundwater within the study area (generally the airport boundary)
- Human health and wellbeing, in respect of:
    - Flood risk from all sources, including fluvial, pluvial, groundwater, sewer or other artificial sources
    - Water quality, notably in respect of the risk of contamination from the use of glycol as a de-icer on the airport, as well as traces of oils, hydrocarbons and aircraft fuels
    - Water supply and capacity, notably the potential increased demand on potable water supply
- Existing drainage asserts (water utility infrastructure) for the airport which traverse the study area

9.418 The new airfield infrastructure being proposed is located within the largest drainage catchment at Stansted which feeds into Balancing Pond C, which consists of three ponds located between the A120 and the B1256.

9.419 The conclusion of the FRA is that the risk of flooding is low or negligible from all sources, but possible in respect of culverts. The existing infrastructure can be adapted to ensure surface water drainage flows are in line with the required greenfield run-off rates. In terms of the construction phase and operational phases the impacts are considered to be negligible.

9.420 The LLFA has not raised an objection to the proposals on the basis of the FRA, the Drainage Strategy and run-off rates as set out in the original submissions and subsequent update.

9.421 In terms of potential contamination, the construction phase could potentially alter ground conditions resulting in a deterioration of surface water quality or a reduction in flows in the water courses. The sensitivity of underlying groundwater is considered high due to the regional importance of groundwater resources but the risk of vertical migration of pollutants from the construction works is low. Therefore, there could be a short term negligible to minor adverse effect, before mitigation.

9.422 Mitigation for the construction phase is proposed by way of a Construction Environmental Management Plan, which is standard mitigation for this type of impact. This would reduce the potential impacts to negligible.

9.423 In terms of operational impacts, potential contaminants are glycol (de-icer) and small traces of oil, hydrocarbons and aircraft fuel. Contaminated water is currently managed within Balancing Pond C which has three compartments termed ‘clean’, ‘dirty’ and ‘overflow’. Subsequently, discharged water is pumped

through the Thames Water (TWUL) sewerage network for treatment at Rye Mead Waste Water Treatment Works (WWTW) at the rates agreed with TWUL.

9.424 It is proposed that this arrangement would continue as a result of the proposed development. In respect of this the LLFA raised an objection on the basis that the proposed pollution risk had not been fully addressed. In addition, TWUL raised concerns with regards to proposed discharge rates.

9.425 Additional information has been supplied by the applicant in respect of pollution controls and these have been assessed by the LLFA who now raises no objections. In respect of flow rates, the applicant, outside of the planning system, is addressing this issue with additional information passed to the Asset Planners at Thames Water for review. In terms of impact, the contaminated flow is anticipated to increase by around 1.9% as a result of the additional 7.02ha increase in hardstanding over the existing 36.8ha.

9.426 The ES concludes that there is likely to be a direct, long term negligible effect due to the additional surface water discharges from the site, prior to the implementation of additional mitigation.

9.427 In terms of impacts on potable water supplies, the demand will fluctuate throughout the construction phase. Nevertheless, given the context of daily water consumption throughout the airport, this is envisaged as being minimal and representing a negligible effect on the local water supply network.

9.428 Water efficiency measures across the airport have seen water consumption reduce by around 50,000m^3 since 2008. The average consumption per passenger has reduced from 30 litres to 28 litres. In respect of the operational phase, a worst case scenario has been used which envisages no further improvements to water efficiency across the airport. On this basis it is predicted that the airport would consume 1,172.5 million litres of water in the 2028 DM case and 1.474 million litres in the 2028 DC scenario.

9.429 The ES specifies that Anglian Water does not raise concerns with regards to the volume of water consumption, but rather the rate of supply. It has been proposed that the rate of supply is reduced but the period over which it is supplied is extended. This would reduce the pressure on the existing AW mains, but should allow the airport's private water supply network to continue to operate in a similar manner to existing. This would be a private arrangement between the applicant and AW outside of the planning system. This is viewed as having a minor adverse effect, which would reduce to negligible with the implementation of additional water efficiency measures which could reduce consumption by around 20%. Anglian Water has not responded to the consultation and therefore case law states that assumptions must be made that the statutory consultee has no issues to raise.

9.430 Demands on foul water infrastructure in respect of the additional infrastructure are not required to be considered as part of the planning process as these now fall outside of the planning system. However, in the winter period when glycol is being used then the development is likely to increase the amount of contaminated water which would need to be treated at Rye Mead WWTW. Thames Water has raised concerns that the potential increase in flows could result in upgrades to the WWTW that are either not technically feasible or not cost effective.

9.431 The applicant's response on this matter is that in line with the latest connection charges rules introduced on 1 April 2018 under the Water Industry Act 1991 (as amended 2014) any offsite reinforcement works to sewers or waste water treatment works will now be captured by Thames Water through adjustments to the infrastructure charges, not through any planning agreements or conditions.

9.432 Thames Water has subsequently responded that the new connection charge rules are not applicable to Wastewater Treatment. However, it has confirmed that a study is currently being undertaken to investigate the potential options to accommodate increased wastewater flows from predicted growth, both in respect of this application and additional housing associated with Uttlesford and East Herts new Local Plans. The results of the study are not expected until December 2018, but a technical option is believed to be feasible.

9.433 Contaminated flows are processed by Water and Sewerage Undertakers as part of Trade flows (ie contaminated surface water). Sewer network capacity and treatment capacity is a commercial agreement whereby the applicant will be required to fund any upgrades needed to accommodate increase discharge rates (if capacity does not currently exist). This would be outside of the planning system.

9.434 The EA has raised issues relating to the Uttlesford District Council Water Cycle Study update. They state that the assumptions in the ES will need to be reviewed following the publication of the update. This would certainly be the case if the revised WCS had been published. However, this is not envisaged to be completed until February 2019, with an interim note at the end of October 2018. The WCS interim note will include a high level sensitivity test for 43mppa at Stansted Airport.

9.435 The EA understands that the foul water from Stansted Airport is treated at Bishops Stortford Waste Water Treatment Works (WWTWs). The consented discharge of final effluent from Bishops Stortford WWTWs discharges into the Water Framework Directive (WFD) designated water body of Great Hallingbury Brook. The EA advises that this water body currently has a Poor classification, with Very Certain confidence, for Phosphate. Source Appointment GIS (SAGIS) modelling indicates that 94.2% of the phosphate input into this water body is the result of WWTW load. All other Phys-chem determinants are at High, Very Certain, status.

9.436 The EA has reviewed data submitted through Operator Self-Monitoring for the final effluent of Bishops Stortford WWTWs which indicates that the airport is currently operating within the industry standard for phosphorus; concentration levels of the final effluent were within 1-2milligrams per litre (mg/l) of phosphorus. However, unless the phosphate treatment process is improved, then increased total volumes of foul water to Bishops Stortford WWTWs will further add to the phosphate load for Great Hallingbury Brook.

9.437 Additionally, the EA has concerns regarding deterioration of the other Phys-chem elements, specifically Ammonia and Dissolved Oxygen. Their guidance allows for a 10% deterioration of water quality, providing there is no deterioration of the WFD Classification status.

9.438 Whilst the EA acknowledges that STAL is correct in their understanding of the new charging rules introduced 01 April 2018, as detailed in Section 10.11 (STAL Response Column) they state that STAL do need to be aware that it is up to the

developer to demonstrate that their proposal will have no detrimental impact with regards to WFD.

9.439 The EA has therefore recommended a condition be imposed requiring the applicant to undertake modelling to ensure that the increased passenger numbers and associated increase in total foul water volumes will not result in a deterioration of the water body known as Great Hallingbury Brook.

K NON-SIGNIFICANT TOPICS

9.440 Chapter 16 of the ES discusses what is termed as non-significant topics, those where significant effects are not envisaged and therefore scoped out of the main report. These are:

- Biodiversity
- Land and soil (including contamination)
- Cultural Heritage (including archaeology and built heritage assets)
- Landscape (including visual impacts)
- Waste
- Major Accidents and/or Disasters

9.441 *Biodiversity:*

In respect of biodiversity, the issue of air quality impacts on biodiversity, in particular local SSSIs and Epping Forest SAC, is discussed in the Air Quality section of this report.

9.442 Policy GEN7 seeks to protect wildlife and planning permission will only be granted when the need for the development outweighs the harm. Where protected species would be affected then mitigation measures would need to be secured by way of a condition or legal obligation. This policy is only partially consistent with the NPPF with the latter document clarifying and strengthening the requirements in protecting and enhancing the natural environment. The policy therefore has little weight.

9.443 Paragraph 8(c), environment objective, of the NPPF (2018) considers improving biodiversity. Chapter 15 of the NPPF relates to conserving and enhancing the natural environment. Paragraph 175(a) states that if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

9.444 The Biodiversity and ecological conservation section of the ANPS sets out the government's policies in respect of biodiversity, the main aims of which are to halt overall biodiversity loss, support healthy, well-functioning ecosystems, and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.

9.445 On-site ecology is limited to four areas of airfield grassland and, at one location, the potential disturbance/displacement of protected species (common lizard and great crested newt). Surveys reveal that this is likely to be a 'low' population of common lizards, with a high number of juveniles suggesting that this is a breeding population. Two great crested newts were found during the reptile surveys.

9.446 Mitigation in respect of the protected species is to re-survey the land prior to the construction works being undertaken and translocation under licence from Natural England. Translocation, if necessary, will be to an off-site receptor site (Monk's Farm, Burton End) which is within the applicant's ownership and had planning permission granted under reference UTT/16/0837/FUL for the creation of new aquatic and terrestrial habitats. This would be in accordance with Policy GEN7 and the NPPF. ECC Ecologist has advised that the site should be monitored and that this should be secured by condition or s106 Legal Obligation.

9.447 Whilst there is a monitoring programme associated with the consent granted under UTT/16/0837/FUL, this is only for a period of 5 years. Therefore, if planning permission is granted there is the potential for the translocation works to take place towards the end of the current monitoring programme. As such, it is considered reasonable to require a condition relating to the monitoring of the translocation site should planning permission be granted.

9.448 With regards to non-statutory wildlife sites, the ES identifies that there are 10 sites within 2km of the application boundary, six of which fall within the airport boundary. The main focus of the ES is in respect of air quality impacts on the SSSIs, which has been discussed previously.

9.449 The potential impacts on special verges have been raised as a concern by a consultee. Adopted Uttlesford Local Plan Policy ENV9 states that development likely to harm such environments will not be permitted unless the need for the development outweighs the historic significance of the site. The policy is consistent with the NPPF (2018) and the added criteria for the assessment of substantial and less than substantial harm for designated assets is also relevant in respect of this policy. The policy therefore carries full weight.

9.450 In this instance, the potential for harm is not direct but rather potential harm from increased vehicular movements or fly parking. Some fly parking may be directly related to the application and the Transport Forum has and will continue to work with other stakeholders on a measured response. Therefore, it is not considered that the potential harm to special verges would outweigh the benefits of the proposal. The less than substantial harm to special verges would be outweighed by the public benefits of the proposals.

9.451 In relation to potential impacts on Hatfield Forest, there is already a requirement in the 2008 Legal Obligation for the applicant to carry out air quality monitoring at the site. Planning permission has been granted and consent has been obtained from Natural England to install the monitoring equipment. It is considered appropriate to require the continued monitoring of Hatfield Forest if planning permission is granted, with the requirement to implement agreed mitigation measures if harm related to the development is identified and mitigation is required.

9.452 *Land and Soil (including ground conditions and contamination)*

Approximately 7ha of land is required for the provision of new infrastructure in relation to the proposals. This is land within the airport boundary and immediately adjacent to the runway. It is noted that representations have been made in respect of the loss of land for the growing of crops. However, given its airside location and the operational safety issues regarding the use of this land for crops this is not a material planning consideration.

9.453 Whilst this proposal would result in the loss of greenfield areas, there are no specific planning policies relating to such land, other than those in respect of biodiversity and protected habitats.

9.454 Approximately 46,000m^3 of spoil would be generated by the excavation works for the new taxiways and stands. This is not expected to be contaminated spoil and is therefore proposed to be used for landscaping within the airport boundary. In the event that the spoil cannot be used within the airport boundary then it would be stored for use elsewhere. Details of how the spoil will be utilised should be included in a CEMP which can be secured by way of a condition if planning permission is granted.

9.455 The proposed development is not envisaged to give rise to increased risk of contamination and as such no significant effects on land and soil are predicted.

9.456 *Cultural Heritage*

Significant archaeological investigations have previously been carried out within the airport boundary. These have found evidence of a medieval settlement and the location of Stansted Park.

9.457 Adopted Uttlesford Local Plan Policy ENV4 seeks to protect sites of archaeological interest and where preservation is not possible or feasible then archaeological investigation works will be required. The policy is consistent with the NPPF (2018) and carries full weight. Chapter 16 of the NPPF (2018) seeks to conserve and enhance the historic environment. A balanced judgement is required when considering applications which will affect the significance of a non-designated heritage asset. This includes assessing whether the harm arising from the proposals is substantial or less than substantial. The level of harm must then be weighed against the public benefits arising from the proposals.

9.458 Adopted Uttlesford Local Plan Policy ENV2 seeks to protect the setting of listed buildings. This policy is consistent with the NPPF (2018) as it is in line with statutory duties as set out in the Planning (Listed Buildings and Conservation Areas) Act 1990. The policy therefore has full weight. Similarly, paragraphs 193-6 of the NPPF (2018) set out the planning considerations in respect of assessing planning applications affecting listed buildings, including their setting. Where less than substantial harm would arise the harm should be weighed against the public benefits of the proposal.

9.459 The assessment of impacts on archaeology concludes that there would only be a negligible impact on archaeology as long as standard mitigation measures were followed during the construction works.

9.460 The application has been considered by ECC's Principal Historic Environment Advisor who advises that there would not be any impacts on archaeology and no conditions are recommended requiring investigation prior to development.

9.461 With regards to listed buildings, there are two Grade II listed buildings within the airport boundary. These are currently within the setting of the wider airport and this would not change as a result of the proposals. There would not be any harm arising from the proposed development in terms of the physical works. Therefore, it is not considered that there should be any adverse impacts on listed buildings.

9.462 *Landscape*:

Adopted Uttlesford Local Plan Policy S4 has a presumption in favour of development directly related to or associated with Stansted Airport. Policy GEN2 relates to development which needs to be compatible with its surroundings and should minimise its impacts on neighbours. Adopted Uttlesford Local Plan Policy GEN4 seeks to protect the occupiers of surrounding properties from impacts relating to noise, vibrations, smell, dust, light, fumes and other pollutants. This policy has been assessed as being compatible with the NPPF (2018) and carries full weight. Adopted Uttlesford Local Plan Policy GEN5 seeks to prevent development resulting in adverse impacts with regards to light pollution. This policy has no compatibility issues with the NPPF (2018) and carries full weight. The majority of impacts have already been discussed in detail in previous topic chapters.

9.463 The construction works would be compatible with airfield operations and should not result in any visual impacts. Construction lighting would be required, but this should be seen in the context of the existing airfield lighting and therefore should not give rise to any harm.

9.464 The operational phase would see an intensification of use of the airfield, the impacts of which have already been discussed. Whilst there would be an increase in flights from the current level of operations, the ATMs already have the benefit of planning permission with the 2008 consent.

9.465 As such, the proposals should not give rise to any adverse impacts and would comply with policies S4, GEN2, GEN4 and GEN5.

9.466 *Waste:*

Construction waste would predominantly be spoil which would be reused within the airport boundary. In addition, it is proposed that there would be a CEMP in place during the construction works to ensure best environmental practices are undertaken.

9.467 With regards to operational waste, the applicant requires all new development to incorporate appropriate waste management and recycling facilities, and resource efficiency is considered in procurement decisions. They are working towards a minimum target of 70% operational waste being recycled by 2020 as well as sending zero waste to landfill.

9.468 In 2017 the airport produced approximately 6,909 tonnes of waste (including hazardous waste; excluding cabin waste), corresponding to approximately 0.26kg waste per passenger.

9.469 The airport has a Waste Strategy 2014-2030 which sets out its monitoring and targeting of waste. It sets out waste reduction measures to be carried out across the airport.

9.470 Given the existing measures in place, plus the proposals within the Waste Strategy, it is not considered that the proposals should give rise to any significant environmental impacts in terms of waste.

9.471 *Major Accidents and/or Disasters:*

The airfield is governed by a rigorous safety regime, licensed by the CAA. The risk of a major aviation safety breach, accident or related disaster involving an aircraft because of the proposed development is determined to be negligible.

9.472 Construction works will at some points be carried out whilst the runway is operational. There are strict operational controls in place to ensure work place safety. The likelihood of an accident occurring as a result of the construction activity is minimal.

9.473 Public Safety Zones are designated on land either end of the runway and there are policy objectives which seek to ensure that there is no increase in the number of people living, working or congregating in these zones. These zones are not envisaged to be altered as a result of the proposed development. Public Safety Zone policy is administered by the DfT, and the extent of each zone is reviewed periodically.

9.474 Bird control measures are in place at the airport to mitigate the potential for accidents from bird strike. These risks are not envisaged to increase as a result of the proposed development.

9.475 Airfield lighting is installed in accordance with other legislation outside the control of the planning system. Therefore, there is no potential for increased risk of accidents in relation to lighting.

9.476 The airport suffers no exceptional climatic conditions that regularly affect its operations (eg extended periods of fog or high winds) and it currently offers an excellent level of resilience during adverse weather conditions. In addition, the surrounding area is free of natural or physical obstructions that might impact on aircraft range or payload. The proposed development has no bearing on these existing conditions. As such, the risk of major accidents and/or disasters occurring at the airport in the construction and operational phases is negligible.

L Cumulative Effects

9.477 Chapter 17 of the ES considers the cumulative effects of the proposals. These fall within two categories:

9.478 **Type 1 –** The interactive effects resulting from the associated effects of individual components or activities of the proposed development on a sensitive receptor, for example noise, airborne dust or traffic effects on a single receptor/group of receptors; and

Type 2 – The combined effects of several schemes which may on an individual basis be insignificant (negligible or minor), but additively, have a significant (moderate or major) effect.

9.479 A list of schemes considered with regards to cumulative effects is set out in the ES. This is a list of consented schemes envisaged to be delivered within the foreseeable future which have the benefit of planning permission. In all cases, the addition of these schemes has already been factored into the future environmental baseline within any assessments based on traffic data.

9.480 Developments outside of the administrative boundary of Uttlesford have not been included in the cumulative assessment. Given the location of potential schemes in relation to the airport, the cumulative impacts are most likely to arise in respect of effects where traffic data would be used. By using TEMPro for the traffic model it ensures that traffic generation from with schemes outside of the district are factored into the environmental baseline for future years.

9.481 In addition to committed schemes, proposed works which already has the benefit of planning permission, or are proposed to be carried out under permitted development, are included. These include:

- Stansted Transformation Phase 1 – improvements to the terminal
- Stansted Transformation Phase 2
    - Arrivals terminal
    - Conversion of existing terminal to departures terminal
- Airfield: Runway Rehabilitation (part of Phase 3) – expected to take place in 2022-23
- New car parks
    - Two new 'meet and greet' surface car parks
    - Two short stay multi-storey car parks
    - The extension of an existing surface car park
    - New staff car park

9.482 Whilst there is the potential for some overlap between the construction phase and the cumulative schemes, the ES concludes that there should not be any significant environmental effects arising. CEMPs would be in place in respect of each of the projects which would require the monitoring and mitigation of any adverse effects that could arise from issues such as noise, HGV movements, waste, erosion, sedimentation and pollution.

9.483 Table 17.3 sets out the cumulative impact assessment matrix (see attached at end of report). This concludes that for the majority of topics the residual impacts and combined cumulative effects should be negligible. In respect of socio-economic impacts, the residual impacts were concluded to be minor-major beneficial and the cumulative effects moderately beneficial. In terms of public health and wellbeing, the residual impacts should be negligible – major beneficial and the cumulative effects are considered to be the same. Negligible – minor adverse residual impacts and cumulative effects are predicted in relation to water resources. These conclusions are reasonable.

M Other issues

9.484 *Education:*

ECC Education has requested a financial contribution in respect of the provision of Early Years and Child Care facilities. They consider that an additional 5,500 employees would generate a requirement for an additional 220 EYCC places. However, this calculation has only assessed the total amount of additional employment without any analysis of the origin of the additional employees, working patterns or the potential for child care facilities being made in locations other than the immediate area around the airport.

9.485 There is a suggestion that a new facility should be provided within the airport. However, discussions between officers, the applicant and ECC have revealed

that such a facility was provided previously but was not successful and subsequently closed.

9.486 Given the flawed analysis by ECC, which has not been reassessed despite requests to do so, it is not considered that the proposed request would meet the NPPF or CIL Regulations tests. Therefore, it would not be appropriate to request the financial contribution of £3,194,180 for the 220 EYCC places.

9.487 *Rapid Transit System*

One of the requirements set out in the Regulation 19 Uttlesford Local Plan Policy SP11 is "*To assist development of new rapid transit options between the airport and new and existing communities, land will be safeguarded to allow access at the terminal. The council will seek financial contributions from the airport operator for the delivery of an appropriate scheme."*

9.488 There is an ambition to develop an RTS connecting proposed new settlements across North Essex, including the settlement West of Braintree, proposed Easton Park and Stansted Airport, and potentially Gilston located in the East Herts district. To date the feasibility study work on the Stansted Airport to West of Braintree section is on-going and no firm conclusions have been reached about mode or proposed route(s).

9.489 ECC has set out a requirement in their response for the applicant, in agreement with the local highway authority to identify and reserve land required to accommodate any future Rapid Transport System, and form an east-west link between the airport and any future growth locations identified in the Local Plan(s).

9.490 The ES has not identified a significant increase in demand as to warrant the development of an RTS to serve the airport, either in isolation or in combination. Furthermore, the stages reached in the preparation of the relevant local plans mean that there are still uncertainties as to where new growth will be proposed in plans yet to be examined or still being examined and not yet adopted, with the potential for main modifications. Given the uncertainties around future development, and the fact that the development does not generate a requirement for the RTS, it would be inappropriate to require the applicant to safeguard the land as part of this application.

9.491 The potential provision of the RTS will need to be explored by way of the Local Plan process.

10 Conclusion

10.1 In paragraph 1.26 of Beyond the Horizon (June 2018), the government expects applications to increase existing planning caps by fewer than 10 million passengers to be taken forward under the Town and Country Planning Act 1990. The application was made in February 2018 and proposes to change the existing cap by increasing the passenger numbers that can go through Stansted Airport by 8mppa, from 35mppa to 43mppa.

10.2 The application is made against a backdrop of national and local policy support for, and new particular national policy for, making best use of the existing runway infrastructure, as set out in the Aviation Policy Framework (2013), and the most recent Policy Statement on best use of existing capacity, taking careful account

of relevant considerations, particularly economic and environmental impacts and proposed mitigations taking account also of relevant national policies in “Beyond the Horizon” (June 2018).

10.3 The application is for EIA development and Regulation 3 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires that the planning authority not grant planning permission unless an EIA has been carried out in respect of that development. The application is accompanied with an ES which demonstrates the applicant’s case that the proposals represent sustainable development and would not result in significant adverse impacts. This ES has been assessed for its adequacy in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and has been considered to be adequate notwithstanding some omissions and inadequacies (see section 10 below).

10.4 Regulation 4(5) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires the local planning authority to ensure they have, or have access as necessary to, sufficient expertise to examine the environmental statement. In this regard, the case officer has worked in conjunction with officers from Essex County Council (ECC), Hertfordshire County Council (HCC), East Herts District Council (EHDC), Place Services (ECC), Network Rail, Highways England (HE), Natural England, and UDC’s Environmental Health Manager (Protection), Senior Health Improvement Officer and the Communities Manager. Further expertise has been provided to ECC and HE by Jacobs and AECOM respectively. Officers have also been advised by consultants from WYG (air quality) and Bickerdike Allen Partners LLP (BAP). Consultation advice has been given by Thames Water and the Environment Agency (EA).

10.5 Regulation 63 of the Conservation of Habitats and Species Regulations 2017 requires the competent authority, before deciding to give any permission for a plan which is:

a. Is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
b. Is not directly connected with or necessary to the management of that site,

make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives. Natural England is satisfied that the application is broadly acceptable, alone and/or in combination with the Regulations, in particular, in relation to Epping Forest SAC. An Appropriate Assessment has concluded that only a de Minimis effect from nitrogen deposited on vegetation on a particular unit in that SAC, resulting from vehicles related to the development passing along the nearby M25, occurs and that as such adverse effects will not arise.

Development Plan

10.6 Section 38(6) of the Planning Act 2004 requires that the determination be made in accordance with the provisions of the development plan unless material considerations indicate otherwise.

10.7 Paragraphs 9.78 to 9.105 set out the planning balance in respect of the Development Plan.

Material Considerations

10.8 The Regulation 19 Uttlesford District Plan is a material consideration but carries limited weight at this time. The Spatial Vision identifies the importance of Stansted Airport in the London Stansted Cambridge Corridor and Policy SP11 – London Stansted Airport reflects this. This policy is subject to 20 objections and has not yet been tested for soundness. Notwithstanding this, the emphasis of the policy at the present time is to support sustainable growth of the airport. This assessment will be made in respect of adopted policies, the NPPF and other material considerations.

10.9 The NPPF (2018), Aviation Policy Framework (2013), the emerging Aviation Strategy (April 2018), and Beyond the Horizon, The Future of UK Aviation, Making best use of existing runways (June 2018), are material considerations. In summary, the first supports sustainable development and the last provides government support for making best use of existing runways, taking careful account of all relevant considerations, particularly economic and environmental impacts and proposed mitigations. The NPPF (2018), Beyond the Horizon (April and June 2018) carry substantial weight because each have an evidence base, are up to date, and were widely consulted on. The Aviation Policy Framework (2013) carries substantial weight insofar as it is the government's policy in respect of aviation. However, some aspects may be slightly dated in their approach and also overtaken by the more recent particular Policy Statement in "Beyond the Horizon" (June 2018).

Growth and Need

10.10 The ES sets out the predicted growth of the airport from the baseline of 2016 with a DM scenario of the consented 35mppa and a predicted growth to 43mppa, as applied for in this application. The ES then assesses the impacts of the additional growth from 35mppa to 43mppa with a DM and DC scenario for 2023, the year at which the divergence is predicted to occur, and 2028, the year in which the level of growth is predicted to reach the limits applied for. The approach by the ES to growth and need of the particular airport is reasonable.

Surface Access

10.11 The impacts on the strategic and local road networks have been considered in conjunction with Highways England, ECC and HCC. Overall, it is predicted that there would be no significant adverse impacts on either the strategic or local road networks subject to appropriate mitigation being secured by way of s106 Legal Obligation. The mitigation measures include a scheme for alterations to the M11 Junction 8 which is considered to be acceptable to Highways England. Other mitigation measures relate to funding for improvements to local roads, including the improvements to cycling and walking links, and bus and coach services and infrastructure. The funding mechanisms would be overseen by the SATF and its working groups. Funding would come from the Transport Levy plus sums of ring fenced capital funding.

10.12 These funding mechanisms have previously been incorporated into earlier s106 Legal Obligations (or equivalents) and have been assessed as being the most appropriate mechanism for delivering the mitigation measures. However, the terms of reference for SATF working groups, in particular the Bus and Coach Group need to be refreshed to enable future flexibility given the changes in

technology and service delivery that are being explored. Whilst specific routes and services have been identified by consultees it is not considered that this is an appropriate way of delivering the mitigation as the services are reliant on third party bus and coach companies who will need a business case for delivering a new or improved service. The SATF will also need to be reassured that any proposal represents value for money before agreeing to release funding.

Noise:

10.13 Air noise is an area of great complexity given different perceptions to noise across the population. The government recognises that evidence has shown that people's sensitivity to noise has increased in recent years, and there has been growing evidence that exposure to high levels of noise can adversely affect people's health.

10.14 There is also recognition that over recent decades there have been reductions in aviation noise (air and ground) due to technological and operational improvements and that this trend is expected to continue. The government, therefore, wants to strike a fair balance between the negative impacts of noise and the positive impacts of flights. They expect airports looking to make best use of their existing runways to share in the economic benefits of expansion with the communities by way of reducing noise impacts.

10.15 Impacts from air noise and ground noise from aircraft and associated operations, construction operations and vehicles associated with the proposed growth of the airport have been considered in the ES.

10.16 The ES demonstrates that there will be an increase in population within the LOAEL category in daytime, as set out in the NPSE. There will be a reduction of population affected by night time noise. However, whilst there will be an increase of people affected, the increases in noise levels will be around 0.5 and 0.6dB and therefore imperceptible.

10.17 Noise contours only tell part of the story and relate to average noise levels across a specific time period, 16 hours in the day and 8 hours at night. However, noise isn't perceived on an average basis but rather in terms of the number of events. Averaging can hide impacts from increases in numbers of events. In order to enable an assessment of overflight impacts Nx contours were produced, N65 for daytime (number of flights exceeding 65dB(A)) and N60 for night time (number of flights exceeding 60dB(A)). These demonstrate that there will be an increase of 72 movements per day. The N65 contours at levels of 100 and 200 (the number of overflights) closest to the airport enlarge at 2028 in comparison to the 2016 baseline as these areas will experience the increased number of overflights.

10.18 There are concerns in respect of noise levels at four schools, Howe Green School, Spellbrook Primary School, The Leventhorpe School and Mandeville Primary School. Spellbrook Primary School is predicted to experience noise levels slightly higher than the recommended 73dB LAmax when B737Max are in operation.

10.19 The mitigation measure for properties, including schools, community buildings and places of worship, affected by noises is a revised and updated SIGS. This offers financial support for noise insulation measures. The current scheme requires funding from property owners and covers 1088 properties. The revised scheme offers maximum grants and would not require funding from the owner.

The scheme would be available for over 2000 properties offering different levels of grants according to the noise levels experienced at the property.

10.20 An additional mitigation measure in respect of daytime noise is a noise contour which currently has a maximum area of 33.9km2. Operations at the airport are not predicted to exceed this contour and the ES predicts that this would reduce over time with the introduction of quieter aircraft. Therefore, it is considered that to ensure the operations at the airport share the benefits with the local community it is appropriate to impose a noise contour condition which reduces in size over time. If, as a consequence of slower uptake of quieter aircraft for example, noise levels do not reduce at the rate set out in the ES then operations at the airport would be curtailed by the noise contour.

10.21 Night noise is controlled by measures put in place by the government and is not a matter for the local authority to seek to control. Night movements are predicted to increase from 82 movements per night to 104 and 107 in the DM and DC scenario under the current restrictions. These levels would be reached irrespective of planning permission being granted for this proposal.

10.22 An additional mitigation measure is the imposition of fines for flights exceeding noise levels. The fines are proposed to be paid into a Community Fund which would be given over to community projects to improve health and wellbeing.

10.23 In terms of air noise, the assessment methodology, approach and level of detail contained in the ES is satisfactory and the proposed mitigation measures are adequate. As such the proposals should not result in significant adverse impacts in respect of air noise.

10.24 Ground noise comes from various sources including the use of power units, plant and equipment and also construction. Comparison of the data sets shows increases in noise levels indicate an increase at Molehill Green (the worst affected location) of +3dB during the daytime and +2.5dB at night from the 2016 baseline. However, the comparison between the DC and DM scenarios indicates an imperceptible change.

10.25 Construction is predicted to take place between 2021-2 and the main focus of the assessment was the key sensitive night time period. This showed increases at the receptors of between 0.2dB and 10.6dB. Whilst the increase of 10.6dB (at the Ash Public House) is a large increase, the noise level experienced at that receptor would still be below the 45dB threshold where annoyance is expected to be experienced.

10.26 Some of the mitigation measures associated with air noise would also be applicable to receptors affected by ground noise. The findings of the ES are not disputed and the proposed mitigation measures are considered to be acceptable.

10.27 Surface access noise assessments did not include rail on the basis that the new rolling stock which would accommodate that additional growth in passenger numbers would be coming on-line with or without the proposed development.

10.28 Comparisons between the 2028 DC and DM scenarios indicate that noise levels would increase by 0.1dB and 0.7dB with the largest increase being at Thremhall Avenue. In comparison to the 2016 Baseline, increases of 3.8dB would be experienced at Round Coppice Road. The receptors at this point are the Novotel Hotel, located more than 150m from the road, and Stansted College which has

been designed with noise protection measures incorporated into the fabric of the building.

10.29 Surface noise impacts are therefore considered to be negligible and no mitigation is required.

10.30 *Air Quality:*

Air quality is an area of concern raised in many of the representations. There are two particular areas to consider, impacts on AQMA, (focussing on human health), and impacts on sensitive ecological receptors. There is an AQMA located in Saffron Walden in the Uttlesford district which would not be impacted by the proposals. In addition, there is an AQMA located at Hockerill junction in Bishop's Stortford which would experience an increase in traffic.

10.31 The local plan policy position in East Herts has recent been clarified with EHDC expecting to adopt their new District Plan on 23 October 2018. The proposed policy in the East Herts District Plan refers to a requirement for applications to be accompanied by an Air Pollution Assessment in line with the Council's Air Quality Planning Guidance Document. However, whilst this policy has full weight in East Herts it is a material planning consideration in Uttlesford and there is no policy basis for any such assessment in national planning policy, for example the NPPF (2018) and the National Planning Policy Guidance.

10.32 The impacts at Hockerill are predicted to be negligible, even after sensitivity testing. However, the benefits of the proposal would need to be weighed against the potential health impacts resulting from this negligible increase.

10.33 Mitigation measures aimed at improving sustainable links to the airport, such as a 50% mode share of employees and passengers accessing the airport by public transport, and the improvement to bus services, are measures that improve air quality. Bishop's Stortford is well connected to the airport by both direct rail and bus services. The continuation of air quality measures would be secured by way of s106 Legal Obligation if planning permission were to be granted. On balance, the benefits of the mitigation measures outweigh the negligible harm arising from air quality impacts.

10.34 In terms of impacts on ecological receptors, there are two principal areas of concern, local SSSIs and Epping Forest SAC and SSSI. In terms of impacts on SSSIs, the impacts are predicted to be negligible when comparisons between the DM and DC scenario are made. However, mitigation measures for Hatfield Forest and Elsenham Woods by way of monitoring, and the implementation of additional mitigation measures if identified as being required as a result of the monitoring, would be secured by way of s106 Legal Obligation if planning permission were to be granted.

10.35 NE raised concerns about the alone and in-combination impacts on Epping Forest SAC. Additional work was carried out in this respect by the applicant that demonstrated that the impacts would be negligible. To ensure the Council can comply with Regulation 63 of the Conservation of Habitats and Species Regulations (2017), Place Services was commissioned to carry out an Appropriate Assessment (11 October 2018). This concluded that the project for the development will not have an adverse effect on the integrity of Epping Forest SC as no failure of the conservation objectives is predicted, either alone or in combination.

Socio-economics

10.36 The ES sets out the benefits arising in respect of socio-economics. Concerns were raised in respect of the potential impacts of Brexit and the fact that the negative impacts, such as tourism deficit, were not considered. The ES was based on the Oxford Economics scenario whereby the UK leaves the EU on unfavourable terms, without negotiating a significant trade deal and the trade relationship between the UK and the EU therefore reverts to WTO rules.

10.37 The benefits of the proposals are recognised by a variety of parties, and the ECC Economic Growth and Skills Department consider that the increase in capacity is important to growth in Essex. In addition, the proposals increase job and skills training opportunities as well as supports local businesses and employment growth in Essex.

10.38 The findings of the socio-economics chapter of the ES are considered to be sound and would deliver in respect of the economic growth aspirations of national and local policy.

10.39 *Carbon emissions:*

The policy in respect of carbon emissions sets out that this is an issue best dealt with at a national level. The ES used the pessimistic approach for assessing the impacts of carbon emissions as a result of the proposals. This indicates that the difference between the DM and DC scenario would be 0.3MtCO_2e. When assessed as a value per passenger, the development case would see an improvement in emissions by 4 kgCO_2e.

10.40 The ES concludes that Stansted Airport's share of UK aviation carbon emissions would rise from 4% in 2016 to between 4% and 5.3% of the UK's aviation emissions target in 2050, with annual aviation carbon emissions predicted to decrease between 2028 and 2050. It is considered that the DC scenario is unlikely to materially impact the UK's ability to meet its 2050 national aviation target of 37.5MtCO_2e.

10.41 The findings of the ES in this respect are not disputed, and as already stated, this is an issue to be addressed at a national level by the government.

10.42 *Climate Change:*

National policy in respect of aviation and climate change focusses on the vulnerability of the asset in extreme weather arising from climate change impacts. In addition, the APF seeks to ensure the aviation sector makes a significant and cost-effective contribution towards reducing global emissions. However, this aspect requires intervention at a global and national level and is not appropriate for discussion at a local level.

10.43 In terms of resilience of the airport in respect of climate change, mitigation measures to ensure the continued operation of the airport are identified. On this basis, the applicant has met the requirements of the EIA Regulations and no significant effects are identified.

10.44 *Public Health and Wellbeing:*

Decisions in respect of aviation growth are required to be in accordance with sustainable development principles, and this includes maximising wellbeing and protecting our environment, without negatively impacting on the ability of future generations to do the same.

10.45 The ES follows a source-pathway-receptor approach to identify and assess health impacts that are plausible and directly attributable to the proposed development.

10.46 Benefits, both direct and indirect, would arise from increased employment, quality of life and wellbeing from the predicted £357m GVA per annum by 2028, additional leisure trip opportunities and the associated family and social benefits arising from these.

10.47 Impacts on health and wellbeing are not predicted in relation to surface access, congestion or potential for reduced access to services.

10.48 Less than one additional emergency hospital admission and less than one additional death per annum are predicted as a result of impacts in respect of air quality. A less than 1% increase from the baseline in hypertension, depression or anxiety is predicted.

10.49 An increase of around 339 people who consider themselves highly annoyed by aircraft noise is predicted, which is around a 28% increase compared to the DM scenario. However, those affected at night is predicted to be very limited due to the controls set out in the Night Noise Regulations.

10.50 A predicted 13% increase in daytime noise events above the assessment threshold are predicted at Howe Green School, St Giles Church in Great Hallingbury, and Falcon House Care Home in Little Hallingbury. In this respect, the impacts are considered to be minor adverse. Similar impacts are considered in respect of the quality of life and wellbeing in association with amenity of green space.

10.51 Mitigation in the form of a Community Fund is proposed which it is envisaged would cover all the parishes in Uttlesford and the parishes falling within a 10 mile radius of the airport (whole parishes included where part of the parish falls outside of the radius). The Community Fund would be available for health and wellbeing projects within the parishes. (see attached map for proposed areas for funding)

10.52 *Water Resources and Flood Risk:*

The airport has significant drainage infrastructure in place, including the balancing ponds located between the A120 and B1256. As a result of the new infrastructure an increase in capacity will be required and the proposals have been assessed by the LLFA as being acceptable and not increasing the risk of flooding.

10.53 Water efficiency measures are proposed to be increased on the airport and Anglian Water, as the utility provider, has not commented on the application.

10.54 In terms of demands on foul water infrastructure, Thames Water has identified that increased capacity will be required in association with the predicted housing growth and as a result of the proposals in this application. A technical option is

believed to be feasible and Thames Water does not object to the proposals. Likewise, the EA does not object to the proposals, subject to a condition in respect of modelling to ensure that the increased passenger numbers and associated increase in total foul water volumes will not result in a deterioration of the water body known as Great Hallingbury Brook.

10.55 *Non-Significant Topics:*

Non-significant topics relate to biodiversity, land and soil, cultural heritage, landscape, waste and major accidents and/or disasters.

10.56 Contamination and spoil are not considered to be issues resulting in significant impacts. Likewise, archaeology is not an issue in the location of the proposed airfield infrastructure works. Similarly, the construction works would not be harmful to the character of the area and would not result in harm to the landscape.

10.57 Waste would be dealt with in accordance with the Airport's Waste Strategy. This sets out its monitoring and targeting of waste, including reduction measures to be implemented across the airport. Therefore, no significant impacts are predicted.

10.58 Major accidents and/or disasters are not predicted to increase as a result of the proposals, not least because of the stringent safety regimes in place outside of the planning system.

10.59 In terms of biodiversity, translocation of protected species will be required as a result of the infrastructure works. This would be to a translocation site owned by the applicant and monitoring would be required after translocation has taken place. As a result no significant impacts would arise in respect of biodiversity.

Cumulative Effects:

10.60 Cumulative effects of the proposals with committed schemes have been assessed. This includes works proposed under permitted development by the applicant within the airport boundary.

10.61 Cumulative effects are assessed as being negligible. In respect of socio-economic impacts, the residual impacts were concluded to be minor-major beneficial and the cumulative effects moderately beneficial. In terms of public health and wellbeing, the residual impacts should be negligible – major beneficial and the cumulative effects are considered to be the same. Negligible – minor adverse residual impacts and cumulative effects are predicted in relation to water resources.

Consistency

10.62 Paragraph 213 of the NPPF (2018) states that, "existing policies [in adopted Local Plans] should not be considered out-of-date simply because they were adopted or made prior to the publication of this Framework. Due weight should be given to them, according to their degree of consistency with this Framework (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given)."

10.63 Policies S4 and AIR1-6 relate to proposed development within the airport boundary. S4 relates to the whole airport site and is a strategic policy and

Policies AIR1-6 are site specific. These have been assessed as being in accordance with the NPPF and can be afforded full weight, subject to their compliance with government's policy in respect of aviation.

10.64 Policy GEN1 relates to highway safety and alternative transport options rather than the private car. The policy is generally consistent, although there is more emphasis in the NPPF to sustainable transport modes whilst acknowledging that there will be differences in opportunities between rural and urban areas. Uttlesford is a rural area where there are challenges in providing public transport for a dispersed population, but at the same time airport demand boosts services along certain transport corridors. The NPPF is more positively worded in seeking to minimise the need to travel and maximise cyclist and pedestrian and public transport opportunities. This policy should therefore be given moderate weight.

10.65 Policy GEN2 relates to design and as such is only partially relevant to the application. The policy is generally in conformity with the NPPF and the areas where it doesn't strictly comply are areas around sense of place, mix of uses and function, which would not be applicable in this instance. The criteria applicable to the application are e) – water and energy consumption; g) – waste; h) environmental impacts on neighbours. Insofar as it is relevant to the application, the policy should be given full weight.

10.66 Policy GEN3 relates to flooding and is only partly consistent with the NPPF with approaches to flooding issues having developed considerably in the time since the policy was adopted. Therefore, the policy has limited weight with full weight being given to the NPPF and associated guidance.

10.67 Policy GEN4 relates to good neighbourliness and seeks to protect existing properties and users from harm arising from nuisance. This can include noise, pollution, light pollution and fumes. The policy has been assessed as being consistent with the NPPF and should be given full weight.

10.68 Policy GEN5 seeks to protect against harmful impacts arising from light pollution. This policy has no compatibility issues with the NPPF and should be given full weight.

10.69 Policy GEN6 relates to securing infrastructure required in association with proposed development. This policy is generally consistent with the NPPF, but the latter recognises the need for viability of development to be considered. In addition, there is a requirement to take into account the Community Infrastructure Regulations. The policy should be given moderate weight.

10.70 Policy GEN7 relates to nature conservation, seeking to protect and enhance biodiversity. The policy is only partially consistent with the NPPF with the latter document clarifying and strengthening the requirements in protecting and enhancing the natural environment. The policy therefore has little weight.

10.71 Policy ENV2 is consistent with the NPPF as it is in line with statutory duties as set out in the Planning (Listed Buildings and Conservation Areas) Act 1990. The NPPF gives additional assessment criteria relating to the assessment of substantial and less than substantial harm. The policy therefore carries full weight.

10.72 Policy ENV4 relates to the protection of archaeological remain and scheduled protected ancient monuments. The policy is consistent with the NPPF and

therefore carries full weight. The assessment of substantial and less that substantial harm for designated assets is also relevant in respect of this policy.

10.73 Policy ENV7 relates to the protection of designated ecological assets. The policy is only partly consistent with the NPPF with the emphasis shifting from the need for development to the benefits needing to clearly outweigh the harm. In addition, there are additional requirements under the Habitats and Species Regulations (2010) which relate to European designated sites. Therefore, the policy has little weight.

10.74 Policy ENV9 relates to the protection of historic landscapes. The assessment criteria for the assessment of substantial and less than substantial harm for designated assets is also relevant in respect of this policy. It is consistent with the NPPF and therefore carries full weight.

10.75 Policy ENV11 seeks to protect existing uses from noise generators. The policy is generally consistent with the NPPF but the NPPF is more specific with regard to existing businesses recognising the need to balance the needs of business and the protection of existing amenities. The policy therefore carries moderate weight.

10.76 Policy ENV12 relates to the protection of water resources in respect of pollution. The policy is consistent with the NPPF and carries full weight.

10.77 Policy ENV13 seeks to prevent development in areas of poor air quality. This is generally consistent with the NPPF, although the latter document sets out a requirement that any development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan. The policy therefore carried moderate weight.

The Planning Balance

10.78 S70(2) of The Town and Country Planning Act 1990 requires the local planning authority, in dealing with a planning application, to have regard to:

(a) the provisions of the development plan, so far as material to the application,

(aza) a post-examination draft neighbourhood development plan, so far as material to the application,

(b) any local finance considerations, so far as material to the application, and

(c) any other material considerations.

10.79 S38(6) of the Planning and Compulsory Purchase Act 2004 requires that, if regard is to be had to the development plan for the purpose of any determination to be made under the planning Acts, the determination must be made in accordance with the plan unless material considerations indicate otherwise.

10.80 Policy S4 supports the principle of development directly related to or associated with Stansted Airport that Policy S4 covers. The proposed infrastructure applied for in this application is directly related to the airport and therefore comply with Policy S4. Policies AIR1-6 do not directly relate to any of the areas where infrastructure is proposed to be constructed and likewise to not specifically relate to a proposed uplift in passenger numbers.

10.81 Other policies relevant to the consideration of this application fall within two general categories – general policies and environmental policies.

10.82 Policy GEN1, which received moderate weight due to its compatibility with the NPPF, states that development will only be permitted if all of the following criteria are met:

a) Access to the main road network must be capable of carrying the traffic generated by the development safely
b) The traffic generated by the development must be capable of being accommodated on the surrounding transport network
c) The design of the site must not compromise road safety and must take account of the needs of cyclists, pedestrians, public transport users, horse riders and people whose mobility is impaired
d) It must be designed to meet the needs of people with disabilities if it is development to which the general public expect to have access
e) The development encourages movement by means other than driving a car.

10.83 The proposal does not propose any new or alterations to access to the main road network so criterion a) is not relevant. Similarly, there are no alterations to the layout of the site itself proposed within the application so criteria c) and d) are also not relevant. In terms of traffic generation, the proposals have been considered by the highway authorities for Essex and Hertfordshire and Highways England who have all concluded that the proposals, subject to appropriate mitigation measures would comply with criterion b).

10.84 In terms of criterion e), the application site is already well served by public transport, and there are commitments to use best endeavours to maintain and/or increase sustainable transport mode shares. Furthermore, whilst limited options exist for access by walking and/or cycling, the Stansted Area Transport Forum and the reporting sub-groups (bus and coach, highways and rail) have the ability to authorise funding for sustainable transport improvements, including schemes which incentivise walking and/or cycling. The schemes are funded by two means; two fixed capital ring fenced sums, one associated with bus and coach improvements and the other related to local roads. In addition, there is funding secured by way of a transport levy, a on every car parking transaction, and a fixed annual sum for staff parking. These mechanisms already exist and have performed well and, if planning permission were to be granted are proposed to be carried forward in a new s106 Legal Obligation. As such, the mitigation measures proposed result in the proposals complying with Policy GEN1. Furthermore, they would comply with the sustainable transport objectives of the NPPF.

10.85 Policy GEN2 sets out various design criteria and proposals are required to meet all aspects. However, as these are generally related to physical structures or developments freely accessible by members of the public. In this instance the proposed physical works relate to infrastructure within the airfield and therefore the majority of the criteria are not relevant to the proposals. However, criterion e) relates to energy and water consumption, g) relates to waste and h) relates to environmental impacts. Insofar as these criteria are relevant to the proposals, the statutory consultees have confirmed that they have no objections to the proposals and as such they comply with Policy GEN2.

10.86 Policy GEN3 relates to flood protection and is only partially compatible with the NPPF and therefore only has limited weight. In terms of flood protection, the proposals have been considered by the LLFA who confirm that they have no objections to the proposals. This would be subject to appropriate mitigation measures being secured by condition relating to increased storage capacity for surface water runoff. Insofar as the policy relates to the prevention of increased risk of flooding the proposals comply with Policy GEN3 and with the requirements set out in the NPPF.

10.87 Policy GEN4 does not permit development where it will give rise to nuisance, such as noise, pollution or cause material disturbance or nuisance to occupiers of surrounding properties. In this regard, the proposals do not comply with Policy GEN4 due to the impacts arising from noise and air pollution. Paragraph 180 requires decisions to mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development.

10.88 Currently the applicant operates a Sound Insulation Grant Scheme (SIGS) which covers around 1080 properties. A new, enhanced scheme is proposed in relation to this application which would increase the funding available and around 2000 properties would be eligible for grants.

10.89 Other mitigation measures currently in place are a limit on the number of flights, capped at 274,000, and a noise contour. Outside of the planning system there are also controls on night flights which are not affected by this application. The Aviation Policy Framework and subsequent documents in relation to the development of the aviation strategy recognises the need for airports wishing to make better use of their runways to pass on the benefits of quieter aircraft. Currently, the 57dB leq noise contour has a maximum area of 33.9sqkm. The airport is operating well inside that limit, and could continue to do so up to and including their current cap of 35mppa. Therefore, if planning permission were to be granted, it is appropriate to require the applicant to put forward a scheme to reduce the size of the contour in line with the increase of their operations. This can be secured by way of a condition and the Council would seek a reduction to 28.7sqkm, in line with the predictions in the ES. These measures would ensure that the proposals would comply with the NPPF and the APF.

10.90 Policy GEN5 does not permit lighting schemes unless the level of lighting is the minimum necessary and glare and light spillage from the site is minimised. Whilst no details of lighting is included in the application, given the location and nature of the proposals it is acknowledged by the applicant that additional lighting will be required in this location. Given the operational requirements of the applicant, as regulated by bodies and legislation outside of the control of the planning system, the lighting will be the minimum necessary. The location of the infrastructure works is within the operational airfield and therefore an area which already has significant lighting requirements. Therefore, in this context the proposals comply with Policy GEN5.

10.91 Policy GEN6 states that development will not be permitted unless appropriate infrastructure which arises as a result of the proposals is secured. In this case, the proposed development would result in impacts on the strategic highway network which would require mitigation works to be carried out. A mitigation scheme has been identified and could be secured by way of a clause in s106 Legal Obligation, as recommended by HE. However, given the potential lead-in time before the requirement for the mitigation package being required to be delivered, there is the potential that the proposed identified mitigation may not be

the appropriate mechanism. Therefore, a secondary clause is proposed which requires a reassessment of the situation at the time the mitigation is required and the implementation of an alternative scheme, or if funding for a strategic mitigation measure for the M11 J8 being forthcoming, a financial contribution towards that scheme would be required as alternative mitigation.

10.92 Additional mitigation measures associated with surface access will also be required. These would be delivered through the Stansted Area Transport Forum. The funding mechanisms will be a mix of fixed capital sums to be spent over a period of time and funds raised by the Transport Levy. By securing the mechanisms by way of s106 Legal Obligation the proposal would meet the requirements of Policy GEN6.

10.93 Policy GEN7 does not permit development that would have a harmful effect on wildlife, protected species or habitats suitable for protected species unless the need for development outweighs the importance of the feature for nature conservation. Mitigation and/or compensation measures are acceptable provided they can be secured by way of condition and/or s106 Legal Obligation. The proposal will result in direct impacts on protected species and their habitat through the development of the new infrastructure. Mitigation by means of translocation to an off-site receptor has been put forward by the applicant. The off-site receptor is within the control of the applicant and the mitigation measures proposed would be appropriate.

10.94 Policy ENV2 seeks to protect, inter alia, the setting of listed buildings. The location of the proposed infrastructure is such that impacts are unlikely to arise. Indirect impacts in terms of increased flights would arise from the proposals. On balance, it is considered that the proposals comply with Policy ENV2.

10.95 Policy ENV4 seeks to protect archaeological remains in situ, unless the need for development outweighs the importance of the archaeology. In this instance, whilst there are areas within the airport boundary where significant archaeological remains have been discovered, it is considered that there is little scope for there to be any in the locations of the proposed infrastructure. On that basis, the proposals would comply with Policy ENV4.

10.96 Policy ENV7 does not permit development which would adversely affect nationally or locally designated sites unless the need for development outweighs the particular importance of the nature conservation value of site or reserve. Any potential impacts on such sites would be indirect as a result of pollution, in particular in respect of Hatfield Forest SSSI and East End Wood SSSI. In this instance there would need to be a balance between the potential harm, although no significant levels of harm have been identified in the ES, and the need for the development. Both sites are currently experiencing harm due to pollutants and mitigation measures in the form of long-term monitoring are proposed to be continued, with appropriate mitigation being identified and implemented if required. Given the limited weight that can be applied to this policy due to the shift in national policy towards assessing the benefits of the proposal against the harm, the proposals can be considered to comply with Policy ENV7. In terms of the NPPF, this states that unless the benefits of development outweigh the harm to designated sites then planning permission should be refused. The APF sets out that the social and economic benefits of aviation growth need to be weighed against the environmental impacts. On the basis that no significant impacts have been identified and mitigation measures involving monitoring and implementing

mitigation if harm is arising as a result of the proposals, it is considered that the proposals comply with the NPPF and the APF.

10.97 Wider potential impacts were identified by Natural England in respect of Epping Forest SSSI and SAC, the latter designation requiring the Council to undertake an Appropriate Assessment. The additional information submitted by the applicant, and the Appropriate Assessment, confirm that the proposals would not adversely affect the integrity of the Epping Forest SAC either alone or in combination. In addition, there would not be any adverse impacts on Epping Forest SSSI.

10.98 Policy ENV9 does not permit proposals likely to harm significant local historic landscapes, in this instance protected lanes, unless the need for development outweighs the historic significance of the site. The proposals would not have a direct impact on historic landscapes, but there is the potential for indirect impacts arising from activities such as fly parking. The applicant, by way of the Stansted Area Transport Forum, operates a mechanism for trying to resolve or at least minimise fly parking issues. As such, any potential impact on historic landscapes would be minimal and the proposal can be considered to comply with Policy ENV9.

10.99 Policy ENV11 prevents noise generating development particularly where it would adversely affect the reasonable occupation of existing or proposed noise sensitive development nearby. The exception is where the need for the development outweighs the degree of noise generated. In respect of aircraft noise, the impacts arising affect people in different ways. Some people can live very close to the airport and not consider themselves to be affected by noise, whereas people living some distance from the airport, where aircraft are overflying at heights in excess of 5,000 ft consider themselves to be adversely affected. In order to assess noise impacts a series of analytical measures are used in the form of various noise contours. Historically noise contours have been set at 57dB leq and the current noise contour must not exceed 33.9sqkm. The assessment of the application using a mix of contour types has demonstrated that the proposals would not exceed the current conditioned noise contour, and will reduce in the future. On the basis of the assessment the proposals would not give rise to increased noise and would result in a reduction of the existing 57dB leq noise contour to no more than 28.7sqkm by the end of 2028, which could be secured by way of a condition. On balance, it is considered that the proposals comply with Policy ENV11.

10.100 Policy ENV12 does not permit development likely to cause contamination of groundwater unless effective safeguards are provided. An analysis of the predicted impacts has indicated that contamination is not likely and as such the proposals comply with Policy ENV12.

10.101 Policy ENV13 does not permit development where users would be exposed on an extended long-term basis to poor air quality outdoors near ground level. The development itself does not result in a scheme where users would be exposed to poor air quality. However, the vehicular movements associated with surface access to the airport, plus the pollution from aircraft, would result in impacts on the local area. On the basis that this policy is specifically directed towards two specific areas adjacent to the M11 and the A120, the proposals technically comply with the requirements of the policy.

10.102 However, on air quality issues, the NPPF states that decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas. Opportunities to improve air quality or mitigate impacts should be identified.

10.103 Uttlesford only has one AQMA this is located in Saffron Walden where impacts are unlikely to arise as a result of the development proposals. However, Bishop's Stortford, falling under the administration of East Hertfordshire District Council, has an AQMA based around the Hockerill junction, and a further one located in Sawbridgeworth. The East Herts adopted policy is Policy ENV27 which states, inter alia, that development which will significantly increase air pollution will not be permitted. East Herts District Plan Policy EQ4, which has been tested for soundness but not yet adopted, states that the effect of development on air quality is a material consideration. The policy refers to that Council's Air Quality Action Plan and Air Quality Planning Guidance.

10.104 The ES identifies additional traffic would flow through the Hockerill AQMA but this increase would result in negligible impacts on the AQMA. EHDC does not have a mitigation plan for the AQMA but seeks to ensure that appropriate alternative sustainable transport measures are incorporated into developments affecting the AQMA. As discussed above, the applicant already provides sustainable transport initiatives by way of funding for new bus and coach routes, funding towards local schemes for improving walking and cycling opportunities. Additional funding for schemes could be secured in respect of the current proposals and appropriate sustainable transport schemes can be identified and financed by way of the SATF and the Working Groups. On this basis, the proposals comply with the requirements of the NPPF.

10.105 Overall, the proposals comply with the relevant local plan policies. The proposals also comply with the material considerations of national policy, the policies as set out in the NPPF (2018), the APF (2013) and the BTH (June 2018), and insofar as it is relevant ANPS (2018). The APF sets out the government's primary objective which is to achieve long-term economic growth. The aviation sector is seen as a major contributor to the economy and its growth is supported but within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise. Whilst issues around climate change and carbon emissions are to be dealt with at a government level, it is considered that this application balances the primary objective of economic growth with the impacts of aviation. Appropriate mitigation measures are identified and could be secured by way of conditions or s106 Legal Obligation.

Overall Conclusion:

10.106 The ES has demonstrated that there would be negligible impacts arising from the proposals. These have been assessed and tested by various consultees and issues arising have been addressed and appropriate mitigation measures identified.

10.107 Section 38(6) of the Planning Act 2004 requires that the determination be made in accordance with the provisions of the development plan unless material considerations indicate otherwise. The application accords with the development plan.

10.108 It is considered that the proposal represents a sustainable form of development in line with the NPPF (2018) paragraph 8 and accords with the NPPF.

10.109 The application makes best use of the existing runway infrastructure in accord with Beyond the Horizon (June 2018) and the Aviation Framework (2013).

10.110 No other matters sufficiently outweigh these considerations.

10.111 It is therefore recommended that the application be approved subject to s106 Legal Obligation and conditions, as set out below.

11 Adequacy of the ES

11.1 Uttlesford District Council commissioned ESIA-Consult Ltd to undertake an Independent Peer Review of the Environmental Statement submitted with the application (https://uttlesford.moderngov.co.uk/documents/s8353/ES%20Review.pdf). The evaluation was undertaken by Martin Broderick (principal reviewer) and Dr Bridget Durning (secondary reviewer). The ES was assessed using a grading system A-F which are used to establish whether the document overall passes or fails the assessment.

11.2 The Assessment Grades are as follows:

A = indicates that the work has generally been well performed with no important omissions
B = is generally satisfactory and complete with only minor omissions and inadequacies
C = is regarded as just satisfactory despite some omissions or inadequacies
D = indicated that parts are well attempted but, on the whole, just unsatisfactory because of omissions or inadequacies
E = Not satisfactory, significant omissions or inadequacies
F = Very unsatisfactory, important task(s) poorly done or not attempted
N/A = Not applicable in the context of the ES or the project

11.3 The results of the assessments are as follows:

Section in proforma	**Overall grade for that section**	**Area where more information required**
1 Description of the development	**B/C**	The description of the development is generally satisfactory and complete. However, there are some omissions or inadequacies relating to raw materials usage, waste arisings and discussions of limitations.
2 Description of the environment	**B/C**	The description of the environment is generally satisfactory and complete. However, there are some omissions or inadequacies relating to addressing uncertainty, assessment of alternatives and need to provide a policy compliance schedule.
3 Scoping, consultation and effect identification	**C**	There are omissions and inadequacies relating to showing where responses to consultation comments have been addressed in ES. Also no

		discussion of hazards and potential for accidents.
4 Prediction and evaluation of effects	**B/C**	The prediction and evaluation of effects is generally satisfactory and complete. However, there are some omissions or inadequacies relating to using more up to date guidance i.e. noise and discussions of consequential impacts.
5 Alternatives	**D**	This section is unsatisfactory because design and size not considered and there is no tabulated comparison of these alternatives.
6 Mitigation and monitoring	**C/D**	Limitations of mitigation measures not explicitly discussed. An overarching EMP needs to be produced that links the CEMP, CoCP and CTMP to STALs ISO14001 EMS.
7 Non-Technical Summary	**B/C**	The NTS is generally satisfactory and complete. However, there is one omission relating to discussion of the confidence which can be placed in the assessment.
8 Organisation and Presentation of information	**C**	The Table of Contents is not adequate and there are no contact details provided in ES.
Overall Grade (A-F)	**C**	**The documentation evaluated is overall graded as C i.e. as just satisfactory despite some omissions and inadequacies.**

11.4 The final grading of the assessment is noted and analysis indicates that the overall grading of C/D is dragged down due to “design and size not considered and there is no tabulated comparison of these alternatives”.

11.5 Regulation 18(3)(d) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires an environmental statement to include:

“*a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment*”

11.6 The reviewer has marked this section of the ES down due to “design, technology, location size, and scale, layout of site, management arrangements” not being considered.

11.7 The proposal is for a throughput of a specific number of passengers and the assessment has been made on that basis. The “Do Minimum”, also known as “Do Nothing”, compared to the “Do Something” or “Development Case” scenarios are the most appropriate assessments to be undertaken. This is noted by the reviewer at section 5.4, but again this has been graded as D with no explanation as to why this grading was reached. However, in respect of comparing the “no action do-nothing” alternative with the proposals at 5.2, this section has been graded C/D with the downgrading attributed to the fact that there is no tabulation of advantages/disadvantages being provided.

11.8 In terms of physical infrastructure such as the RAT and RET, the way in which the runway operates limits the alternative positions and options that can be considered.

11.9 Therefore, it is officer's view that this criterion should be more realistically be graded as C as a minimum. This would result in the overall grading for the ES being B/C – is regarded as generally satisfactory with only some omissions or inadequacies.

11.10 The Assessment included a suggested condition that a comprehensive Environmental Management Plan be linked to the applicant's Environmental Management System (EMS) which is certified under the international standard ISO 4001:2015. However, the EMS would deal with issues controlled by legislation outside of the planning system. Therefore, it is not considered appropriate to impose the recommended condition as this would be duplicating requirements, which is not the role of the planning system.

RECOMMENDATION – CONDITIONAL APPROVAL SUBJECT TO S106 LEGAL OBLIGATION:

(I) The applicant be informed that the Planning Committee would be minded to refuse planning permission for the reasons set out in paragraph (III) unless the freehold owner enters into a binding obligation to cover the matters set out below under Section 106 of the Town and Country Planning Act 1990, as amended by the Planning and Compensation Act 1991, in a form to be prepared by the Assistant Director – Legal and Governance, in which case he shall be authorised to conclude such an obligation to secure the following:

- **i) Noise mitigation – new Sound Insulation Grant Scheme to be introduced (see map attached)**
- **ii) Transport:**
  - **a. Providing capacity and safety improvements OR an equivalent funding for a package for the M11 and associated junctions**
  - **b. Providing funding for a package of transport related improvements for:**
    - **i. Local Roads Network Fund**
    - **ii. Local Bus Network Development Fund**
  - **c. Continue to provide the existing Transport Levy and increase it by the addition of a contribution from every transaction from the Express Set Down (forecourt) area**
  - **d. Rail users discount scheme, with a higher rate of discount and revised eligibility criteria**
  - **e. Revised targets for public transport mode share and 'Kiss and Fly' access for passengers and staff access by single occupancy private car with penalty clauses for missed targets**
  - **f. Update and revise working arrangements for the Transport Forum**
  - **g. Updated and revised Airport Surface Access Strategy and Travel Plan production schedule**
  - **h. Commitment to improve bus and coach station**
  - **i. Monitor STAL road network and provide mitigation if required as a result of adverse impacts arising on the local road network**
- **iii) Skills, education and employment – To provide, support and maintain a package of measures to secure local socio-economic benefits:**
  - **a. Airport Employment Academy**
  - **b. Aerozone**
  - **c. Stansted Airport College**
  - **d. Local Supply Chain Support**
- **iv) Ecology – protect and enhance environmentally sensitive sites**

a. Produce and implement a Management and improvement Plan for East End Wood
b. Continue to monitor, and provide mitigation if required as a result of adverse impacts arising, Hatfield Forest
c. Monitoring of water quality of the biological interests of local brooks

v) Public Health and Wellbeing – provide funding for a Community Fund for public health and wellbeing projects (see draft proposals attached)

vi) Payment of monitoring fee

(II) In the event of such an obligation being made, the Assistant Director Planning shall be authorised to grant permission subject to the conditions set out below

(III) If the freehold owner shall fail to enter into such an obligation within a reasonable period of time, the Assistant Director Planning shall be authorised to refuse permission in his discretion anytime thereafter for the non-delivery of:

i) Noise mitigation – new Sound Insulation Grant Scheme to be introduced

ii) Transport:
- **a. Providing capacity and safety improvements OR an equivalent funding for a package for the M11 and associated junctions**
- **b. Providing funding for a package of transport related improvements for:**
  - **i. Local Roads Network Fund**
  - **ii. Local Bus Network Development Fund**
- **c. Continue to provide the existing Transport Levy and increase it by the addition of a contribution from every transaction from the Express Set Down (forecourt) area**
- **a. Rail users discount scheme, with a higher rate of discount and revised eligibility criteria**
- **b. Revised targets for public transport mode share and 'Kiss and Fly' access for passengers and staff access by single occupancy private car with penalty clauses for missed targets**
- **c. Update and revise working arrangements for the Transport Forum**
- **d. Updated and revised Airport Surface Access Strategy and Travel Plan production schedule**
- **e. Commitment to improve bus and coach station**

iii) Skills, education and employment – To provide, support and maintain a package of measures to secure local socio-economic benefits:
- **a. Airport Employment Academy**
- **b. Aerozone**
- **c. Stansted Airport College**
- **d. Local Supply Chain Support**

iv) Ecology – protect and enhance environmentally sensitive sites
- **a. Produce and implement a Management and improvement Plan for East End Wood**
- **b. Continue to monitor, and provide mitigation if required as a result of adverse impacts arising, Hatfield Forest**
- **c. Monitoring of water quality of the biological interests of local brooks**

v) **Public Health and Wellbeing – provide funding for a Community Fund for public health and wellbeing projects**

Conditions:

STAL is accepting of the conditions, and in particular the pre-commencement conditions as per the Town and Country Planning (Pre-commencement Conditions) Regulations 2018.

1. The development hereby permitted shall be begun before the expiration of 3 years from the date of this decision.

   REASON: To comply with the requirements of Section 91 of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

2. Prior to reaching 35mppa and following consultation with the Environment Agency a scheme for the provision and implementation of water resource efficiency measures, during the operational phases of the development shall be submitted to and agreed, in writing, with the Local Planning Authority. The scheme shall include a clear timetable for the implementation of the measures in relation to the operation of the development. The scheme shall be implemented and the measures provided and made available for use in accordance with such timetables as may be agreed..

   The scheme shall include the identification of locations for sufficient additional water meters to inform and identify specific measures in the strategy. The locations shall reflect the passenger, commercial and operational patterns of water use across the airport:

   REASON: In order to secure a sustainable form of development, as set out in paragraph 150 of the National Planning Policy Framework and Policy GEN2(e) of the Uttlesford Local Plan (adopted 2005).

3. Prior to the commencement of construction works, a Construction Environmental Management Plan shall be submitted to and approved in writing by the local planning authority. The construction works shall subsequently be carried out strictly in accordance with the approved CEMP, unless otherwise agreed in writing.

   The CEMP must incorporate the findings and recommendations of the Environmental Statement and must incorporate the following plans and programmes:.

   (a) External Communications Plan
      (i) External communications programme
      (ii) External complaints procedure
   (b) Pollution Incident Prevention and Control Plan
      (i) Identification of potential pollution source, pathway and receptors
      (ii) Control measures to prevent pollution release to water, ground and air (including details of the surface/ground water management plan)

(iii) Control measures for encountering contaminated land
(iv) Monitoring regime
(v) Emergency environmental incident response plan
(vi) Incident investigation and reporting
(vii) Review/change management and stakeholder consultation

(c) Site Waste Management Plan
(i) Management of excavated materials and other waste arising
(ii) Waste minimisation
(iii) Material re-use

(d) Nuisance Management Plan (Noise, Dust, Air Pollution, Lighting)
(i) Roles and responsibilities
(ii) Specific risk assessment – identification of sensitive receptors and predicted impacts
(iii) Standards and codes of practice
(iv) Specific control and mitigation measures
(v) Monitoring regime for noise

(e) Management of Construction Vehicles
(i) parking of vehicles of site operatives
(ii) routes for construction traffic

REASON: To protect amenity of neighbouring properties and in the interests of highway safety, in accordance with Uttlesford Local Plan Policies GEN1, GEN2, GEN4, ENV11 (adopted 2005).

4. Prior to commencement of the development, a detailed surface water drainage scheme for the airfield works hereby approved based on the calculated required attenuation volume of 256m^3,must be submitted to and approved in writing by the local planning authority. The scheme must be implemented in accordance with the approved details as part of the development, and should include but not be limited to:

- Detailed engineering drawings of the new or altered components of the drainage scheme.
- A final drainage plan which details exceedance and conveyance routes, and location and sizing of any drainage features.
- A written report summarising the scheme as built and highlighting any minor changes to the approved strategy.

REASON: To prevent surface water flooding both on- and off-site, in accordance with the National Planning Policy Framework. This condition must be 'pre-commencement' to ensure that the development is only carried out in accordance with the above details.

5. A Biodiversity Management Strategy (BMS) in respect of the translocation site at Monks Farm shall be submitted to, and approved in writing by, the local planning authority prior to the commencement of construction works.

The content of the BMS shall include the following:

- Description and evaluation of features to be managed
- Ecological trends and constraints on site that might influence management
- Aims and objectives of management
- Appropriate management options for achieving aims and objectives
- Prescriptions for management actions

- Preparation of a work schedule (including an annual work plan capable of being rolled forward over a five year period)
- Details of the body or organisation responsible for implementation of the Strategy
- Ongoing monitoring and remedial measures

The Strategy shall also set out (where the results from monitoring show that conservation aims and objectives of the BMS are not being met) how contingencies and/or remedial action will be identified, agreed and implemented so that the development still delivers the fully functioning biodiversity objectives of the originally approved scheme. The approved Strategy will be implemented by the developer in accordance with the approved details.

REASON: To conserve protected and priority species and allow the Local Planning Authority to discharge its duties under the UK Habitats Regulations 2017, the Wildlife and Countryside Act 1981 as amended, and Policy GEN7 of the Uttlesford Local Plan (adopted 2005) and the NPPF.

6. All ecological mitigation and enhancement measures and/or works shall be carried out in accordance with the details contained in the Stansted – Ecology Mitigation Strategy (RPS, February 2018) forming part of the ES Appendix 16.2 to the satisfaction of the local planning authority.

REASON: To conserve and enhance protected and priority species and allow the Local Planning Authority to discharge its duties under the UK Habitats Regulations, the Wildlife and Countryside Act 1981 as amended and s40 of the NERC Act 2006 (Priority habitats and species) and s17 Crime and Disorder Act 1998, and in accordance with Policy GEN7 of the Uttlesford Local Plan (adopted 2005) and the NPPF.

7. The area enclosed by the 57dB(a) Leq, 16h (0700-2300) contour shall not exceed 33.9 sq km for daytime noise.

By the end of the first calendar year that annual passenger throughput exceeds 35million, or by 31 December 2024, whichever is the sooner, a strategy shall be submitted to, and agreed with, the local planning authority, which defines the measures to be taken by STAL or any successor or airport operator to reduce the area of the noise contour by the end of 2028 for daytime noise to 28.7sq km for the area exposed to 57dB(A) Leq 16h (0700-2300). Thereafter, from 2029, the area enclosed by the 57dB(A) Leq 16hr (0700-2300) contour shall not exceed 28.7sqkm for daytime noise.

REASON: In the interests of protecting the amenity of local residents, in accordance with Uttlesford Local Plan Policy ENV11, and in accordance with the principle of the aviation industry sharing the benefits of improvements to technology with local communities, as set out in the Aviation Policy Framework.

For the purposes of condition 7, the noise contour shall be calculated by the CAA's Environmental Research and Consultancy Department (ERCD) Aircraft Noise Contour (ANCON) model (current version 2.3). (or as may be updated or amended) and using the standardised average mode.

8. The passenger throughput at Stansted Airport shall not exceed 43 million passengers in any 12 calendar month period. From the date of this permission, the airport operator shall report the monthly and moving annual total numbers of

passengers in writing to the local planning authority no later than 28 days after the end of the calendar month to which the data relate.

REASON: To ensure the predicted effects of the development are not exceeded, in accordance with policies in the Uttlesford Local Plan and the NPPF.

9. There shall be at Stansted Airport a limit on the number of occasions on which aircraft may take-off or land at Stansted Airport of 274,000 Air Transport Movements during any 12 calendar month period, of which no more than 16,000 shall be CATMs (Cargo Air Transport Movements). From the date of the granting of planning permission, the developer shall report the monthly and moving annual total numbers of Aircraft Movements, PATMs (Passenger Air Transport Movements) and CATMs in writing to the local planning authority no late than 28 days after the end of the calendar month to which the data relate.

REASON: To protect the amenity of residents who live near the airport and who are affected by, or may be affected by aircraft noise, in accordance with Uttlesford Local Plan Policy ENV11 (adopted 2005) and to ensure the predicted effects of the development are not exceeded.

For the purposes of condition 9, the limit shall not apply to aircraft taking off or landing in any of the following circumstances:

a) the aircraft is required to land at the airport because of an emergency, a divert or any other circumstance beyond control of the operator and commander of the aircraft; and
b) the aircraft is engaged on the Head of State's flight, or on a flight operated primarily for the purposes of the transport of government Ministers or visiting Heads of State or dignitaries from abroad.

10. Within 6 months from the date of this permission a scheme for the installation of electric vehicle charging points at the airport shall be submitted to and approved in writing by the local planning authority. The scheme shall indicate the numbers, locations and programme for installation. Subsequently, the charging points shall be installed in accordance with the approved details and retained thereafter.

REASON: To ensure adequate mitigation measures are in place to address the predicted increase in air pollution as a result of the development, in accordance with paragraph 181 of the NPPF.

From:	Jamie
To:	Manston Airport
Cc:	Richard Price
Subject:	RE: Manston - Urgent submission
Date:	12 June 2019 09:36:16
Attachments:	DCO Hearing_SHP Summary.pdf
Importance:	High

Dear Case Team,

Please find attached SHP's Written Summary of Oral Submissions put at the dDCO Hearing held on 7 June 2019.

SHP has submitted this ahead of the Deadline so that the ExA will have the opportunity to review the submission prior to issue of its second draft DCO, which we understand is scheduled for Friday 14 June 2019.

Accordingly, we would greatly appreciate if the attached document could be passed to the ExA as a matter of urgency.

I would be grateful if you could confirm safe receipt - your assistance is greatly appreciated.

Best regards
Jamie

Jamie Macnamara
Stone Hill Park Limited

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS PUT AT THE SECOND DRAFT DEVELOPMENT CONSENT ORDER ("DCO") HEARING HELD ON 7 JUNE 2019

1. **BACKGROUND**

1.1. The Issue Specific Hearing on the draft DCO (the "Hearing") was held at 10:00am on 7 June 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2. The Hearing took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") (the "Agenda").

1.3. The format of this summary follows that of the Agenda and only refers to parts of the Agenda where Stone Hill Park Limited ("SHP") made substantive comments.

1.4. The comments made by SHP on the dDCO are without prejudice to SHP's position that, inter alia;

1.4.1. the Applicant's case is not credible;

1.4.2. no need has been demonstrated, and the case presented by the Applicant, which is based on the Azimuth report, is fundamentally flawed;

1.4.3. no compelling case in the public interest has been demonstrated;

1.4.4. no justification has been provided as to why the Works, as listed in Schedule 1 of the Revised Draft Development Consent Order, satisfy the legal tests of "NSIP development" or "Associated Development";

1.4.5. no justification for the extent of land acquisition has been provided;

1.4.6. no reasonable attempts have been made to acquire the land voluntarily or alternatives explored by the Applicant;

1.4.7. no credible business plan has been presented;

1.4.8. there is no evidence that funding is available;

1.4.9. there is no evidence that the level of funding proposed is adequate;

1.4.10. there is no evidence that the Applicant can reasonably expect to raise and commit the necessary funding to implement the authorised development;

1.4.11. the Applicant has not assessed the likely worst case environmental effects; and

1.4.12. it is not lawful or appropriate for survey results to be deferred until a later decision making stage etc.

2. AGENDA ITEM 6 – THE EXA'S INITIAL dDCO: PROPOSED NEW PROVISIONS – EXA

New Requirement 21:

2.1. SHP would suggest to the ExA that a more robust requirement would be required to limit the degree to which the environmental effects could be materially worse than those which have been assessed in the ES. The rationale is provided below, together with an explanation of why the erroneous fleet mix used suggests that the ES has not assessed the likely worse case environmental effects.

> *Requirement 21*
>
> *"The operation of the airport is subject to*
>
> *i. A total annual commercial air transport movement limit of 26,468 ATMs that includes the following sub limits;*
>
> *i. A maximum of 17,170 Cargo ATMs, of which no more than 12,860 cargo aircraft movements can be by jet aircraft;*
>
> *ii. A maximum of 9,298 of passenger ATMs;*
>
> *ii. a total annual General Aviation movement limit of 38,000 [TBC – the 38,000 may be excessive as the ES does not appear to have fully assessed the impacts of these movements]."*

Rationale for Proposed Drafting

2.2. Notwithstanding the lack of credibility of the Applicant's forecast, the DCO must include requirements that limit the development to that assessed. Accordingly, SHP agree with the ExA's proposal that there would need to be a cap on cargo ATMs to protect (but only partly so – see below) against the environmental effects being materially worse than assessed in the ES, and not just those that could derive from an increase in passenger trips (as accepted by the Applicant at the Hearing). SHP explained that Cargo ATMS are generally far older aircraft than passenger aircraft, with worse environmental effects in terms of noise, air quality, accident rates etc. It would therefore be far more competent for the DCO to include a limit (that could be reviewed at a later date if required and with the benefit of evidence) rather than to have no limit.

2.3. However, this cap, in itself, would not offer sufficient protection against the environmental effects being materially worse, as the environmental assessments are based on a fleet mix (set out in Appendix 3.3. of the ES [APP-044]), which is based on the forecast in the Azimuth report [APP-085].

2.4. As explained in detail SHP's recent submissions, the forecast contained in the Azimuth report [APP-085] is wholly incompatible with the E-commerce business model set out in the Applicant's recent oral and written submissions. A further consequence is the erroneous fleet mix, which would not be appropriate for an import led E-commerce integrator model of the nature explained by the Applicant (i.e. to import freight to serve the south east of England).

Why is this relevant to this DCO requirement?

2.5. The ES assumes 1,456 integrator feeder aircraft in Year 2, rising to 4,310 in Year 2. The environmental effects assessed in the ES therefore assume that these aircraft account for over 25% of all cargo ATMs over the forecast period.

2.6. The integrator feeder aircraft in the fleet mix are assumed to be ATR-72s, which are by far the smallest and lightest aircraft included in the mix having a maximum landing weight on 22 tonnes. For context, the average maximum landing weight of the other cargo aircraft included in the mix is c.170 tonnes (the largest being 306 tonnes - see analysis contained in Appendix 1 appended to this summary).

2.7. In previous submissions, SHP's aviation experts have clearly explained that ATR-72s would not be required for the E-commerce integrator model now proposed by the Applicant. It is highly revealing that, despite being given multiple opportunities to provide an explanation, the Applicant has chosen not to.

2.8. If the ATR-72 aircraft were replaced by other aircraft in the forecast (e.g. aircraft that are c.8 times the maximum landing weight i.e. c.170 tonnes) the environmental effects would undoubtedly be materially worse. For additional context, Part 2 of Appendix 1 of the Noise Mitigation Plan [REP6-022] shows that the ATR-72 turboprop aircraft are the quietest of all aircraft shown, being classified as exempt or having the lowest noise quota count of 0.25. (*Please note that the latest version of the Noise Mitigation Plan submitted by the Applicant [REP7a-022] refers to, but does not include, the Appendices showing the noise levels of the different type of aircraft*.)

2.9. The other Code C aircraft in the mix (e.g. Boeing 737-800) are c.2.4 - 3.0 times heavier than the ATR-72 aircraft and, as Jet aircraft, are far noisier with quota counts of 0.5/1. Hence replacement of the ATR-72s by other Code C aircraft would also result in the noise being greater than assessed in the ES.

2.10. Therefore, in order to attempt to ensure that the environmental effects could not be materially worse than assessed, the Requirement 21 would need to include a sub-restriction that would ensure *"no more than 12,860 cargo aircraft movements can be by jet aircraft"* (i.e. 17,170 less the 4,310 ATR-72 turboprop aircraft assessed in the ES).

2.11. As a final point, the consequence of the Applicant's approach of evenly spreading out the timing of flight movements throughout the day is that the ES has not assessed the worst case effects of the proposed development, and in many cases the "worst case" appears to use "best case" assumptions. A fundamentally illogical and unsustainable position to adopt. For example, the Applicant claims that its vastly oversized development (e.g. in respect of the number of stands etc) is required to deal with the concentration and bunching of ATM activity. However, the Applicant has not even assessed the material effects any such concentration would have on traffic and transport, noise (e.g. for school day) and other assessments.

2.12. As a consequence, the DCO would need to include a complex suite of requirements to offer protection to the local community. If the ES had properly assessed the likely worst case effects, then this would not be required. However, at this late stage in the examination, it is not practical to attempt to determine what these restrictions would need to be or how they would be monitored, costed and controlled.

2.13. SHP understands that one such requirement under consideration is a restriction on passenger ATMs during a morning period. SHP await further detail on what is proposed, but note that any restriction in the morning period would fundamentally undermine the Applicant's ability to secure any low cost operators (or any airline for that matter), which is reliant on quick turnaround times and maximising the number of daily rotations. As York Aviation has already explained at previous hearings and in written submissions, the more restrictive night flying policy would already materially undermine the Applicant's prospects of securing low cost carrier ATMs. In the Applicant's apparent readiness to accept this restriction, the Applicant again demonstrates a fundamental lack of understanding of how passenger airlines make money – they only make money when flying and would not be doing so if they were prevented from flying during prime periods. It further suggests that this is not a "real" project.

New Requirement 22

2.14. The quota count of 3,028 is excessive, particularly where it only covers the period 06:00-07:00 (other than for later arriving aircraft).

2.15. Based on the quota counts applying to the assessed fleet mix, the majority (by far) of aircraft have a quota count of between 0 and 1. Based on applying the highest quota count shown in Part 2 Appendix 1 for each aircraft, a quota count of 3,028 would theoretically allow for over 4,644 ATMs. Based on applying the lower QC count for each aircraft type, the number could theoretically exceed 8,000.

2.16. Hence, the quota count proposed is meaningless as applied only to the single hour in the morning and would provide no effective control on operations.

3. AGENDA ITEM 7 – THE EXA'S FIRST DRAFT DCO: PROPOSED NEW PROVISIONS – The Applicant

Article 2 – Interpretation, Requirement 19 – Airport-related commercial facilities and Schedule 1 –Authorised Development

3.1. Without prejudice to SHP's case that this application does not meet the requirements of a NSIP, SHP explained that the definition of "airport related" would allow development that that is outside of what would otherwise be permitted under PA2008 (i.e. development for which development consent is required and associated development as set out in section 115 of PA2008).

3.2. SHP has submitted extensive submissions on these matters throughout the examination explaining that associated development cannot be legitimate if it does not have a direct relationship with the principal development, (i.e. *"the development"* that has *"the effect"* of increasing *"by at least 10,000 per year the number of air transport movements of cargo aircraft for which the airport is capable of providing air cargo transport services").* SHP has set out in detail the associated development criteria, how the criteria need to be considered, how the claimed associated development does not satisfy the relevant tests and how the Applicant has failed to provide any substantive evidence that would allow the ExA to even start making an assessment as to whether the tests have been satisfied.

3.3. SHP has been consistent in its submissions.

3.4. In contrast, the Applicant is still to provide the explanation and justification of the works that it considers to be the NSIP works (the principal development) and the associated development. This despite a request from the ExA, and commitment given by the Applicant, at the initial dDCO hearing on 10 January 2019. The Applicant's submissions on these matters have been contradictory, inconsistent and incomplete, albeit in its response to the ExA's second written question **DCO.2.33** [REP6-012], the Applicant did at least acknowledge that development that does not have the requisite effect referred to in section 23(5)(b) cannot be part of the principal development;

> *"The NSIP is to increase the capability of the airport to provide cargo facilities – the passenger terminal is therefore not part of that but is rather classified as associated development. The increase in passengers will not reach the threshold of 10 million per annum that would make it a NSIP in its own right."*

3.5. As SHP has explained in its submissions, including section 5 of Appendix 1 (NSIP Rebuttal) to its Written Representations [REP3-025], there are a number of other Works Numbers that the Applicant has erroneously classified as NSIP development. For example, Works No. 2 (8 light and business aircraft hangars and associated fixed base operator terminal) and Works No.s 10 & 11 (comprising 7 Code C stands relating to proposed recycling and passenger operations, as explained in the Environmental Statement [APP-033]) clearly do not increase the capability of the airport to provide air cargo facilities.

<u>Article 19 – Compulsory acquisition of land</u>

3.6. SHP explained the rationale for the Crichel Downs type principles it set out in its answer to Second Written Question DCO.2.49 [REP6-053] and explained its concerns that the application of the standard Crichel Downs Rules (as drafted for use by Government departments) would not be appropriate in the circumstances.

3.7. SHP provided an example at the Hearing whereby the Applicant was successful in acquiring the land for a cost of, say £25 million, set by the Lands Tribunal, but then did nothing to advance its own plans, claiming that it was unable to secure the necessary funding to develop its proposed project. Under the Crichel Downs Rules, the Applicant could seek planning consent for a similar residential led project to that which SHP has submitted a planning application for, or an alternative commercial scheme and progress development without being required to offer the land back to SHP. It would only be where the Applicant wished to dispose of the land that had not been materially altered it would be required to offer the land to SHP, albeit even then, there are many exceptions from the obligation to offer back (see section 15 of the Crichel Downs Rules). Furthermore, the Applicant would only be required to offer the land back to SHP at the then current market value (to be determined by the Applicant's professionally qualified valuer).

3.8. This is a unique case, where one private entity is attempting to compulsorily acquire another party's land holding of 742 acres, and the landholding in question forms 92% of the Order Land. The principals of the Applicant have long coveted the land, having been involved in two previous attempts to secure compulsory acquisition powers, failing both times. The principals have no track record of successful airport development, have submitted zero information on their experience and track record to this examination, and SHP consider that the Applicant's primary objective is to secure a 742 acre land holding in Kent.

3.9. SHP trusts the ExA is fully cognisant that this is not a normal DCO and the Applicant cannot just simply point to precedent of other DCOs as justification for drafting of the Articles, when the nature of the application, the Applicant and the nature of compulsory acquisition sought are incomparable with any other DCO.

3.10. SHP has simplified the provisions it set out in its answer to Second Written Question DCO.2.49 and proposes that the following subparagraphs would need to be added to replace sub paragraphs (3) and (4) included in the ExA's first draft DCO. The provisions would offer some limited protection against the Applicant using the DCO process to effect a "land grab";

> *"(3) The undertaker, and its successors, must covenant with SHP only to use the SHP Land for the purposes of the Authorised Development and/or uses that do not extend beyond the type of development permitted by the Order. The undertaker must not dispose of any interest in the SHP Land unless the successor has entered into a direct covenant with the current owner of the SHP Land (which includes an obligation to require its successors to provide a similar covenant on any disposal).*
>
> *(4) A restriction is to be registered on the title to the land stating that no dispositions of the SHP Land (or any part) can be registered without the successor entering into a direct covenant with SHP.*
>
> *(5) The undertaker must offer back the SHP Land to the owner of the SHP Land at the price paid for the land where the Applicant has not commenced the Authorised Development prior to the expiration of 2 years beginning with the date that this Order comes into force;*
>
> *(6) The undertaker must offer back the SHP Land to the owner of the SHP Land at the price paid for the land where the Applicant has not commenced operation of the Authorised Development (including the operation of commercial air transport movements) prior to the expiration of [6] years beginning with the date that this Order comes into force;*
>
> *(7) Should the undertaker, or its successor, wish to dispose of any of the SHP Land where the Authorised Development set out in Schedule 1 has not yet commenced on the relevant land, the undertaker must first offer the land back to SHP at current market value. This provision does not apply to any disposals of land to statutory bodies required to facilitate the construction or operation of the Authorised Development."*
>
> Note: "SHP Land" to be defined within the DCO as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

4. AGENDA ITEM 9 – PROPOSED AMENDED OR NEW PROVISIONS – OTHER PARTIES

Article 9 – Guarantees in respect of payment of compensation, etc

4.1. SHP had set out the rationale for its proposed amendments to this Article in paragraphs 7.2 and sub-paragraphs 7.2.1-7.2.3 of SHP's Written Summary of Oral Submission out at

the CA Hearing [REP5-]. The purpose was to address both the lack of evidence on the availability of funding and the level of funding that would be secured in Article 9(1)(a).

4.2. In view of the unusual nature of the Applicant, it being a £1 shell company, with its shares held by two SPVs of no financial standing, its controlling entity being a BVI Company and funding purported to come from a Belize company, M.I.O. Investments Ltd on which nothing is known, an escrow arrangement of the sort proposed could have gone some way to addressing concerns regarding the availability of funding.

4.3. **SHP accepts the ExA is not able to compel an Applicant to place funds in escrow ahead of a decision being made or provide a guarantee/bond.** However, the Applicant's dismissive approach to a constructive proposal, only further focuses attention on the lack of transparency and certainty on the availability of funds. As the ExA reminded the Applicant at the second CA Hearing, there was *"no verifiable evidence on the likelihood of funds"* being available before the examination.

4.4. SHP explained that the Examining Panels on other DCO examinations had raised concerns about funding where an SPV was the Applicant. SHP noted the example of the Hinkley Point scheme where the Applicant was owned by EDF Holdings Ltd (80%) and Centrica (20%), both of whom were very large companies of significant means. Despite this, the ExA raised concerns regarding the availability of funding, and in response the Applicant assisted the examination by offering a guarantee from one of the parent companies, which was of undoubted financial standing.

4.5. MHQC for the Applicant stated that he had acted for the Applicant of the Hinkley Point project and disputed that any guarantee had been offered.

4.6. The ExA is referred to paragraphs 7.34-7.36 of the Hinkley Point C Panel's Report to the Secretary of State dated 19 December 2012 as noted below;

> *"**Availability of funds for compensation***
> *7.34 Accompanying the Statement of Reasons was a Funding Statement (APP281) in which the Applicant stated that it is a wholly owned subsidiary of NNB Holding Company Limited which is a joint venture company with 80% owned by EDF Holdings Limited and 20% owned by GB Gas Holdings Ltd (Centrica). There is a Shareholders Agreement which governs the basis on which the Applicant will be financed.*
>
> *7.35 The Applicant has taken expert advice on the likely cost of implementing the proposed development, including the cost of construction and the funding of the necessary land acquisition. The Applicant has assessed the commercial viability of the proposed development in the light of this information and, if development consent is granted, the development of Hinkley Point C would be funded by a cash call process governed by the Shareholders Agreement. It concludes that the availability of funding would not be an impediment to the implementation of development or to the acquisition of land deemed necessary.*
>
> *7.36 We requested details of the terms of the Shareholders Agreement (PDEC12) and subsequently its termination provisions (PDEC24). We inquired of the Applicant (PDEC24) whether a parent company guarantee could be provided and, following the Applicant's disinclination to do so, the matter was discussed at the compulsory acquisition hearing. As a consequence of the discussions at the hearing the Applicant*

offered (subject to Board approval) to provide a parent company guarantee up to a limit of £10million. This was subsequently provided (PD115)."

4.7. As SHP has explained in previous submissions, the amount set out in the Article 9(1)(a) would grossly understate the level that would be required. Compensation is not for the Examination, but one necessity for the Examination is to ensure that the Promoter has demonstrated there would be adequate funds for any costs associated with compulsory acquisition, noise mitigation and blight.

4.8. Notwithstanding all the matters the ExA has to consider in assessing whether the Applicant has satisfied the relevant compulsory acquisition tests (which the Applicant demonstrably has not), the ExA is required to submit its DCO with its report to the Secretary of State irrespective of the merits of the Applicant's case or the recommendation from the Panel. Therefore, in preparing its DCO, the ExA would need to be satisfied that the amount in the Article would be sufficient - otherwise the ExA would be unable to satisfy themselves under the Guidance and any Article would be defective. This would be prejudicial and have human rights implications given land could be forcibly taken. The precise level of compensation is not for the Examining Authority, and if the Compensation figure from the Upper Tribunal was lower than the amount in the Article, then the remaining amount could be returned to the Promoter. But it should not be the other way around, that the Article did not secure sufficient funds to pay third parties for their land. Therefore, the ExA must take a precautionary approach and look at the higher figure for security purposes. In this regard, the ExA should refer to the detail set out in Appendix 6: Compensation Assessment to SHP's Written Representations [REP3-025]. In paragraph 8.2, Avison Young (formerly GVA) states;

"The compensation provision made in RSP's funding statement is insufficient to meet the compensation obligations resulting from a made DCO. It is important to note that RSP's most recent offer of £20m excludes any value associated with residential development potential, demonstrating the need for RSP's funding provision and business case to be reassessed to reflect significantly higher compensation liabilities."

4.9. The Applicant's estimate for the costs of Compulsory Acquisition of £7 million includes costs such as SDLT that would run to c.£0.5m. Accordingly, it would appear that the Applicant has only allowed for c.£6.5m to be paid to the owners of the land, and despite the ExA's request for more information the Applicant has refused to provide any breakdown. The only information before the examination on the Applicant's "value estimate" is the copy of the letter dated 10 October 2018 from the Applicant's adviser Colin Smith of CBRE, stating his view that the SHP land was valued at £2m - this letter was submitted by SHP as part of its Answers of First Written Questions [REP3-303] and was appended to the Avison Young Compensation Report). Mr Smith's letter was factually inaccurate in a number of areas, and this was compounded by incomplete testimony at the CA hearing where he omitted the fact that SHP had acquired the land from the previous owner of the closed airport in September 2014 for a price of £7 million. Please note that further detail and evidence on the adequacy of funding will be included in SHP's Written Summary of Oral Submission put at the Second CA Hearing.

4.10. On the basis the ExA is required to submit a DCO to the Secretary of State irrespective of its recommendation, suggested amendments to Article 9 are noted below. The level of

security has been left blank pending the ExA's consideration of the appropriate level, which would need to be sufficient to cover the costs relating to;

4.10.1. compulsory acquisition of the Order Land;

4.10.2. the implementation of the Noise Mitigation Plan, which would be materially higher than suggested by the Applicant should the 60DB contour level be applied in line with Government recommendation and/or the Noise contours prepared by the CAA on behalf of Five10Twelve be applied; and

4.10.3. the installation of the new HRDF Beacon (recognising that this would need to be fully operational, and fully tested, prior to any authorised development commencing in safeguarded areas) – the costs would be expected to exceed £1 million.

"Guarantees in respect of payment of compensation, etc.
9.—(1) The authorised development must not be commenced, and the undertaker must not exercise the powers in articles 19 to 33, until—
(a) subject to paragraph (3), security of [£TBC million] has been provided in respect of the liabilities of the undertaker—
(i) to pay compensation to landowners in connection with the acquisition of their land or of rights over their land by the Applicant exercising its powers under Part 5 of this Order; and,
(ii) to pay noise insulation costs and relocation costs underas required by Requirement 9 of Schedule 2 to this Order;
(iii) to pay the installation and all other costs relating to the relocation of the HRDF Beacon [assumed to be £1.5 million]; and
(b) the Secretary of State has approved the security in writing.

(2) The security referred to in paragraph (1) may include, without limitation, any one or more of the following—
(a) the deposit of a cash sum;
(b) a payment into court;
(c) an escrow account;
(d) a bond provided by a financial institution;
(3) The Secretary of State is to have no liability to pay compensation in respect of the compulsory acquisition of land or otherwise under this Order."

Article 18 – Authority to survey and investigate the land

4.11. Paragraph 7.3 of SHP's Written Summary of Oral Submission out at the CA Hearing [REP5] summarised why the wide powers sought by the Applicant to survey and investigate land would be inappropriate. In its revised Explanatory Memorandum (paragraph 3.44), the Applicant argues that it is required in order to *"remove the necessity to compulsorily acquire that land and thus reduce the land brought within the Order limits."* Without SHP's freehold land there is no project. Article 18 would be appropriate, for example, where the acquiring authority needs to undertake micro siting surveys, so that it could minimise compulsory acquisition (e.g. micro siting or a pipeline within a corridor).

4.12. We would refer the ExA to paragraphs 3.4 - 3.7 of SHP's covering letter submitted at Deadline 4 [REP4-064], SHP's answer (including appendices) to second written question Ec.2.2 [REP6-053] and SHP's comment on the Applicant's answer to second written question Ec.2.2 [REP7-014].

4.13. These submissions provide detailed background to the Applicant's consistent history of breaching the terms of previous section 53 authorisations and agreements that provided for access to the land and demonstrate the valid concerns that wide ranging powers of the type sought by the Applicant would be highly prejudicial to SHP. These submissions also highlight concerns that the Applicant has misled the ExA regarding its attempts to undertake surveys. It is also noted that other bodies such as Historic England appear to have taken in good faith the Applicant's assertions that surveys could not be undertaken due to issues of access.

4.14. SHP would also note that there is a Parking Services Agreement between SHP and the DfT that covers effectively all of the Order Land to the south of Manston Road. See answer to the first written question CA.1.23 [REP3-303].

4.15. The current drafting of Article 18(7) only provides for the right of access to be suspended where;

> *"the Secretary of State notifies the undertaker in writing that—*
> *(a) Operation Stack has been declared by Highways England or Kent Police; and*
> *(b) the imminent use of the Operation Stack land for lorry parking purposes would be incompatible with the exercise of rights notified to the Secretary of State under paragraph (2)."*

4.16. This would not cover scenarios where works in preparation for a mobilisation event are underway or where any development is underway of the sort that the ExA had sight of at the site visit on 19 March 2019. This is a highly complex agreement, with material obligations on SHP, which could be prejudiced by the type of access rights that would be afforded the undertaker under the current drafting of the dDCO, and the lack of any controls or protective conditions that should apply to protect the legitimate interests of the landowner.

4.17. In view of the issues raised above, the following minor amendments to Article 18 would need to be incorporated in the DCO submitted by the ExA;

Paragraph (1) amended to;

"(1) Subject to paragraph (8), the undertaker may for the purposes of this Order enter on any land shown within the Order limits or which may be affected by the authorised development and—"

The inclusion of a new Paragraph (8);

"(8) paragraph (1) does not apply to SHP Land without the consent of the owner of the SHP Land, but such consent must not be unreasonably withheld or delayed."

Note: "SHP Land" to be defined as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

Article 26 – General Vesting Declaration

4.18. The Applicant should not be able to rely on the powers in the Compulsory Purchase (Vesting Declarations) Act 1981, as amended by Article 26, in respect of SHP Land. These powers, where they would relate to any of SHP's freehold land, are wholly inappropriate for a number of reasons;

4.18.1. SHP's land comprises substantially all of the land interests required for the project - there is no project without SHP's land. The landowner is known, and the Applicant has already satisfied itself that SHP has title to the land as a result of the extensive work that has gone in to the preparation of the Book of Reference. Therefore, there is no reason why the Applicant would need to use a general vesting declaration as an alternative to the notice to treat procedure in respect of SHP's freehold land.

4.18.2. Under the Vesting Act, the acquiring authority is only required to pay 90% of **its own** estimate of the compensation due. Whilst a "normal" acquiring authority could be expected to act fairly, it is clear from the Applicant's submissions to the examination (and equally, the information it has withheld from the examination), that there could be no confidence that the Applicant would not seek to abuse or take advantage of these powers. To highlight this risk, CBRE's letter of 10 October 2018 (appended to the Avison Young report) included an opinion of value of "circa £2m", which suggest that with Vesting powers, the Applicant could attempt to pay only £1.8m (90% of £2m) pending compensation being determined at a later point.

4.18.3. Furthermore, as explained at the Hearing, the Applicant has recently sought to use the threat of the GVD power as leverage to influence SHP to accept a materially lower sale price than that which the Applicant had previously agreed to pay (but failed to deliver on) as fully explained in SHP's previous submissions). The relevant extract from an email sent by an RSP Director on 24 May 2019 is shown below (please note that a redacted copy of the relevant email is attached as Appendix 2 – a copy of the full email will be appended to SHP's other Deadline 8 submissions, together with appropriate context that addresses the other misleading statements in the email from the RSP Director);

> *"There is a significant risk for you of compulsory purchase powers being granted, and hence the amount we pay you being in line with the estimate of our expert valuers CBRE.* ***90% of our estimate*** *would be payable upon us entering the land,* ***and the remainder might not be paid for several years****." [emphasis added]*

4.19. Accordingly, Article 26 would need to be amended to carve out the freehold interests held by SHP under Land Registry Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314. Only a Notice to Treat should be exercisable over SHP's freehold interests. The Applicant would still be able to gain entry and implement the DCO and **SHP would retain title to the site (at which it is operating commercial activities) until compensation is paid to it**.

4.20. In its comments on the Applicant's answer to second written question CA.2.29, SHP explained that a blanket restriction against the use of the GVD for all the Order Land would

not be appropriate. It is perfectly understandable that an Applicant would wish to be able to use the General Vesting Declaration method, where the interests are small and fragmented, to address the risk that undiscovered owners of lands or rights may still exist. That would be an appropriate use of these powers.

4.21. At the Hearing, the Applicant sought to claim that there is no real difference between a General Vesting Declaration and a Notice to Treat processes, suggesting that under both circumstances 90% of the undertakers "valuation" of the land is payable before a final Lands Tribunal decision is made. The two situations are not remotely comparable in the context of this specific situation.

4.22. Under GVD, the undertaker takes possession and title at the point it pays 90% of **its own** estimate. Under the Notice to treat route, interim payment is **only** made if requested by the landowner, and title remains with the landowner until it is paid full compensation for the site. This is a very important distinction, as it changes the balance of negotiating power materially, and provides a degree of protection to the landowner. It is highly unlikely that there has been another circumstance in a DCO where an Applicant has explicitly and opportunistically sought to use the threat of GVD powers in the manner the Applicant has. The Applicant would not need these powers over SHP's land and would be wholly undeserving of them.

4.23. It is therefore proposed that the following new paragraph (1) would need to be included within Article 26 of the DCO the ExA is required to submit to the Secretary of State;

"(1) This Article 26 shall not apply to the SHP Land"

"SHP Land" is to be defined as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

Article 29 (Temporary use of land for carrying out the authorised development):

4.24. Pursuant to Article 29(1)(a)(ii), all of SHP's land would be subject to temporary possession before any notice of treat is served. This would not be acceptable. Without SHP's land, there would be no project. Therefore, the Applicant should not be allowed to take temporary possession and delay taking the freehold. This would be unequitable. Accordingly, and for the same reasons as set out in Article 18 above, there would be no justification for SHP's land to be subject to temporary possession. Article 28 should not apply to all of SHP's land in the Book of Reference.

4.25. It is therefore proposed that the following new paragraph (1) would need to be included within Article 29 of the DCO the ExA are required to submit to the Secretary of State;

"(1) This Article 29 shall not apply to the SHP Land"

"SHP Land" is to be defined as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

5. AGENDA ITEM 11 – ANY OTHER RELEVANT ISSUES

Requirement 2 – amend the time period

5.1. SHP would suggest that Requirement 2 be amended. The Applicant has been unwavering in its heroic assertion that an airport would be operational in Q1 2022, and that the authorised development would commence no later than Q1 2021. The requirement as currently drafted would effectively require authorised development to commence no later than 2026 (assuming a period for legal challenge). Applying a more realistic construction programme of 2 years would mean an airport was not operational until 2028, 6 years after the Applicant asserts.

5.2. SHP would propose the following change;

"2. The authorised development must commence no later than the expiration of [2] years beginning with the date that this Order comes into force."

New Requirement 23

5.3. It is evident from the submissions of the DIO (and the submissions of SHP - see SHP answer to third written question CA.3.6 [REP7a-reference to be allocated]) that the HRDF Beacon would be a material impediment to the implementation of the proposed development.

5.4. For example, Works No. 1 (Airside Cargo Facilities) and Works No. 3 (the construction of a new air traffic control centre) are within safeguarded areas, and could not be developed until a new HRDF Beacon was operational and it had been demonstrated that there was no technical degradation compared to the existing HRDF Beacon. SHP would expect that the DIO should require a new requirement that restricts development within relevant safeguarding zones until DIO/MOD provide appropriate confirmation. It is unclear how this could be appropriately secured outwith the DCO, as the Applicant has argued. The costs of such installation would also need to be secured in Article 9. It is not credible that any competent investor/funder would commit funds to a project until this material risk has been fully mitigated.

APPENDIX 1: FLEET MIX ASSESSED IN THE ASSESSED IN THE ENVIRONMENTAL STATEMENT

The environmental assessments are based on a fleet mix (set out in Appendix 3.3. of the ES [APP-044]), based on the forecasts contained in the Azimuth report [APP-085].

As explained in detail SHP's recent submissions, the forecast contained in the Azimuth report [APP-085] is wholly incompatible with the E-commerce business model set out in the Applicant's recent oral and written submissions. One consequence is the erroneous fleet mix, which would not be appropriate for an import led E-commerce integrator model of the nature explained.

As set out in Appendix 3.3, the environmental assessments assume >25% of forecast cargo ATMs are ATR-72 integrator feeder turboprop aircraft highlighted in the table below.

As shown in the table, these aircraft are the smallest and lightest aircraft included in the cargo fleet mix having a maximum landing weight on 22 tonnes. For context, the average maximum landing weight of the other cargo aircraft included in the mix is c.170 tonnes (the largest being 306 tonnes - see analysis contained in Appendix 1 appended to this summary).

These aircraft also generate materially less noise than the other aircraft assessed.

Summary of Fleet Mix from Appendix 3.3. to the ES [APP-044]

Order in Appendix 3.3	Carrier	Aircraft Type	Quota Count - Low	Quota Count - High	Max Landing Weight (Tonnes)
1	Amazon	767-400	0.50	2.00	159
2	Amazon	777-200	0.50	4.00	224
3	Cargolux	747-800	1.00	2.00	306
7	Fedex / DHL	767-300	0.50	2.00	136
8	Fedex / DHL	757-200	0.25	1.00	90
9	Fedex / DHL	330-200	0.50	2.00	180
10	**Fedex / DHL (Feeders)**	**ATR72**	**0.00**	**0.25**	**22**
11	Fresh fish and spider crabs	777-200	0.50	4.00	224
12	Iran Air	777-200	0.50	4.00	224
13	Live animal operations	777-200	0.50	4.00	224
14	Middle Eatsern Airlines	777-200	0.50	4.00	224
15	Pakistan International Airlines	777-200	0.50	4.00	224
16	Postal Services	737-800	0.50	1.00	65
17	Qatar Airways	777-200	0.50	4.00	224
18	Russian airlines	747-400	1.00	8.00	296
19	TAAG Angola airlines	747-400	1.00	8.00	296
20	TAAG Angola airlines	747-800	1.00	2.00	306
21	Other Freight operations	737-300	0.50	1.00	53
22	Military Freighter Moverments	C-130E	0.50	2.00	203
23	Military Freighter Moverments	C17	n/a	n/a	70
24	Humanitarian and Medivac	747-400	1.00	8.00	296
25	Humanitarian and Medivac	747-800	1.00	2.00	306

Notes

1. Only aircraft with assessed flights are included
2. Quota Count numbers taken from Noise Mitigation Plan

APPENDIX 2 – COPY OF REDACTED EMAIL FROM RSP DIRECTOR DATED 24 MAY 2019

Please refer to paragraph 4.18.3

From: Niall Lawlor <[redacted]>
Date: Friday, 24 May 2019 at 16:08
To: Pauline Bradley <[redacted]
Cc: Tony Freudmann <[redacted]
Subject: Offer on Manston - Subject to Contract

Dear[redacted],

Having reached out to you [redacted] last Friday, and Tony touching base with Pauline, I received Pauline's email on Monday afternoon, and subsequently Pauline and I spoke on Wednesday.

My partners and I wish to place the following on record:

- [redacted]
- [redacted]
- [redacted]
- There is a significant risk for you of compulsory purchase powers being granted, and hence the amount we pay you being in line with the estimate of our expert valuers CBRE. 90% of our estimate would be payable upon us entering the land, and the remainder might not be paid for several years. [redacted]

[redacted]

Best regards,

Niall Lawlor

This email is sent from the offices of RiverOak Strategic Partners, a limited company registered in England and Wales, company number 10269461. Its registered office is 16 Charles II Street, London SW1Y 4NW. This email and any files transmitted with it are confidential. If you are not the intended recipient, you should not copy, forward or use any part of it or disclose its contents to any person. If you have received it in error please notify info@rsp.co.uk. This email and any automatic copies should be deleted after you have contacted RiverOak Strategic Partners.

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

WRITTEN SUMMARY OF STONE HILL PARK LTD'S ORAL SUBMISSIONS PUT AT THE SECOND DRAFT DEVELOPMENT CONSENT ORDER ("DCO") HEARING HELD ON 7 JUNE 2019

1. **BACKGROUND**

1.1. The Issue Specific Hearing on the draft DCO (the "Hearing") was held at 10:00am on 7 June 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2. The Hearing took the form of running through items listed in the agenda published by the Examining Authority (the "ExA") (the "Agenda").

1.3. The format of this summary follows that of the Agenda and only refers to parts of the Agenda where Stone Hill Park Limited ("SHP") made substantive comments.

1.4. The comments made by SHP on the dDCO are without prejudice to SHP's position that, inter alia;

1.4.1. the Applicant's case is not credible;

1.4.2. no need has been demonstrated, and the case presented by the Applicant, which is based on the Azimuth report, is fundamentally flawed;

1.4.3. no compelling case in the public interest has been demonstrated;

1.4.4. no justification has been provided as to why the Works, as listed in Schedule 1 of the Revised Draft Development Consent Order, satisfy the legal tests of "NSIP development" or "Associated Development";

1.4.5. no justification for the extent of land acquisition has been provided;

1.4.6. no reasonable attempts have been made to acquire the land voluntarily or alternatives explored by the Applicant;

1.4.7. no credible business plan has been presented;

1.4.8. there is no evidence that funding is available;

1.4.9. there is no evidence that the level of funding proposed is adequate;

1.4.10. there is no evidence that the Applicant can reasonably expect to raise and commit the necessary funding to implement the authorised development;

1.4.11. the Applicant has not assessed the likely worst case environmental effects; and

1.4.12. it is not lawful or appropriate for survey results to be deferred until a later decision making stage etc.

2. AGENDA ITEM 6 – THE EXA'S INITIAL dDCO: PROPOSED NEW PROVISIONS – EXA

New Requirement 21:

2.1. SHP would suggest to the ExA that a more robust requirement would be required to limit the degree to which the environmental effects could be materially worse than those which have been assessed in the ES. The rationale is provided below, together with an explanation of why the erroneous fleet mix used suggests that the ES has not assessed the likely worse case environmental effects.

> *Requirement 21*
>
> *"The operation of the airport is subject to*
>
> *i. A total annual commercial air transport movement limit of 26,468 ATMs that includes the following sub limits;*
>
> *i. A maximum of 17,170 Cargo ATMs, of which no more than 12,860 cargo aircraft movements can be by jet aircraft;*
>
> *ii. A maximum of 9,298 of passenger ATMs;*
>
> *ii. a total annual General Aviation movement limit of 38,000 [TBC – the 38,000 may be excessive as the ES does not appear to have fully assessed the impacts of these movements]."*

Rationale for Proposed Drafting

2.2. Notwithstanding the lack of credibility of the Applicant's forecast, the DCO must include requirements that limit the development to that assessed. Accordingly, SHP agree with the ExA's proposal that there would need to be a cap on cargo ATMs to protect (but only partly so – see below) against the environmental effects being materially worse than assessed in the ES, and not just those that could derive from an increase in passenger trips (as accepted by the Applicant at the Hearing). SHP explained that Cargo ATMS are generally far older aircraft than passenger aircraft, with worse environmental effects in terms of noise, air quality, accident rates etc. It would therefore be far more competent for the DCO to include a limit (that could be reviewed at a later date if required and with the benefit of evidence) rather than to have no limit.

2.3. However, this cap, in itself, would not offer sufficient protection against the environmental effects being materially worse, as the environmental assessments are based on a fleet mix (set out in Appendix 3.3. of the ES [APP-044]), which is based on the forecast in the Azimuth report [APP-085].

2.4. As explained in detail SHP's recent submissions, the forecast contained in the Azimuth report [APP-085] is wholly incompatible with the E-commerce business model set out in the Applicant's recent oral and written submissions. A further consequence is the erroneous fleet mix, which would not be appropriate for an import led E-commerce integrator model of the nature explained by the Applicant (i.e. to import freight to serve the south east of England).

Why is this relevant to this DCO requirement?

2.5. The ES assumes 1,456 integrator feeder aircraft in Year 2, rising to 4,310 in Year 2. The environmental effects assessed in the ES therefore assume that these aircraft account for over 25% of all cargo ATMs over the forecast period.

2.6. The integrator feeder aircraft in the fleet mix are assumed to be ATR-72s, which are by far the smallest and lightest aircraft included in the mix having a maximum landing weight on 22 tonnes. For context, the average maximum landing weight of the other cargo aircraft included in the mix is c.170 tonnes (the largest being 306 tonnes - see analysis contained in Appendix 1 appended to this summary).

2.7. In previous submissions, SHP's aviation experts have clearly explained that ATR-72s would not be required for the E-commerce integrator model now proposed by the Applicant. It is highly revealing that, despite being given multiple opportunities to provide an explanation, the Applicant has chosen not to.

2.8. If the ATR-72 aircraft were replaced by other aircraft in the forecast (e.g. aircraft that are c.8 times the maximum landing weight i.e. c.170 tonnes) the environmental effects would undoubtedly be materially worse. For additional context, Part 2 of Appendix 1 of the Noise Mitigation Plan [REP6-022] shows that the ATR-72 turboprop aircraft are the quietest of all aircraft shown, being classified as exempt or having the lowest noise quota count of 0.25. (*Please note that the latest version of the Noise Mitigation Plan submitted by the Applicant [REP7a-022] refers to, but does not include, the Appendices showing the noise levels of the different type of aircraft*.)

2.9. The other Code C aircraft in the mix (e.g. Boeing 737-800) are c.2.4 - 3.0 times heavier than the ATR-72 aircraft and, as Jet aircraft, are far noisier with quota counts of 0.5/1. Hence replacement of the ATR-72s by other Code C aircraft would also result in the noise being greater than assessed in the ES.

2.10. Therefore, in order to attempt to ensure that the environmental effects could not be materially worse than assessed, the Requirement 21 would need to include a sub-restriction that would ensure *"no more than 12,860 cargo aircraft movements can be by jet aircraft"* (i.e. 17,170 less the 4,310 ATR-72 turboprop aircraft assessed in the ES).

2.11. As a final point, the consequence of the Applicant's approach of evenly spreading out the timing of flight movements throughout the day is that the ES has not assessed the worst case effects of the proposed development, and in many cases the "worst case" appears to use "best case" assumptions. A fundamentally illogical and unsustainable position to adopt. For example, the Applicant claims that its vastly oversized development (e.g. in respect of the number of stands etc) is required to deal with the concentration and bunching of ATM activity. However, the Applicant has not even assessed the material effects any such concentration would have on traffic and transport, noise (e.g. for school day) and other assessments.

2.12. As a consequence, the DCO would need to include a complex suite of requirements to offer protection to the local community. If the ES had properly assessed the likely worst case effects, then this would not be required. However, at this late stage in the examination, it is not practical to attempt to determine what these restrictions would need to be or how they would be monitored, costed and controlled.

2.13. SHP understands that one such requirement under consideration is a restriction on passenger ATMs during a morning period. SHP await further detail on what is proposed, but note that any restriction in the morning period would fundamentally undermine the Applicant's ability to secure any low cost operators (or any airline for that matter), which is reliant on quick turnaround times and maximising the number of daily rotations. As York Aviation has already explained at previous hearings and in written submissions, the more restrictive night flying policy would already materially undermine the Applicant's prospects of securing low cost carrier ATMs. In the Applicant's apparent readiness to accept this restriction, the Applicant again demonstrates a fundamental lack of understanding of how passenger airlines make money – they only make money when flying and would not be doing so if they were prevented from flying during prime periods. It further suggests that this is not a "real" project.

New Requirement 22

2.14. The quota count of 3,028 is excessive, particularly where it only covers the period 06:00-07:00 (other than for later arriving aircraft).

2.15. Based on the quota counts applying to the assessed fleet mix, the majority (by far) of aircraft have a quota count of between 0 and 1. Based on applying the highest quota count shown in Part 2 Appendix 1 for each aircraft, a quota count of 3,028 would theoretically allow for over 4,644 ATMs. Based on applying the lower QC count for each aircraft type, the number could theoretically exceed 8,000.

2.16. Hence, the quota count proposed is meaningless as applied only to the single hour in the morning and would provide no effective control on operations.

3. AGENDA ITEM 7 – THE EXA'S FIRST DRAFT DCO: PROPOSED NEW PROVISIONS – The Applicant

Article 2 – Interpretation, Requirement 19 – Airport-related commercial facilities and Schedule 1 –Authorised Development

3.1. Without prejudice to SHP's case that this application does not meet the requirements of a NSIP, SHP explained that the definition of "airport related" would allow development that that is outside of what would otherwise be permitted under PA2008 (i.e. development for which development consent is required and associated development as set out in section 115 of PA2008).

3.2. SHP has submitted extensive submissions on these matters throughout the examination explaining that associated development cannot be legitimate if it does not have a direct relationship with the principal development, (i.e. *"the development"* that has *"the effect"* of increasing *"by at least 10,000 per year the number of air transport movements of cargo aircraft for which the airport is capable of providing air cargo transport services").* SHP has set out in detail the associated development criteria, how the criteria need to be considered, how the claimed associated development does not satisfy the relevant tests and how the Applicant has failed to provide any substantive evidence that would allow the ExA to even start making an assessment as to whether the tests have been satisfied.

3.3. SHP has been consistent in its submissions.

3.4. In contrast, the Applicant is still to provide the explanation and justification of the works that it considers to be the NSIP works (the principal development) and the associated development. This despite a request from the ExA, and commitment given by the Applicant, at the initial dDCO hearing on 10 January 2019. The Applicant's submissions on these matters have been contradictory, inconsistent and incomplete, albeit in its response to the ExA's second written question **DCO.2.33** [REP6-012], the Applicant did at least acknowledge that development that does not have the requisite effect referred to in section 23(5)(b) cannot be part of the principal development;

> *"The NSIP is to increase the capability of the airport to provide cargo facilities – the passenger terminal is therefore not part of that but is rather classified as associated development. The increase in passengers will not reach the threshold of 10 million per annum that would make it a NSIP in its own right."*

3.5. As SHP has explained in its submissions, including section 5 of Appendix 1 (NSIP Rebuttal) to its Written Representations [REP3-025], there are a number of other Works Numbers that the Applicant has erroneously classified as NSIP development. For example, Works No. 2 (8 light and business aircraft hangars and associated fixed base operator terminal) and Works No.s 10 & 11 (comprising 7 Code C stands relating to proposed recycling and passenger operations, as explained in the Environmental Statement [APP-033]) clearly do not increase the capability of the airport to provide air cargo facilities.

<u>Article 19 – Compulsory acquisition of land</u>

3.6. SHP explained the rationale for the Crichel Downs type principles it set out in its answer to Second Written Question DCO.2.49 [REP6-053] and explained its concerns that the application of the standard Crichel Downs Rules (as drafted for use by Government departments) would not be appropriate in the circumstances.

3.7. SHP provided an example at the Hearing whereby the Applicant was successful in acquiring the land for a cost of, say £25 million, set by the Lands Tribunal, but then did nothing to advance its own plans, claiming that it was unable to secure the necessary funding to develop its proposed project. Under the Crichel Downs Rules, the Applicant could seek planning consent for a similar residential led project to that which SHP has submitted a planning application for, or an alternative commercial scheme and progress development without being required to offer the land back to SHP. It would only be where the Applicant wished to dispose of the land that had not been materially altered it would be required to offer the land to SHP, albeit even then, there are many exceptions from the obligation to offer back (see section 15 of the Crichel Downs Rules). Furthermore, the Applicant would only be required to offer the land back to SHP at the then current market value (to be determined by the Applicant's professionally qualified valuer).

3.8. This is a unique case, where one private entity is attempting to compulsorily acquire another party's land holding of 742 acres, and the landholding in question forms 92% of the Order Land. The principals of the Applicant have long coveted the land, having been involved in two previous attempts to secure compulsory acquisition powers, failing both times. The principals have no track record of successful airport development, have submitted zero information on their experience and track record to this examination, and SHP consider that the Applicant's primary objective is to secure a 742 acre land holding in Kent.

3.9. SHP trusts the ExA is fully cognisant that this is not a normal DCO and the Applicant cannot just simply point to precedent of other DCOs as justification for drafting of the Articles, when the nature of the application, the Applicant and the nature of compulsory acquisition sought are incomparable with any other DCO.

3.10. SHP has simplified the provisions it set out in its answer to Second Written Question DCO.2.49 and proposes that the following subparagraphs would need to be added to replace sub paragraphs (3) and (4) included in the ExA's first draft DCO. The provisions would offer some limited protection against the Applicant using the DCO process to effect a "land grab";

> *"(3) The undertaker, and its successors, must covenant with SHP only to use the SHP Land for the purposes of the Authorised Development and/or uses that do not extend beyond the type of development permitted by the Order. The undertaker must not dispose of any interest in the SHP Land unless the successor has entered into a direct covenant with the current owner of the SHP Land (which includes an obligation to require its successors to provide a similar covenant on any disposal).*
>
> *(4) A restriction is to be registered on the title to the land stating that no dispositions of the SHP Land (or any part) can be registered without the successor entering into a direct covenant with SHP.*
>
> *(5) The undertaker must offer back the SHP Land to the owner of the SHP Land at the price paid for the land where the Applicant has not commenced the Authorised Development prior to the expiration of 2 years beginning with the date that this Order comes into force;*
>
> *(6) The undertaker must offer back the SHP Land to the owner of the SHP Land at the price paid for the land where the Applicant has not commenced operation of the Authorised Development (including the operation of commercial air transport movements) prior to the expiration of [6] years beginning with the date that this Order comes into force;*
>
> *(7) Should the undertaker, or its successor, wish to dispose of any of the SHP Land where the Authorised Development set out in Schedule 1 has not yet commenced on the relevant land, the undertaker must first offer the land back to SHP at current market value. This provision does not apply to any disposals of land to statutory bodies required to facilitate the construction or operation of the Authorised Development."*
>
> Note: "SHP Land" to be defined within the DCO as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

4. AGENDA ITEM 9 – PROPOSED AMENDED OR NEW PROVISIONS – OTHER PARTIES

Article 9 – Guarantees in respect of payment of compensation, etc

4.1. SHP had set out the rationale for its proposed amendments to this Article in paragraphs 7.2 and sub-paragraphs 7.2.1-7.2.3 of SHP's Written Summary of Oral Submission out at

the CA Hearing [REP5-]. The purpose was to address both the lack of evidence on the availability of funding and the level of funding that would be secured in Article 9(1)(a).

4.2. In view of the unusual nature of the Applicant, it being a £1 shell company, with its shares held by two SPVs of no financial standing, its controlling entity being a BVI Company and funding purported to come from a Belize company, M.I.O. Investments Ltd on which nothing is known, an escrow arrangement of the sort proposed could have gone some way to addressing concerns regarding the availability of funding.

4.3. **SHP accepts the ExA is not able to compel an Applicant to place funds in escrow ahead of a decision being made or provide a guarantee/bond.** However, the Applicant's dismissive approach to a constructive proposal, only further focuses attention on the lack of transparency and certainty on the availability of funds. As the ExA reminded the Applicant at the second CA Hearing, there was *"no verifiable evidence on the likelihood of funds"* being available before the examination.

4.4. SHP explained that the Examining Panels on other DCO examinations had raised concerns about funding where an SPV was the Applicant. SHP noted the example of the Hinkley Point scheme where the Applicant was owned by EDF Holdings Ltd (80%) and Centrica (20%), both of whom were very large companies of significant means. Despite this, the ExA raised concerns regarding the availability of funding, and in response the Applicant assisted the examination by offering a guarantee from one of the parent companies, which was of undoubted financial standing.

4.5. MHQC for the Applicant stated that he had acted for the Applicant of the Hinkley Point project and disputed that any guarantee had been offered.

4.6. The ExA is referred to paragraphs 7.34-7.36 of the Hinkley Point C Panel's Report to the Secretary of State dated 19 December 2012 as noted below;

> *"**Availability of funds for compensation***
> *7.34 Accompanying the Statement of Reasons was a Funding Statement (APP281) in which the Applicant stated that it is a wholly owned subsidiary of NNB Holding Company Limited which is a joint venture company with 80% owned by EDF Holdings Limited and 20% owned by GB Gas Holdings Ltd (Centrica). There is a Shareholders Agreement which governs the basis on which the Applicant will be financed.*
>
> *7.35 The Applicant has taken expert advice on the likely cost of implementing the proposed development, including the cost of construction and the funding of the necessary land acquisition. The Applicant has assessed the commercial viability of the proposed development in the light of this information and, if development consent is granted, the development of Hinkley Point C would be funded by a cash call process governed by the Shareholders Agreement. It concludes that the availability of funding would not be an impediment to the implementation of development or to the acquisition of land deemed necessary.*
>
> *7.36 We requested details of the terms of the Shareholders Agreement (PDEC12) and subsequently its termination provisions (PDEC24). We inquired of the Applicant (PDEC24) whether a parent company guarantee could be provided and, following the Applicant's disinclination to do so, the matter was discussed at the compulsory acquisition hearing. As a consequence of the discussions at the hearing the Applicant*

offered (subject to Board approval) to provide a parent company guarantee up to a limit of £10million. This was subsequently provided (PD115)."

4.7. As SHP has explained in previous submissions, the amount set out in the Article 9(1)(a) would grossly understate the level that would be required. Compensation is not for the Examination, but one necessity for the Examination is to ensure that the Promoter has demonstrated there would be adequate funds for any costs associated with compulsory acquisition, noise mitigation and blight.

4.8. Notwithstanding all the matters the ExA has to consider in assessing whether the Applicant has satisfied the relevant compulsory acquisition tests (which the Applicant demonstrably has not), the ExA is required to submit its DCO with its report to the Secretary of State irrespective of the merits of the Applicant's case or the recommendation from the Panel. Therefore, in preparing its DCO, the ExA would need to be satisfied that the amount in the Article would be sufficient - otherwise the ExA would be unable to satisfy themselves under the Guidance and any Article would be defective. This would be prejudicial and have human rights implications given land could be forcibly taken. The precise level of compensation is not for the Examining Authority, and if the Compensation figure from the Upper Tribunal was lower than the amount in the Article, then the remaining amount could be returned to the Promoter. But it should not be the other way around, that the Article did not secure sufficient funds to pay third parties for their land. Therefore, the ExA must take a precautionary approach and look at the higher figure for security purposes. In this regard, the ExA should refer to the detail set out in Appendix 6: Compensation Assessment to SHP's Written Representations [REP3-025]. In paragraph 8.2, Avison Young (formerly GVA) states;

"The compensation provision made in RSP's funding statement is insufficient to meet the compensation obligations resulting from a made DCO. It is important to note that RSP's most recent offer of £20m excludes any value associated with residential development potential, demonstrating the need for RSP's funding provision and business case to be reassessed to reflect significantly higher compensation liabilities."

4.9. The Applicant's estimate for the costs of Compulsory Acquisition of £7 million includes costs such as SDLT that would run to c.£0.5m. Accordingly, it would appear that the Applicant has only allowed for c.£6.5m to be paid to the owners of the land, and despite the ExA's request for more information the Applicant has refused to provide any breakdown. The only information before the examination on the Applicant's "value estimate" is the copy of the letter dated 10 October 2018 from the Applicant's adviser Colin Smith of CBRE, stating his view that the SHP land was valued at £2m - this letter was submitted by SHP as part of its Answers of First Written Questions [REP3-303] and was appended to the Avison Young Compensation Report). Mr Smith's letter was factually inaccurate in a number of areas, and this was compounded by incomplete testimony at the CA hearing where he omitted the fact that SHP had acquired the land from the previous owner of the closed airport in September 2014 for a price of £7 million. Please note that further detail and evidence on the adequacy of funding will be included in SHP's Written Summary of Oral Submission put at the Second CA Hearing.

4.10. On the basis the ExA is required to submit a DCO to the Secretary of State irrespective of its recommendation, suggested amendments to Article 9 are noted below. The level of

security has been left blank pending the ExA's consideration of the appropriate level, which would need to be sufficient to cover the costs relating to;

4.10.1. compulsory acquisition of the Order Land;

4.10.2. the implementation of the Noise Mitigation Plan, which would be materially higher than suggested by the Applicant should the 60DB contour level be applied in line with Government recommendation and/or the Noise contours prepared by the CAA on behalf of Five10Twelve be applied; and

4.10.3. the installation of the new HRDF Beacon (recognising that this would need to be fully operational, and fully tested, prior to any authorised development commencing in safeguarded areas) – the costs would be expected to exceed £1 million.

"Guarantees in respect of payment of compensation, etc.
9.—(1) The authorised development must not be commenced, and the undertaker must not exercise the powers in articles 19 to 33, until—
(a) subject to paragraph (3), security of [£TBC million] has been provided in respect of the liabilities of the undertaker—
(i) to pay compensation to landowners in connection with the acquisition of their land or of rights over their land by the Applicant exercising its powers under Part 5 of this Order; and,
(ii) to pay noise insulation costs and relocation costs underas required by Requirement 9 of Schedule 2 to this Order;
(iii) to pay the installation and all other costs relating to the relocation of the HRDF Beacon [assumed to be £1.5 million]; and
(b) the Secretary of State has approved the security in writing.

(2) The security referred to in paragraph (1) may include, without limitation, any one or more of the following—
(a) the deposit of a cash sum;
(b) a payment into court;
(c) an escrow account;
(d) a bond provided by a financial institution;
(3) The Secretary of State is to have no liability to pay compensation in respect of the compulsory acquisition of land or otherwise under this Order."

Article 18 – Authority to survey and investigate the land

4.11. Paragraph 7.3 of SHP's Written Summary of Oral Submission out at the CA Hearing [REP5] summarised why the wide powers sought by the Applicant to survey and investigate land would be inappropriate. In its revised Explanatory Memorandum (paragraph 3.44), the Applicant argues that it is required in order to *"remove the necessity to compulsorily acquire that land and thus reduce the land brought within the Order limits."* Without SHP's freehold land there is no project. Article 18 would be appropriate, for example, where the acquiring authority needs to undertake micro siting surveys, so that it could minimise compulsory acquisition (e.g. micro siting or a pipeline within a corridor).

4.12. We would refer the ExA to paragraphs 3.4 - 3.7 of SHP's covering letter submitted at Deadline 4 [REP4-064], SHP's answer (including appendices) to second written question Ec.2.2 [REP6-053] and SHP's comment on the Applicant's answer to second written question Ec.2.2 [REP7-014].

4.13. These submissions provide detailed background to the Applicant's consistent history of breaching the terms of previous section 53 authorisations and agreements that provided for access to the land and demonstrate the valid concerns that wide ranging powers of the type sought by the Applicant would be highly prejudicial to SHP. These submissions also highlight concerns that the Applicant has misled the ExA regarding its attempts to undertake surveys. It is also noted that other bodies such as Historic England appear to have taken in good faith the Applicant's assertions that surveys could not be undertaken due to issues of access.

4.14. SHP would also note that there is a Parking Services Agreement between SHP and the DfT that covers effectively all of the Order Land to the south of Manston Road. See answer to the first written question CA.1.23 [REP3-303].

4.15. The current drafting of Article 18(7) only provides for the right of access to be suspended where;

> *"the Secretary of State notifies the undertaker in writing that—*
> *(a) Operation Stack has been declared by Highways England or Kent Police; and*
> *(b) the imminent use of the Operation Stack land for lorry parking purposes would be incompatible with the exercise of rights notified to the Secretary of State under paragraph (2)."*

4.16. This would not cover scenarios where works in preparation for a mobilisation event are underway or where any development is underway of the sort that the ExA had sight of at the site visit on 19 March 2019. This is a highly complex agreement, with material obligations on SHP, which could be prejudiced by the type of access rights that would be afforded the undertaker under the current drafting of the dDCO, and the lack of any controls or protective conditions that should apply to protect the legitimate interests of the landowner.

4.17. In view of the issues raised above, the following minor amendments to Article 18 would need to be incorporated in the DCO submitted by the ExA;

Paragraph (1) amended to;

"(1) Subject to paragraph (8), the undertaker may for the purposes of this Order enter on any land shown within the Order limits or which may be affected by the authorised development and—"

The inclusion of a new Paragraph (8);

"(8) paragraph (1) does not apply to SHP Land without the consent of the owner of the SHP Land, but such consent must not be unreasonably withheld or delayed."

Note: "SHP Land" to be defined as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

Article 26 – General Vesting Declaration

4.18. The Applicant should not be able to rely on the powers in the Compulsory Purchase (Vesting Declarations) Act 1981, as amended by Article 26, in respect of SHP Land. These powers, where they would relate to any of SHP's freehold land, are wholly inappropriate for a number of reasons;

4.18.1. SHP's land comprises substantially all of the land interests required for the project - there is no project without SHP's land. The landowner is known, and the Applicant has already satisfied itself that SHP has title to the land as a result of the extensive work that has gone in to the preparation of the Book of Reference. Therefore, there is no reason why the Applicant would need to use a general vesting declaration as an alternative to the notice to treat procedure in respect of SHP's freehold land.

4.18.2. Under the Vesting Act, the acquiring authority is only required to pay 90% of **its own** estimate of the compensation due. Whilst a "normal" acquiring authority could be expected to act fairly, it is clear from the Applicant's submissions to the examination (and equally, the information it has withheld from the examination), that there could be no confidence that the Applicant would not seek to abuse or take advantage of these powers. To highlight this risk, CBRE's letter of 10 October 2018 (appended to the Avison Young report) included an opinion of value of "circa £2m", which suggest that with Vesting powers, the Applicant could attempt to pay only £1.8m (90% of £2m) pending compensation being determined at a later point.

4.18.3. Furthermore, as explained at the Hearing, the Applicant has recently sought to use the threat of the GVD power as leverage to influence SHP to accept a materially lower sale price than that which the Applicant had previously agreed to pay (but failed to deliver on) as fully explained in SHP's previous submissions). The relevant extract from an email sent by an RSP Director on 24 May 2019 is shown below (please note that a redacted copy of the relevant email is attached as Appendix 2 – a copy of the full email will be appended to SHP's other Deadline 8 submissions, together with appropriate context that addresses the other misleading statements in the email from the RSP Director);

> *"There is a significant risk for you of compulsory purchase powers being granted, and hence the amount we pay you being in line with the estimate of our expert valuers CBRE.* ***90% of our estimate*** *would be payable upon us entering the land,* ***and the remainder might not be paid for several years****." [emphasis added]*

4.19. Accordingly, Article 26 would need to be amended to carve out the freehold interests held by SHP under Land Registry Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314. Only a Notice to Treat should be exercisable over SHP's freehold interests. The Applicant would still be able to gain entry and implement the DCO and **SHP would retain title to the site (at which it is operating commercial activities) until compensation is paid to it**.

4.20. In its comments on the Applicant's answer to second written question CA.2.29, SHP explained that a blanket restriction against the use of the GVD for all the Order Land would

not be appropriate. It is perfectly understandable that an Applicant would wish to be able to use the General Vesting Declaration method, where the interests are small and fragmented, to address the risk that undiscovered owners of lands or rights may still exist. That would be an appropriate use of these powers.

4.21. At the Hearing, the Applicant sought to claim that there is no real difference between a General Vesting Declaration and a Notice to Treat processes, suggesting that under both circumstances 90% of the undertakers "valuation" of the land is payable before a final Lands Tribunal decision is made. The two situations are not remotely comparable in the context of this specific situation.

4.22. Under GVD, the undertaker takes possession and title at the point it pays 90% of **its own** estimate. Under the Notice to treat route, interim payment is **only** made if requested by the landowner, and title remains with the landowner until it is paid full compensation for the site. This is a very important distinction, as it changes the balance of negotiating power materially, and provides a degree of protection to the landowner. It is highly unlikely that there has been another circumstance in a DCO where an Applicant has explicitly and opportunistically sought to use the threat of GVD powers in the manner the Applicant has. The Applicant would not need these powers over SHP's land and would be wholly undeserving of them.

4.23. It is therefore proposed that the following new paragraph (1) would need to be included within Article 26 of the DCO the ExA is required to submit to the Secretary of State;

"(1) This Article 26 shall not apply to the SHP Land"

"SHP Land" is to be defined as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

Article 29 (Temporary use of land for carrying out the authorised development):

4.24. Pursuant to Article 29(1)(a)(ii), all of SHP's land would be subject to temporary possession before any notice of treat is served. This would not be acceptable. Without SHP's land, there would be no project. Therefore, the Applicant should not be allowed to take temporary possession and delay taking the freehold. This would be unequitable. Accordingly, and for the same reasons as set out in Article 18 above, there would be no justification for SHP's land to be subject to temporary possession. Article 28 should not apply to all of SHP's land in the Book of Reference.

4.25. It is therefore proposed that the following new paragraph (1) would need to be included within Article 29 of the DCO the ExA are required to submit to the Secretary of State;

"(1) This Article 29 shall not apply to the SHP Land"

"SHP Land" is to be defined as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314.

5. AGENDA ITEM 11 – ANY OTHER RELEVANT ISSUES

Requirement 2 – amend the time period

5.1. SHP would suggest that Requirement 2 be amended. The Applicant has been unwavering in its heroic assertion that an airport would be operational in Q1 2022, and that the authorised development would commence no later than Q1 2021. The requirement as currently drafted would effectively require authorised development to commence no later than 2026 (assuming a period for legal challenge). Applying a more realistic construction programme of 2 years would mean an airport was not operational until 2028, 6 years after the Applicant asserts.

5.2. SHP would propose the following change;

"2. The authorised development must commence no later than the expiration of [2] years beginning with the date that this Order comes into force."

New Requirement 23

5.3. It is evident from the submissions of the DIO (and the submissions of SHP - see SHP answer to third written question CA.3.6 [REP7a-reference to be allocated]) that the HRDF Beacon would be a material impediment to the implementation of the proposed development.

5.4. For example, Works No. 1 (Airside Cargo Facilities) and Works No. 3 (the construction of a new air traffic control centre) are within safeguarded areas, and could not be developed until a new HRDF Beacon was operational and it had been demonstrated that there was no technical degradation compared to the existing HRDF Beacon. SHP would expect that the DIO should require a new requirement that restricts development within relevant safeguarding zones until DIO/MOD provide appropriate confirmation. It is unclear how this could be appropriately secured outwith the DCO, as the Applicant has argued. The costs of such installation would also need to be secured in Article 9. It is not credible that any competent investor/funder would commit funds to a project until this material risk has been fully mitigated.

APPENDIX 1: FLEET MIX ASSESSED IN THE ASSESSED IN THE ENVIRONMENTAL STATEMENT

The environmental assessments are based on a fleet mix (set out in Appendix 3.3. of the ES [APP-044]), based on the forecasts contained in the Azimuth report [APP-085].

As explained in detail SHP's recent submissions, the forecast contained in the Azimuth report [APP-085] is wholly incompatible with the E-commerce business model set out in the Applicant's recent oral and written submissions. One consequence is the erroneous fleet mix, which would not be appropriate for an import led E-commerce integrator model of the nature explained.

As set out in Appendix 3.3, the environmental assessments assume >25% of forecast cargo ATMs are ATR-72 integrator feeder turboprop aircraft highlighted in the table below.

As shown in the table, these aircraft are the smallest and lightest aircraft included in the cargo fleet mix having a maximum landing weight on 22 tonnes. For context, the average maximum landing weight of the other cargo aircraft included in the mix is c.170 tonnes (the largest being 306 tonnes - see analysis contained in Appendix 1 appended to this summary).

These aircraft also generate materially less noise than the other aircraft assessed.

Summary of Fleet Mix from Appendix 3.3. to the ES [APP-044]

Order in Appendix 3.3	Carrier	Aircraft Type	Quota Count - Low	Quota Count - High	Max Landing Weight (Tonnes)
1	Amazon	767-400	0.50	2.00	159
2	Amazon	777-200	0.50	4.00	224
3	Cargolux	747-800	1.00	2.00	306
7	Fedex / DHL	767-300	0.50	2.00	136
8	Fedex / DHL	757-200	0.25	1.00	90
9	Fedex / DHL	330-200	0.50	2.00	180
10	**Fedex / DHL (Feeders)**	**ATR72**	**0.00**	**0.25**	**22**
11	Fresh fish and spider crabs	777-200	0.50	4.00	224
12	Iran Air	777-200	0.50	4.00	224
13	Live animal operations	777-200	0.50	4.00	224
14	Middle Eatsern Airlines	777-200	0.50	4.00	224
15	Pakistan International Airlines	777-200	0.50	4.00	224
16	Postal Services	737-800	0.50	1.00	65
17	Qatar Airways	777-200	0.50	4.00	224
18	Russian airlines	747-400	1.00	8.00	296
19	TAAG Angola airlines	747-400	1.00	8.00	296
20	TAAG Angola airlines	747-800	1.00	2.00	306
21	Other Freight operations	737-300	0.50	1.00	53
22	Military Freighter Moverments	C-130E	0.50	2.00	203
23	Military Freighter Moverments	C17	n/a	n/a	70
24	Humanitarian and Medivac	747-400	1.00	8.00	296
25	Humanitarian and Medivac	747-800	1.00	2.00	306

Notes

1. Only aircraft with assessed flights are included
2. Quota Count numbers taken from Noise Mitigation Plan

APPENDIX 2 – COPY OF REDACTED EMAIL FROM RSP DIRECTOR DATED 24 MAY 2019

Please refer to paragraph 4.18.3

From: Niall Lawlor <[redacted]>
Date: Friday, 24 May 2019 at 16:08
To: Pauline Bradley <[redacted]
Cc: Tony Freudmann <[redacted]
Subject: Offer on Manston - Subject to Contract

Dear[redacted],

Having reached out to you [redacted] last Friday, and Tony touching base with Pauline, I received Pauline's email on Monday afternoon, and subsequently Pauline and I spoke on Wednesday.

My partners and I wish to place the following on record:

- [redacted]
- [redacted]
- [redacted]
- There is a significant risk for you of compulsory purchase powers being granted, and hence the amount we pay you being in line with the estimate of our expert valuers CBRE. 90% of our estimate would be payable upon us entering the land, and the remainder might not be paid for several years. [redacted]

[redacted]

Best regards,

Niall Lawlor

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DEADLINE 8 SUBMISSION
STONE HILL PARK LTD'S COMMENTS ON THE APPLICANT'S RESPONSE TO EXA'S THIRD WRITTEN QUESTIONS
PINS APPLICATION REFERENCE: TR020002

Please find below SHP's comments on the Applicant's Answers to Third Written Questions [REP7a-002].

In view of both (i) the degree to which comments are necessary as a consequence of the Applicant's approach to responding the written questions; and (ii) the very short time available in the examination timetable to provide comments, SHP has necessarily concentrated its comments on certain key areas of Compulsory Acquisition, Funding and Need. This is without prejudice to its case that other aspects of the application proposals remain fundamentally flawed.

SHP's comments have been prepared with assistance of its advisory team, however we would note that comments prepared by York Aviation have been extracted from a standalone note that is attached as Appendix 1. York Aviation has principally commented on points of relevance to the need case and the forecasts of usage for the development that underpin the entire NSIP Justification, including the assessment of socio-economic impacts.

Written Question CA.3.6

Crown Land: High Resolution Direction Finder
Given your response to question CA.2.4, that no alternative site for the High Resolution Direction Finder (HRDF) has been agreed with the Ministry of Defence (HRDF), **show why the ExA's should not consider that this position should be classified as being a potential risk or impediments to implementation of the scheme that has not been properly managed.**

The Applicant's Response

The Applicant considers that although this is a potential impediment to the scheme it has been properly managed (the fact that it has not been fully resolved does not mean that it has not been properly managed). The Applicant first contacted the Ministry of Defence in January 2017 about this issue and has continually pressed for progress since then. It took a very long time for the MoD to engage, and subsequently engage its contractor Aquila to assess the position.
If agreement on moving the HRDF is not possible during the examination then the Applicant will continue to seek it and will update the Secretary of State during the decision period. The Applicant is confident that the site it has identified is suitable to house the HRDF.

As outlined in our response to CA.3.5, the Applicant has been engaged with DIO since January 2017. The Applicant consulted Air Command High Wycombe in September 2017, who referred to DIO for resolution. The Applicant engaged Aquila, the MOD's Engineering Authority in October 2018 and, after being

referred to the Defence Equipment and Support organisation at Abbey Wood to gain its approval, have now agreed terms and conditions for Aquila to undertake the necessary technical assessment.

During this period, we have conducted safeguarding assessments of 7 alternative sites, identifying the preferred site which has allowed discussions with the relevant landowner to be conducted. We have twice conducted face to face meetings with DIO on this specific issue and twice submitted a SoCG for their consideration.

The issue has been specifically raised by Sir Roger Gale, the local MP, with Secretary of State for Defence.

Therefore, whilst the Applicant accepts that this issue is not in the position that either we or the ExA would have wished at this stage of the submission, this is not due to it not being properly managed by the Applicant. Nevertheless, this issue does now represent a risk to implementation of the scheme but not a risk that cannot be managed. The Applicant remains hopeful that, by 9 Jul 19, the Aquila assessment will confirm the suitability of the proposed alternative location, or at least will be in a position to provide a letter of no impediment. The Applicant is ready to engage with both the Project MARSHALL Delivery Team and DIO to reach agreement before 9 Jul 19 if possible.

SHP Comments on the Applicant's Response

SHP would note the DIO's Deadline 7a submission [REP7a-026] provides clarification regarding how the proposed development would infringe on the safeguarded areas around the Beacon. It also referred to correspondence that has been provided to the Applicant's adviser and representations made to the Planning Inspectorate in September 2018.

SHP would note that the concerns and issues raised by the DIO are consistent with the response given by SHP to this question in its Deadline 7a submission [REP7a-044]. It is clear that this issue is a material risk and impediment to the implementation of the scheme.

SHP strongly dispute the Applicant's assertion that it has managed the issue properly.

As the evidence from the DIO demonstrates, the Applicant was fully aware that its proposed development infringes on the safeguarded area. As a consequence, the Applicant should not have submitted its application until it had greater certainty that this issue would not be an impediment to the implementation of its scheme.

Written Question CA.3.30

Acquiring by voluntary agreement: Stone Hill Park Limited

Provide evidence for the statement in the Applicant's response to CA.2.25 [REP6-index number to be allocated] that the Applicant is hopeful that these negotiations [between the Applicant and SHP] can be concluded satisfactorily shortly

The Applicant's Response

There has been telephone and email communication between the parties in the past few days.

SHP Comments on the Applicant's Response

SHP would refer the ExA to its response to written question CA.3.29 [REP7a-044]. This response was submitted on the afternoon of Wednesday 22 May 2019 and covered the period to 20 May 2019.

Firstly, SHP would note that it has always sought to provide fulsome, accurate and evidenced responses to the ExA, in contrast to the approach taken by the Applicant characterised by its response to this question.

In terms of the communication referred to by the Applicant, SHP would note the following;

As SHP had foreseen in its answer to question CA.3.29 [REP7a-044], the Applicant responded to SHP's email to the Applicant dated 20 May.

The Applicant contacted SHP on the evening of 22 May stating that it intended to submit a revised offer by Friday 24 May. At that time the Applicant advised that its offer may include a c.£1m - £1.5m reduction on the overall value of £20m that it had previously agreed to in its signed Heads of Terms on in December 2018 (but had not delivered on). On that call SHP cautioned that seeking such a reduction should be considered very carefully as it would be re-trading a previously agreed position.

Then, at 4.08pm on the afternoon of 24 May 2019, the Applicant submitted a revised offer where that value to SHP was £4.5 million less than it had previously agreed. The offer was also silent on the previously agreed restriction of residential use on the site. A copy of this email and the response from SHP are appended as Appendix CA.3.30. It is not considered a coincidence that this was also the deadline by which the Applicant was required to respond this written question.

SHP's previous submissions have explained in detail the Applicant's consistent lack of engagement and transparency with regard to the whole land acquisition process. A position that has been repeatedly revealed to the ExA though the examination process with regard to RSP's casual approach to engaging with other landowners and interested parties.

SHP's view remains that, ultimately the Applicant has not been serious in its intentions to acquire the land voluntarily and the repeated failure of the Applicant to honour its previous commitments is yet more evidence of this.

The email dated 24 May 2019 appears to be no more than attempt to distract the ExA from the Applicant's abject failure to comply with the DCLG Guidance related to procedures for the compulsory acquisition of land (2013).

The Applicant has had two clear opportunities to acquire the land through voluntary arrangement firstly through the lease proposals outlined by SHP and latterly the Heads of terms they signed up to in December 2018. They failed to do so each time.

It is SHP's firm view based on experience and evidence that the principals behind RSP have sought compulsory acquisition powers over its site as a priority, rather than as a last resort - having previously failed to secure them twice before.

Additionally, the Applicant's email to SHP contains a number of inaccurate and misleading statements, which are summarily addressed below;

- The explanation given for the Applicant's failure to engage over recent months fails to acknowledge that the Applicant had prior knowledge of the nature of the new agreement with the DfT and the beneficial provisions it contained.
- The Applicant's assertion that the land was last transacted at a price of £1.00 is wholly inaccurate. It is noted that a similar claim was made by Mr Smith of CBRE at the second CA Hearing on 4 June 2019, despite Mr Smith being provided with evidence (also included as part of Appendix CA.3.30) that SHP had acquired the land from its previous owner, Manston Skyport Ltd, for £7m in September 2014. This was a number of months after RiverOak Investment Corporation LLC (the predecessor of the Applicant) had made an offer of £7 million to the previous owner, as evidenced in SHP's comments on paragraph 2.9.20 of the Applicant's Comments on the Written Representations [REP5-028].
- As explained in Appendix 2 to SHP's Written Representations [REP3-025], Manston Skyport Ltd had previously acquired an airport operating company with material liabilities, which was also facing ongoing operational losses of £10,000 per day. It did not acquire the land for £1.
- It is also important to note that in addition to the acquisition costs of £7 million (plus costs, including SDLT of £280k) SHP has invested over £3.5 million to date in planning related costs in advancing its plans for a new residential led mixed use community on the site.

SHP Comments on the Applicant's Response to Written Question F.3.1

In order to address the Applicant's answer, SHP would refer to ExA to Appendix 1 of its Witten Summary of Oral Representations put at the 2nd CA Hearing [REP8-reference to be allocated].

Written Question F.3.2

Revised Funding Statement
The ExA notes the submission of a partly revised Funding Statement at DL6 on 3 May [REP6-index number to be allocated].
The ExA notes that one of the changes between this version and that submitted with the application documents [APP-013] is that the company structure has been amended to reflect that RiverOak Investments (UK) Ltd (RIU) is now the 90% owner of the Applicant rather than M.I.O. Investments Ltd.
The Revised Funding Statement [REP6-index number to be allocated] states at paragraph 12 that RIU has the same directors as M.I.O Investments Ltd, a Belize registered company, who are the funders of the project.
Information in the public domain held at Companies House shows that RIU has two Directors, Nicholas Rothwell and Rico Seitz.
i. Clarify whether M.I.O Investments Ltd or Nicholas Rothwell and Rico Seitz are the funders of the project.

The Structure Chart for M.I.0 Investments Ltd in Appendix F.2.4 in the Applicant's Appendices to Answers to Second Written Questions [REP6-index number to be allocated] shows Gerhard Huesler as holding a share in RIU.
ii. Is he a Director?
iii. Why is the Structure Chart for M.I.0 Investments Ltd in Appendix F.2.4 in the Applicant's Appendices to Answers to Second Written Questions [REP6-index number to be allocated] and not for RiverOak Investments (UK) Ltd?

The Applicant's Response

i. Mr Rothwell, who gave evidence at the March hearing on compulsory acquisition, and Mr Seitz are both significant funders of the Project. There are four additional funders, three of whom are referred to in correspondence from Helix Fiduciary AG appended at page 219 to the summary of the Applicant's case at the Compulsory Acquisition Hearing [REP5-011] . The fourth is Gerhard Huesler. M.I.O Investments Limited is a pass-through entity through which funds from those investors are invested into the Project.

ii. No, Gerhard Huesler is not a director of RIU.

iii. The heading of the structure chart at page 311 of the Appendices to Answers to Second Written Questions is incorrect and should refer to RiverOak Strategic Partners Limited rather than M.I.O. Investments. The content of the chart is correct.

SHP Comments on the Applicant's Response

i. What does "significant funders" mean? How much of the funding made to date has come from Mr Rothwell, Mr Seitz and Mr Huesler and how much from unknown investors.

ii. SHP would note that Mr Huesler is quoted as being a client relationship manager at Julius Baer bank on the RSP website.

iii. The structure chart shows M.I.O. Investments Ltd being a creditor of the Applicant.

However, this contradicts the position set out in the Applicant's filed accounts for the years ending 31 July 2017 and 31 July 2018, which show the Applicant only had creditors of £2. On basis the Applicant had investments totalling £2 in two subsidiary companies (RiverOak Operations Limited and RiverOak AL Limited) but no funding to pay up the capital, this £2 creditor position must relate to the unpaid capital in the subsidiary companies. M.I.O. Investments Ltd cannot therefore be a creditor.

The structure chart is also inconsistent with the statements made by the Applicant at the CA Hearing on 20 March 2019 that no funds had been invested in or loaned to RiverOak Strategic Partners Ltd.

Accordingly, the structure chart is clearly inaccurate and the question must be asked as to why the Applicant continues to provide contradictory information to this examination.

Written Question F.3.3

Revised Funding Statement

The Revised Funding Statement [REP6-index number to be allocated] states at paragraph 12 that RIU is managed and administered by Helix Fiduciary AG ("Helix"), a Swiss registered and regulated fiduciary company on behalf of the beneficial owners.

Information in the public domain held at Companies House shows that 60 per cent of the shares in RIU are held by HLX Nominees Ltd a company with an address in the Virgin Islands.

i. Show the relationship between Helix Fiduciary AG and HLX Nominees Ltd.

ii. Explain how transparency of funding is achieved by having a majority shareholder registered in the Virgin Islands

Information in the public domain held at Companies House shows that the Company Secretary is Wellco Secretaries Ltd.
Information in the public domain held at Companies House describes Wellco Secretaries Ltd. as a non-trading company with the most recent set of filed accounts showing the company to be dormant.

iii. Set out the role of Wellco Secretaries in managing and administering RIU

iv. Explain the benefit of having a dormant company to fulfil this role.

The Applicant's Response

i. Helix Fiduciary AG, a Swiss registered and regulated fiduciary provider, is the 100% shareholder of HLX Nominees Ltd. Nicholas Rothwell and Rico Seitz are the 100% shareholders of Helix Fiduciary AG.

ii. There is no requirement in statute or guidance that the funding arrangements of an NSIP must be 'transparent'. The statutory requirement, where a DCO includes powers of compulsory acquisition, is to provide a funding statement. The purpose of that statement is to show that adequate funding is likely to be available to enable the compulsory acquisition within the statutory period. Where a DCO contains no compulsory acquisition powers, the funding of a project would not fall for consideration by the ExA and no issues as to the nature or source of the funding would arise. The sources of funding for this Project will be, and indeed have already been, scrutinised by HMRC and the ExA must rely on that body carrying out appropriate checks without trespassing beyond its own land-use planning remit.

For the avoidance of doubt, HLX Nominees Limited is a BVI registered company, but is managed and administered out of Switzerland. As it is owned by Helix and performs a role within legal structures for Helix Fiduciary AG it also falls under the review of the regulator in Switzerland. Helix and its clients are reviewed by the Swiss regulator and banks on a regular basis. Source of funds tests (Know Your Client – KYC) are applied to all funds. Any funds transferred to the UK are transferred under the laws of the EU. The funds that belong to the UK resident investors are then fully declared to HMRC. The Swiss resident investors who have been named to the ExA (Rothwell, Seitz and Huesler) have also reported to the Swiss Tax authorities.

iii. The registered office of RIU is with Wellden Turnbull "WT" a firm of chartered accountants based in Cobham, Surrey. The directors of RIU have instructed WT to act as company secretary so that the necessary UK filings for the company are taken care of on an annual basis. They use their in-house secretary which is a corporate secretary to act as RIU secretary. This is a very common practice to do within the UK. WT also act as the accountant for RIU

iv. Companies are dormant if they do not trade. A company acting as corporate secretary does not have to be a trading company. This is standard practice in the UK and indeed worldwide.

SHP Comments on the Applicant's Response

i. On the basis that Helix Fiduciary AG is the 100% shareholder of HLX Nominees Ltd and Nicholas Rothwell and Rico Seitz are the 100% shareholders of Helix Fiduciary AG, is the Applicant suggesting Nicholas Rothwell and Rico Seitz are the 100% beneficial owners of any shares held by HLX Nominees Ltd?

Or is it the case that the HLX Nominees Ltd is effectively a warehousing vehicle that holds shares on behalf of other investors that wish to remain disclosed, both in respect of this project and other projects in which Helix and their clients are involved?

SHP would note that the Offshore leaks database includes references HLX Nominees Ltd (https://offshoreleaks.icij.org/nodes/12108499) includes apparent shareholdings in other named companies such as Orkin Equities Corp., Eksander Investments Corp. and Penrick Enterprises Group S.A.. Based on the information available, all these companies appear to be incorporated in Panama in 2009 and have bearer shares within their capital structure.

ii. Firstly, it is worth noting that HLX Nominees, which holds 54% of the beneficial interest in the shares of the Applicant, has neither invested any funds into the Applicant nor has it committed to do so. Accordingly, even if HLX Nominees Ltd was a UK rather than a BVI company, it would not provide any more transparency over the funding arrangements of the Applicant. The evidence before the examination shows that MIO Investments Ltd is the only entity that may have put any funding whatsoever in the project and nothing is known about them and there is no information that demonstrates they have access to funding.

Secondly, as the ExA must be satisfied that funding is likely to be available, it is absolutely appropriate for the ExA to satisfy itself as to the source and availability of that funding. This is particularly important when an Applicant acts in an evasive manner and has been shown to misrepresent information and mislead the ExA. For example, the Applicant's claims that *"[T]he sources of funding for this Project will be, and indeed have already been, scrutinised by HMRC and the ExA must rely on that body carrying out appropriate checks"* is wholly inaccurate.

Attached as Appendix F.3.4 is email correspondence from the same individual that sent the HMRC letters submitted to the examination as part of Appendix 6 to the Applicant's Written Summary of Oral Submissions put at the first CA Hearing [REP5-]. As the email correspondence followed a prior telephone conversation, its purpose was confirmatory.

In response to point 5 "It would be normal for HMRC to accept confirmation that an investment is to be made using foreign income and taxes that would otherwise be taxable, without undertaking further diligence (or checks) on the source or origin of that funding", HMRC responded as follows;

> *"We do examine the source of the investment if we have concerns about it, but not routinely. To be clear, the assurance process does not amount or purport to be "due diligence" in a commercial context as regards source."*

The Applicant's is willingness to mislead the ExA on this and numerous other matter demonstrates the contempt and lack of respect it has shown the examination and the numerous parties that are being forced to incur significant costs and resources in participating in the process.

Written Question F.3.5

Revised Funding Statement

The Revised Funding Statement [REP6-index number to be allocated] states at paragraph 15 that Helix has provided an explanatory letter about its role in the funding of the project, together with a confirmatory letter from PwC that the investors have unencumbered funds substantially in excess of the funds required for the completion of the DCO (namely blight claims, land acquisition and the cost of noise mitigation measures). These are attached to this statement.

The ExA notes that there is no letter from Helix attached to the revised Funding Statement.

Set out the status of this letter.

The Applicant's Response

The letter referred to is the letter that was appended to the original Funding Statement [APP-013].

SHP Comments on the Applicant's Response

Firstly, SHP would note that this letter is wholly out of date.

Secondly, if a document has been updated, surely it is the duty of the Applicant to ensure the revised document is accurate. It is wholly inappropriate for the Applicant to expect the examination to consider two different versions of the same document.

Thirdly, SHP would note that the Applicant submitted a revised Funding Statement at Deadline 7a [REP7a-007]. Despite the issue of the missing Helix letter being the subject of a written question, this latest Funding Statement still does not include a Helix letter.

Written Question F.3.6

Revised Funding Statement

The ExA notes that the confirmatory letter from PwC appended to the revised Funding Statement remains the same as that appended to the application version of the Funding Statement [APP-013].

This letter shows that a sum exceeding £15m is held at on behalf of unnamed clients at two branches of an unnamed bank in an unnamed jurisdiction some ten months before the submission of the revised Funding Statement.

i. Show how such partial information serves to address the test in Government guidance quoted in the revised Funding Statement to indicate how shortfalls in land acquisition and the costs of the project would be met.

ii. Explain why the holdings at the two separate banks were examined on different days and

iii. Show how any double counting of holdings resulting from, for example, transfers between banks in between the examination of the accounts was explicitly ruled out.

The Applicant's Response

i. The PWC letter shows that the Project has two investors with access to unencumbered funds which together exceed £30million. PwC was appointed by Helix to carry out the review because of its well established international reputation and credibility. The letter confirmed that PwC had identified the beneficial owners of the account holders and that each of the accounts had assets in excess of £15 million pounds. Helix controls the bank accounts and as directors and managers of M.I.O. can access those funds.

The Joint Venture Agreement commits the Applicant to fund all compulsory acquisition and mitigation costs. Letters from Calder & Co and BDB Pitmans reveal that to date the Applicant has spent in excess of £15.2million on the Project, which is a very clear indication of its firm commitment to delivering the Project. On the basis of the information before it, the ExA can be satisfied that the Applicant has access to significant funds and that those funds are committed to the Project and will suffice to cover compulsory acquisition and mitigation costs. The Guidance requires applicants to demonstrate that adequate funding is likely to be available to enable compulsory acquisition within the statutory period following the order being made, i.e. within 5 years of the grant of the DCO. In this case the Applicant has shown that it has access to the requisite funds now. Its confidence in the availability of that funding is such that it has agreed to shorten the 5 year statutory period for the exercise of compulsory acquisition to a single year. To the extent that the ExA has any residual concerns that those subject to compulsory acquisition will not be adequately

protected, the Applicant draws their attention to Articles 9 and 21 of the draft DCO which together mean that if the Applicant is not able to satisfy the Secretary of State within one year of the grant of the DCO that adequate funds are secured, it will not be able to commence the Project or to exercise any powers of compulsory acquisition.

ii. PwC carried out a review of the accounts which was independent of Helix. It appears that PwC's requests for information where received by the banks on different days. The systems of one of the branches could not provide a portfolio valuation on the specified past date but only on the day it received the written request.

iii. The Applicant confirms that there was no double-counting. Each of the separate accounts identified in the PWC letter separate contained in excess of £15m and each continues to contain in excess of £15m.PwC would not have produced the letter if there was any question of double counting. Helix has provided BDB Pitmans a copy of portfolio valuations dated 17/5/19 for the two same accounts and BDB Pitmans have provided a letter of confirmation that each of the same two accounts contains substantially more than the currency equivalent of cash and short term investments of £15 million, appended as F.3.6 in TR020002/D7a/TWQ/Appendices. Helix is a regulated body and would never either double count funds or claim the same funds in different accounts; at the very least because this could be considered money laundering.

SHP Comments on the Applicant's Response

i. There are a number of points in the Applicant's answer that require to be addressed;

a. Firstly, we would note that SHP has made a number of submissions regarding the lack of weight that can be given to the PwC Letter (including, but not limited to, (i) paragraph 2.10.5 of SHP's Comments on the Applicant's Written summary of oral submissions put at the Compulsory Acquisition hearing held on 20 March 2019 [REP6-052] and (ii) SHP's Comments on the Applicant's Answer to Second Written Question F.2.19 [REP7-014]).

The PWC letter referred to by Helix does not identify the beneficial owners of the accounts, nor does it provide any comfort that the beneficial owners are the same individuals that have provided funding to the project, nor does it provide any evidence that the funds are committed to, or capable of being used by MIO Investments. The PWC letter simply confirms that certain levels of funds are held in bank accounts that Helix operate on behalf of certain clients. Based on the wording of the PWC letter, these funds could be held on behalf of any of Helix's clients, and not necessarily those that are purported to have invested in the Applicant's project.

Furthermore, the PWC Letter is now nearly a year old, and therefore no reliance can placed on anything contained within it.

b. In its answer, the Applicant has now stated these accounts refer to 2 investors, yet this contradicts the Helix letter appended to the Applicant's Written Summary of Oral Submissions put at the CA Hearing [RREP5-011], which referred to three investors *"Mr XXXXXX, Mr XXXXXXXXXX and Mr XXXXXXXXXX".* The Applicant also notes in its answer to F.3.2 that there are 6 investors in total.

The Applicant further claims that Helix, *"as directors and managers of M.I.O. can access those funds"* yet there is nothing before the examination to demonstrate that M.I.O. Investments has access to any funding held by other parties.

c. It is SHP's understanding that the only version of the JV Agreement before the examination, is the version (including the Deed of Variation) supplied by the Applicant as Appendix 4 to the Applicant's Written Summary of Oral Representation put at Compulsory Acquisition Hearing [REP5-011]. The Applicant claims that the "Joint Venture Agreement commits the Applicant to fund all compulsory acquisition and mitigation costs."

This is not correct. The JV Agreement places an obligation on M.I.O. Investments Ltd to provide the funding. However, as SHP has explained in previous submissions, this is effectively meaningless (please refer to (i) section 2.10 of SHP's comments on the Applicant's written summary of oral submissions put at the CA hearing [REP6-052] and (ii) SHP's Comments on the Applicant's Answer to Second Written Question F.2.1 [REP7-014]).

In summary, the documentation shows that M.I.O. Investments (as Capital Investor as defined in the JV Agreement) effectively retains veto rights over any material action of the Applicant. As provider of all the funding, over which it has full discretion, in absence of any other funder to replace MIO Investments, MIO Investments has control over the decision making of the Applicant. Yet, no relevant information has been disclosed on MIO Investments.

d. As noted in SHP's Comments on the Applicant's Answer to Second Written Question F.2.21 [REP7-014], the letter from Calder & Co provides no comfort that funds have been appropriately expended on the Project. SHP set out how the Applicant could easily provide much needed transparency.

It is also noteworthy that none of the RiverOak group of companies has ever been the subject of an audit, and indeed the company through which the expenses generally pass – RiverOak's Operations Limited – has missed the filing deadline of 31 May 2019 for submitting its accounts to Companies House. This should be a considered a red flag warning, particularly in a situation where the Applicant is fully aware of the concerns regarding the lack of transparency it has afforded this examination, and the ExA's previous requests for this information. Again, it appears to be a tactic to avoid proper scrutiny of the Applicant's case at the hearings. There is no other reasonable explanation.

e. As set out in SHP's previous submissions to the examination (including (i) Appendix 6: Compensation Assessment, Avison Young appended to SHP's Written Representations [REP3-025]; and (ii) SHP's Comments on the Applicant's Responses to the Written Questions, including F.1.18

and F.1.12 [REP4-067] it has been clearly demonstrated that the ExA cannot be satisfied that the funding the Applicant claims to have *"will suffice to cover compulsory acquisition and mitigation costs."*

f. The rationale given by the Applicant to support its claim that *"any concerns that those subject to compulsory acquisition will not be adequately protected"* show a complete disregard to other affected parties.

iii). The Applicant is not in any position to provide confirmation that there has been no double counting. Similarly, The Applicant's claim that *"PwC would not have produced the letter if there was any question of double counting"* is not supported by any evidence. PwC make specific reference to the fact the statements were provided on dates that were 9 days apart. Based on the information contained within the letter, it is not possible to assert that PwC made any checks to ensure that there was no double counting.

Written Question F.3.7

Revised Funding Statement
The Revised Funding Statement [REP6-index number to be allocated] states at paragraph 15 that:
"So far, £15.2 million has been expended on the DCO process. Funds are drawn down by RiverOak on demand under the provisions of the joint venture agreement between the parties."
i. From where are these funds drawn down?
ii. Indicate where this expenditure is shown on any audited or unaudited accounts submitted to the ExA thus far; or
iii. Provide such accounts;
iv. If they are drawn down from the accounts covered in the PwC confirmation letter, then what is the current balance of those accounts?

The Applicant's Response

i. The letters from the accountants Calder & Co and from BDB Pitmans show that to date the Applicant has spent some £15.2million on the Project. Those funds were drawn down from the funders, via M.I.O Investments Ltd.
ii. The letter from Calder & Co, accountants, at page 325 of the Appendices to the Applicant's answers to the second written questions [REP6-014] , together with the completion certificate from BDB Pitmans, confirms the sums that have been spent on the Project to date. Other than the Jentex acquisition all expenditure has been through RiverOak Operations Limited. As explained in the letter from Calder & Co submitted with responses to the Second Written Questions (Appendix F.2.4 in REP6014), the accounts of RiverOak Operations Limited to 31 August 2017 have not yet been

finalised. Calder & Co are currently in the process of finalising those accounts which will be filed at Companies House within the next three weeks and will be supplied to the ExA when available. Expenditure on the Project appears within the profit and loss account. The acquisition of the Jentex site took place within the current accounting year and is not yet shown in a set of formal accounts for RiverOak Fuels Limited. However, full details are recorded in the company's book keeping records which were inspected by Calder & Co prior to writing the letter.

iii. There are currently no finalised accounts, as explained above.

iv. The sums expended to date were not drawn down from the accounts covered in the PwC confirmation letter. The sums available in each of those accounts continues to exceed £15m (i.e. £30m in total) as confirmed in the letter from BDB Pitmans referred to above.

SHP Comments on the Applicant's Response

i. The limited assurance letter provided by Calder & Co does not substantiate that the Applicant has actually spent £15.2million on the Project – it appears to be no more than a check of amounts going through bank accounts. As noted in SHP's Comments on the Applicant's Answer to Second Written Question F.2.21 [REP7-014], the letter from Calder & Co provides no comfort that funds have been appropriately expended on the Project. SHP set out how the Applicant could easily provide much needed transparency and also explained why any clawback of business investment relief could have a material impact on the tax position of investors/funders and their ability to provide further funding (for which there is currently no evidence before the examination).

ii. Please refer to comments on (i) above. SHP would also note that no financial statements of any company within the RiverOak Group have been audited. Therefore, no party other than the respective Boards' of each company, stand behind the information contained with the financial statements.

iii. It is wholly unsatisfactory that the Applicant has failed to provide the financial statements of RiverOak's Operations Limited that had previously been requested by the ExA. There is no reasonable excuse for the Applicant's failure to provide this information, and more recent management account information, which would at least shine a fraction of transparency. The fact that the Applicant delayed submitting what should be straight forward accounts until the last possible day (and in paper form to prevent them being discussed at the Hearing) raises a red flag. As noted above, this appears to be a deliberate tactic to avoid proper scrutiny of the Applicant's case at the hearings or during the remainder of the examination. There is no other reasonable explanation.

iv. The Applicant's answer raises further concerns regarding the source of any funding and whether this is consistent with information provided to HMRC and this examination. SHP's Comments on the Applicant's Answers to Written Questions F.2.15 – F.2.17 explained the inconsistencies between the information provided by the Applicant and the published accounts.

Written Question F.3.8

Revised Funding Statement
The Revised Funding Statement [REP6-index number to be allocated] states at paragraph 13 that:
"…the full cost of the project will be met by private sector investors once the DCO is granted – such details cannot yet be finalised."

If details cannot yet be finalised, state how the ExA is to provide an evidenced recommendation to the Secretary of State that funding for the proposed scheme is available and that the issue of funding is not a potential risk or impediment to implementation of the scheme that has not been properly managed?

The Applicant's Response

DCLG Guidance related to procedures for the compulsory acquisition of land (September 2013) expressly recognises that prior to the grant of a DCO "*it may be that…details cannot be finalised until there is certainty about the assembly of the necessary land*" and in such circumstances the applicant should provide an indication of how any potential shortfalls are intended to be met (paragraph 17). The government plainly understands that funding decisions on major infrastructure projects may not be made until there is certainty as to whether the project will be permitted to proceed with the requisite land assembly powers. That of itself cannot be a potential risk or impediment to implementation or if it is, it is one that applies to all DCOs.

As required by the Guidance, the Applicant has given an indication of how any potential shortfalls are intended to be met. The Funding Statement explains that on the grant of the DCO funds will be raised from investors, many of whom have already approached the Applicant.

There is no requirement in statute or guidance that all funds to deliver the Project are available prior to the grant of development consent. That would be unrealistic. It is the granting of the DCO that provides the certainty that allows funding arrangements to be finalised. No project the subject of a DCO application can be guaranteed to be funded and built at the time of the examination into the application, nor could that reasonably be expected.

SHP Comments on the Applicant's Response

The ExA must have comfort that there is a reasonable prospect that the Applicant will be able to raise funding to implement its scheme. SHP would refer to ExA to Appendix 1 of its Witten Summary of Oral Representations put at the 2nd CA Hearing [REP8-reference to be allocated].

The ability to fund infrastructure is dependent on a number of factors such as viability of the project, the security of any investment, the nature of the risks associated with the delivery and operation of the project and not least, the quality, experience and track record of the developer. Based on the information before the examination, the Applicant would not get past first base on any of these points.

Written Question F.3.9

Revised Funding Statement
The Revised Funding Statement [REP6-index number to be allocated] states at paragraph 13 that:
"*To meet the capital costs of construction, RiverOak will select one or more funders from amongst those who have already expressed interest and others that are likely to come forward, to secure the best deal for constructing and operating the project*."
With this apparent reliance on investors who are likely to come forward, state how the ExA is to provide an evidenced recommendation to the Secretary of State that funding for the proposed scheme is available and that the issue of funding is not a potential risk or impediment to implementation of the scheme that has not been properly managed?

The Applicant's Response

The Guidance does not require the Applicant to satisfy the ExA or the Secretary of State that the funding for the Project *is* available now. The Guidance recognises that it may not be possible to finalise funding arrangements until there is certainty as to the assembly of land following the grant of the DCO. The fact that final funding decisions have not been made at this stage, when the application for consent is still under consideration is entirely in line with other DCOs that have been subject to examination. Where details cannot be finalised, the Guidance explains that applicants should provide "*an indication"* of how potential shortfalls are intended to be met. This is precisely what the Applicant has provided. Shortfalls are intended to be met through private funding from one or more investors. The absence of final funding decisions does not present a risk or impediment to the implementation of the scheme. It is unsurprising and entirely in accordance with the position on the vast majority of all DCOs that have been made to date.

SHP Comments on the Applicant's Response

The Applicant has not put any information before this examination that can be fairly and properly tested.

In order to address the Applicant's answer, SHP would also refer to ExA to Appendix 1 of its Witten Summary of Oral Representations put at the 2nd CA Hearing [REP8-reference to be allocated].

Written Question F.3.10

Revised Funding Statement
The application version of the Funding Statement [APP-013] stated at paragraph 14 that:
"*If further evidence of funds is required for the satisfaction of the Examining Authority as to their availability then RiverOak would be happy to supply it*."

The ExA notes that no such statement is contained in the revised Funding Statement [REP6-index number to be allocated].
Does this indicate that the Applicant is unwilling to provide any further information on funding in addition to that already provided at, or before, Deadline 6?

The Applicant's Response

No, the statement was removed because the Applicant has provided significant additional information as to the evidence of funds since the original Funding Statement which it anticipated would have satisfied the ExA as to the availability of funds.

Indeed, that additional information is listed in the text immediately following the deleted statement and is the reason the deleted statement is no longer necessary. The Applicant remains willing to provide further evidence of funds should the ExA consider that to be necessary.

SHP Comments on the Applicant's Response

On any objective basis, the Applicant's statement that it *"remains willing to provide further evidence of funds should the ExA consider that to be necessary"* appears disingenuous.

Throughout this examination, the Applicant has consistently failed to answer the ExA's questions, rebuffed the ExA's requests to provide information and failed to honour commitments it had given. This is despite being put on notice at the outset that its Funding Statement represented a material risk to the examination.

Written Question F.3.11

Revised Funding Statement
Paragraph 16 of the revised Funding Statement [REP6-index number to be allocated] lists the information provided since the start of the Examination.
i. Show where in these nine pieces of information the ExA can find independent proof that the sum of £13.1m contained in Article 9 of the draft DCO is held by one or more named firms, bodies or individuals whose financial and other details are open to public scrutiny in the UK.

ii. Show where in these nine pieces of information the ExA can find independent proof that one or more named firms, bodies or individuals whose financial and other details are open to public scrutiny in the UK are committed to funding the construction and set-up costs of the proposed project.

The Applicant's Response

i. The letter from PwC supplied with the original Funding Statement provides independent proof of such funds being available. The Joint Venture Agreement commits the Applicant to funding the costs of compulsory acquisition and noise mitigation. There is no requirement in statute or guidance that the holder of such funds must be a body or individual whose financial and other details are open to public scrutiny in the UK. However, the ExA can be assured that the source of funding will be scrutinised by HMRC which is the appropriate body for that task. The ExA should assume that other regulatory bodies, including HMRC, will perform their roles properly and there is no suggestion in either legislation or guidance that that it is for an examining authority to 'vet' the source of foreign direct investment into the UK. If that was the case, bearing in mind that so much of UK infrastructure is funded by such investment (e.g. Hinkley Point C and Thames Tideway Tunnel) it would have been made absolutely clear in guidance from MHCLG; it has not been.

The ExA can be satisfied that those subject to compulsory acquisition are adequately protected by Article 9 of the draft DCO, read together with Article 21. The effect of those Articles is that the Applicant cannot compulsorily acquire any land or commence the Project until it has secured adequate funding, to the satisfaction of the Secretary of State within one year of the grant of development consent. In the event that it is unable to do so, it will not be able to acquire land by compulsion or implement the Project.

ii). As set out above, the Applicant is not required to demonstrate that the funding for the Project is from firms, bodies or individuals whose financial and other details are open to public scrutiny in the UK. HMRC scrutinises overseas investment in the UK without opening the details of private investors to "public" scrutiny. As to the commitment to the Project, the Applicant has demonstrated that there are private investors in the Project with significant resources available to them. To date some £15.2m has been spent on the Project, money that would be wasted if the Project is not seen through to delivery. That provides a clear indication of the Applicant's commitment to this Project. As explained above, in line with almost all previous DCOs, the final decisions on the funding of the Project will not be made until such time as the DCO is granted. There is no requirement that funds must be committed to cover the entire project at the time of examination nor could there reasonably be. No applicant could guarantee a commitment to fund the entirety of a project before consent had even been granted.

SHP Comments on the Applicant's Response

i. Firstly we would refer the ExA to SHP's comments on the Applicant's answer to written question F.3.6 above regarding the lack of weight that can be afforded the PwC letter and the Applicant's misrepresentation of the JV Agreement.

Secondly, we would refer the ExA to our comments on the Applicant's answer to written question F.3.3, which explains why the Applicants' claim that *"the ExA can be assured that the source of funding will be scrutinised by HMRC which is the appropriate body for that task"* is misleading and supports the view that it is seeking to avoid the proper scrutiny of its application.

The Applicant makes reference to Hinkley Point C and Thames Tideway Tunnel projects to attempt to justify its position on funding. It is unclear why the Applicant considers the comparisons are helpful to its case.

To demonstrate this, we refer to relevant commentary contained in the respective panel reports/recommendations that were submitted to the Secretary of State.

Hinkley Point C Panel's Report to the Secretary of State dated 19 December 2012

As demonstrated from the extracts from (i) paragraphs 7.34 – 7.36 (Availability of funds for compensation) and (ii) paragraphs 7.81 – 7.85 (Funding) the ExA did not adopt a light touch approach to examining the funding position, despite the Applicant being ultimately owned by EDF Holdings (80%) and Centrica (20%).

The ExA considered the initial position set out in the Applicant's Funding Statement to be inadequate and, in response, the Applicant provided a signed parent company guarantee supported by a unilateral undertaking (see also para 7.17 on Panel's report) to provide certainty of funding.

Furthermore, it is clear that none of RiverOak Manston Ltd, RiverOak Investments (UK) Ltd and M.I.O. Investments Ltd are remotely comparable to EDF Holdings Limited or Centrica.

*"**Availability of funds for compensation***
7.34 Accompanying the Statement of Reasons was a Funding Statement (APP281) in which the Applicant stated that it is a wholly owned subsidiary of NNB Holding Company Limited which is a joint venture company with 80% owned by EDF Holdings Limited and 20% owned by GB Gas Holdings Ltd (Centrica). There is a Shareholders Agreement which governs the basis on which the Applicant will be financed.

7.35 The Applicant has taken expert advice on the likely cost of implementing the proposed development, including the cost of construction and the funding of the necessary land acquisition. The Applicant has assessed the commercial viability of the proposed development in the light of this information and, if development consent is granted, the development of Hinkley Point C would be funded by a cash call process governed by the Shareholders Agreement. It concludes that the availability of funding would not be an impediment to the implementation of development or to the acquisition of land deemed necessary.

7.36 We requested details of the terms of the Shareholders Agreement (PDEC12) and subsequently its termination provisions (PDEC24). We inquired of the Applicant (PDEC24) whether a parent company guarantee could be provided and, following the Applicant's disinclination to do so, the matter was discussed at the compulsory acquisition hearing. As a consequence of the discussions at the hearing the Applicant offered (subject to Board approval) to provide a parent company guarantee up to a limit of £10million. This was subsequently provided (PD115)."

"Funding
7.81 We are required to make a judgment as to whether adequate funding would be available to meet compulsory acquisition compensation in the event of compulsory acquisition powers being granted. In doing so we have had regard to the powers of the Act, Guidance and the Human Rights Act 1998. Having read the Applicant's Funding Statement (APP281) we considered the position was inadequate in terms of ensuring that the necessary resources would be available to the Applicant.

7.82 Exchanges with the Applicant on this matter (see para 7.36 above) considered in particular the fact that the Applicant is a joint venture company funded by its shareholders through a Shareholders Agreement, and the Shareholders Agreement included default provisions which could be triggered if certain circumstances arose. We were concerned as to the adequacy in terms of security of compulsory acquisition funding in the event, however remote, of the dissolution of the Applicant company after the compulsory acquisition powers had been exercised.

7.83 At the compulsory acquisition hearing we discussed this with the Applicant. The Applicant pointed out that Guidance stated that an applicant should be able to demonstrate that there is a reasonable prospect of the funds becoming available. Nevertheless the Applicant offered to review the position.

7.84 The Applicant having given further consideration to the question of funding for compulsory acquisition compensation offered to provide, subject to Board approval, a parent company guarantee secured by a unilateral undertaking in favour of the local planning authority.

7.85 The parent company guarantee in the sum of £10million was provided by the Applicant (see para 7.17 above) and, on the basis of such funding security being in place, we consider the Funding Statement and subsequent proposed documentation as set out above adequate to support a compelling case for the grant of compulsory acquisition powers."

Thames Tideway Tunnel ExA's Report and Recommendation to the Secretaries of State dated 12 June 2014

It is important to note that the Applicant was Thames Water Utilities Limited, which had a regulatory capital value of £10,897 million.

The section on Adequacy of funding (from paragraph 19.431) made clear that the ExA was satisfied that *"in respect of all the above elements of CA compensation, funds have either been made available to the Applicant through its regulatory process or it has approval through that process to incur the necessary expenditure"* (paragraph 19.434). Other parts of the report note that the funding was approved by Ofwat.

With regard to the funding of the construction and operation of the project, SHP would refer the ExA to section 6 of the Funding Statement (September 2013). This is a highly complex project and the Funding Statement explained in detail how the project would be funded by an IP established under the Water Industry Act 1991 and Water Industry (Specified Infrastructure Projects) Regulations. It also provided evidence to demonstrate that there was an established regulatory regime for funding delivery of projects of that nature by sewerage undertakers generally.

The ExA acknowledged the detailed information that had been submitted by the Applicant (e.g. please refer to paragraph 19.63), however given the complexity of the process and requirement to finalise a delivery model the ExA stated that it was not able to make a judgement on securing funds for delivering the project. In the adequacy of funding section the ExA stated the following in paragraph 19.435;

"As far as non-CA costs are concerned ie the funding of the construction and operation of the project, whilst certain specified works will be carried out by the Applicant and funds will have to be secured by it through its AMP process, it is intended that the majority of the works would be carried out by the infrastructure provider (IP), yet to be appointed, who would provide or procure the necessary funding. In these circumstances the Panel is clearly not in a position to make a judgement on the securing of the funds for the project and the Secretaries of State will need to be certain that they have confidence in the process with regard to certainty on funding and the IP before making their final decision."

Written Question F.3.12

Revised Funding Statement
Paragraph 16 of the revised Funding Statement [REP6-index number to be allocated] lists the information provided since the start of the Examination.

Paragraph 16c states that one item of information is:
"*Information about the project's investors, their assets, expenditure on the project to date and their use of Business Investment Relief to invest in UK infrastructure (appended to REP5-011*)"
Show where in Appendices to REP5-011 information is set out showing the assets of named investors.

The Applicant's Response

Appendix 5 to **REP5-011** (which starts on page 218) provides information about the assets of the project's investors by reference to the PwC letter appended to the Funding Statement [**APP-013**], which confirms that the investors have unencumbered assets of at least £15m in each of two bank accounts. The cost

of obtaining the letter from PwC given the rigour of the checks they undertook was 11,680.36 Swiss francs, which gives an indication of the weight that should be placed on it.

The names of the investors are not provided. The concern of the ExA is to ensure that the Applicant is likely to have funds available to enable compulsory acquisition. The purpose of the information provided by the Applicant is to satisfy the ExA that it has access to such funds and that they are committed to the Project through the Joint Venture Agreement. The identity of the investors is not material to the ExA's recommendation. Again, the Applicant respectfully suggests that the ExA's remit does not extend to scrutinising the source of funds, but only to ascertaining the likelihood of the funds being available to compensation those persons subject to compulsory acquisition.

SHP Comments on the Applicant's Response

We would refer the ExA to previous comments regarding the weight that can be applied to the PwC Letter. It is clear that the submission of the PwC Letter was simply an exercise in distraction, as is the assertion that it carries weight because it cost 11,680 Swiss francs. It is only evidence that can carry weight and the PwC letter contains nothing that directly substantiates any assertions made by the Applicant.

As noted in comments above, there is no evidence before the examination that demonstrates M.I.O. Investments Ltd has any funding that is committed to funding any costs incurred by the Applicant.

Written Question F.3.16

Revised Funding Statement

Paragraph 20 of the revised Funding Statement [REP6-index number to be allocated] provides a summary of various categories of funding.
The Funding Statement submitted as part of the application [APP-013] stated that £500,000 for blight claims was in RiverOak's accounts.
The Revised Funding Statement [REP6-index number to be allocated] states that £500,000 for blight claims is in RiverOak's accountant's accounts.

i. Provide evidence of the transfer of this amount between the two accounts;

ii. Explain why the dormant company accounts for the Applicant approved by the Board in April 2019 show no changes of assets from 31 July 2017 to 31 July 2018.

iii. State who is RiverOak's current accountant and provide evidence that this sum is in its accounts.

The Applicant's Response

i. The £500,000 is shown as a balance in a client account held by Calder & Co for the Applicant.

ii. RiverOak Strategic Partners Limited holds only an investment in the trading subsidiary companies. At both 31 July 2017 and 31 July 2018, these investments were held at cost and had not changed. The assets in the trading subsidiary, RiverOak Operations Limited, have changed over this time period and the changes are reflected in that company's annual accounts. Following 31 July 2018 RiverOak Strategic Partners Limited acquired further investments in other subsidiary companies and these additional investments will be reflected in the company's next annual accounts.

iii. Calder & Co are the Applicant's accountants and this evidence has already been provided at Appendix 7 of [**REP5-011**].

SHP Comments on the Applicant's Response

i. The ExA clearly asked the Applicant to provide evidence to substantiate the statement in its original Funding Statement [APP-013].

The Applicant has clearly dodged the question as it would appear apparent that that it is unable to substantiate the assertion that £500,000 for blight claims was in RiverOak's accounts. This inability to substantiate assertions made within its application documents has been a common feature of the examination phase. Accordingly, it is SHP's considered view that no weight can be applied to any of the Applicant's assertions that are not substantiated with proper evidence.

ii. The Applicant appears to have restated its accounts. As all funding has gone into subsidiary companies in the form of loans from MIO Investments, there is no net asset value in the subsidiaries of the Applicant i.e. the shares have no value.

iii. The Applicant notes that the evidence that the £500,000 was in Calder & Co's client account was provided in [REP5-011]. In paragraph 2.12 of SHP's Comments on the Applicant's Written Summary of Oral Submissions put at the CA Hearing [REP6-052], SHP note that the statement provided by the Applicant shows a loan of £500,000 was made to RiverOak Manston on 18 March (although the amount was not showing in the ledger balance). We would note that RiverOak Manston Ltd is only a 10% shareholder in the Applicant, not the Applicant or a subsidiary of the Applicant, and therefore it is not clear that these funds would be available. It would also appear to show demonstrate that these funds were not held by the Applicant as claimed in its original Funding Statement.

It is also important to note that **none** of the financial statements or accounts of the Applicant, it subsidiaries and shareholders have been audited.

Written Question F.3.17

An e-mail dated 6 April 2019 submitted by BDB Pitmans LLP [AS-072] cites one reason for not identifying the potential investors in the proposed scheme as being the level of unwanted contact some of them received when they were previously identified in connection with a CPO with TDC.

Evidence from Cllr. Chris Wells, former Leader of TDC, [REP4-081] states that:
"I asked for a credit note, or bank guarantee, of the availability of £19m for that first two years. They left my office promising just that with a letter of credit from a recognised bank. Within days it was being referred to as a letter of comfort; then a letter of assurance. When it finally arrived it was an expression of interest from a well known name in aviation financing, caveated that no financial reliability could be taken from this expression of interest. To overcome this, it was accompanied by several letters of support, pledging funds, but with all the details of identity of the investors redacted so no checks on their wealth could be run."
If all the details of the investors were redacted, **show how and where their identities were identified.**

The Applicant's Response

Two potential investors wrote letters which were sent to Thanet District Council in un-redacted form. The first was from the Airbus Group (current annual revenues €63 billion) dated 14th September 2014 marked "Strictly Confidential" and the second was from Orix USA Corporation (part of Orix Corporation of Tokyo current annual revenues $23.6 billion) dated 3rd August 2015 marked "Highly Confidential". Both letters are attached in their un-redacted form at Appendix F.3.17 in
TR020002/D7/TWQ/Appendices. In both cases details of Airbus and Orix respectively appeared in the public domain. The Applicant is not able to confirm how they came to be in the public domain. Both companies reported to RiverOak Investment Corp (the Applicant's predecessor) that various attempts at communication with them by e-mail and telephone had been made from persons in East Kent. The reference to the sum of £20 million in the Orix letter is to the estimated cost of returning Manston to full operations, the airport having been closed less than three months previously.

SHP Comments on the Applicant's Response

SHP would note that there is no evidence before the examination to substantiate the claims made by the Applicant.

Additional Comments from York Aviation

"We note that the two investors cited as interested in investing in Manston in 2014/5 was at a time when the estimated cost of development was £20 million. There is a vast difference between the viability and attractiveness of an investment of £20 million compared to some £306 million, of which £186 million needs to be spent in the very short term.

In any event, the letter from Airbus makes clear that it was solely interested in the potential for developing an aircraft recycling operation at Manston rather than investing in the redevelopment of the Airport itself. Since then, Tarmac Aerosave, in which Airbus is an investor, has invested in further recycling facilities in Tarbes and Toulouse (see appendix to York Aviation Note on the Socio-economic Hearing) so is less likely to be interested in such facilities in Manston now than in 2014."

Written Question F.3.19

Question F.2.22 quoted the Applicant's Written Summary of Case put Orally Compulsory Acquisition Hearing and associated appendices which states at paragraph 3.15 that:
"…[the] funders continue to have a further £30m set aside to include its costs until the grant of the DCO and to pay for land acquisition and noise mitigation costs."
The Applicant's response to F.2.22 [REP6-index number to be allocated] cites the £15 million committed in the joint venture agreement and states that there are further funds available when required albeit not specifically committed to the project.
Does the figure of £30 million quoted above include funds that are not specifically committed to the project?

The Applicant's Response

Yes. As is apparent from the Joint Venture Agreement, the Applicant is committed to the costs of compensation and noise mitigation to a total of £15 million. The ExA can therefore be satisfied that the Applicant has access to sufficient funds and that they are committed to the Project. The PwC letter shows that the Project funders have access to unencumbered funds significantly in excess of that figure, albeit they are not specifically committed to the Project at this stage and nor is there any requirement in statute or guidance that they should be. It would be unrealistic to expect such funds to be set aside for a long period absent any certainty as to the outcome of the DCO process.

SHP Comments on the Applicant's Response

SHP would note that there is no evidence before the examination that any specific funds have been committed to the Applicant's project.

This seems to have been acknowledged by the Applicant (albeit its answer is highly contradictory) when it states that the funds referred to in the PwC letter *"are not specifically committed to the Project and nor is there any requirement in statute or guidance that they should be".*

Written Question F.3.20

The Applicant's response to F.2.26 [REP6-index number to be allocated] confirms the existence of a Business Plan for the proposed scheme but states that this is a commercially sensitive internal document.
Show how, in the absence of a submitted business plan, the ExA may submit an evidenced recommendation to the Secretary of State as to whether the proposed scheme is intended to be independently financially viable?

The Applicant's Response

The Applicant is satisfied that the Project is independently viable. Indeed, it would not be eligible for any public funding. The Applicant has committed very substantial funds to the Project to date because of its confidence in its viability.

However, as explained above, the requirement for a funding statement only arises where a DCO includes powers of compulsory acquisition and the information as to the funding must be viewed in that context. The requirement to provide as much information as possible about the resource implications of the project cannot mean that the funding statement required for compulsory acquisition should be treated as a surrogate for testing the economics of the Project as a whole. The Funding Statement is provided and examined so as to protect those subject to compulsory acquisition and to ensure insofar as is possible that their land will not be taken by an applicant unable to compensate them for that acquisition. In this case, those subject to compulsory acquisition are protected through Article 9 of the draft DCO which prevents the Applicant from acquiring their land or commencing the Project until such time as the Secretary of State has confirmed in writing that funds are secured. If that is not achieved within one year of the grant of the DCO, then the Applicant will not be able to compulsorily acquire land or implement the Project.

As to the viability of the Project as a whole, the Applicant is not in a position to disclose its confidential business plan to the public. To do so would reveal sensitive information to competitors and potential clients and is not commercially appropriate. The Applicant is not aware of detailed business feasibility plans being required of other applicants for development consent or, indeed, that this is required by legislation or guidance. The Applicant has, however, provided the ExA with its business model at Appendix F.1.5 in [**REP3-187**].

The Applicant provided a summary of the *Chesterfield* case in Appendix 9 of the summary of its case at the March compulsory acquisition hearing (page 266 of [**REP5-010**]). In that case compulsory acquisition powers were granted notwithstanding that the proposed development was only marginally viable such that there was a real risk that it would not be carried out. In order to authorise the compulsory acquisition of land, the Secretary of State must be satisfied that there is a compelling case in the public interest but that does not necessarily require him, as a condition precedent to authorising the acquisition, to be satisfied on the balance of probabilities that the proposed development will go ahead if the land is acquired.

In the event that the Applicant cannot secure funds for compulsory acquisition within one year of the DCO, no compulsory acquisition will be possible. In the event that land is compulsorily acquired such that it is owned by the Applicant and the Project then proves unviable such that it cannot be delivered, then none of the impacts associated with its operation will arise.

SHP Comments on the Applicant's Response

SHP would refer to ExA to Appendix 1 and Appendix 2 of its Written Summary of Oral Representations put at the 2nd CA Hearing [REP8-reference to be allocated], which address the matters set out in the Applicant's answer.

THIRD WRITTEN QUESTIONS ON NEED

SHP would note that the Note from York Aviation attached as Annex 1 provides comment on behalf of SHP on the Applicant's answers to the third written questions on Need.

SHP would also note that it provided an early submission, providing detailed commentary on the Applicant's answer to question ND.3.9 [AS-131]. SHP would respectfully request that this is read in conjunction with York Aviation's comments.

THIRD WRITTEN QUESTIONS ON OPERATIONS

SHP would refer the ExA to previous submissions provide relevant comment / rebuttal of the Applicant's answers to the following questions;

- OP.3.2: please refer to SHP response on OP.3.3 [REP7a-044]
- OP.3.4: please refer to York Aviation comments on OP.2.2 [REP6-053]
- OP.3.5: please refer to SHP response on OP.3.5 [REP7a-044]
- OP.3.6: please refer to [REP5-029 Appendix NOPS.1.11] and additional issues raised in respect of HRDF – see below on OP.3.12
- OP.3.10: multiple submissions - please refer to SHP comment on the Applicant's answer to OP.2.7 [REP7-014]
- OP.3.12: multiple submissions - please refer to SHP response to CA.3.6 [REP7a-044]

SHP would note that the York Aviation note attached as Annex 1 provides further commentary on the Applicant's answers to OP.3.7, OP.3.8, OP.3.9 and OP.3.10.

Question 3.8: The York Aviation note picks up on the Applicant's answer to OP.3.8 part (ii), however it is also worth flagging that the Applicant has misunderstood the CAA statistics again in part (i) of its answer.

> The Applicant may be correct to note that domestic mail is counted both at the airport of arrival and the airport of departure, but the rest of its answer is inaccurate.
>
> As Table 17 of the 2018 CAA statistics show, 20,425 tonnes of domestic mail passed through EMA airport in 2018. This was predominantly mail moving to / from Edinburgh airport, which the CAA statistics show handled 21,307 tonnes of domestic mail.

If the exam question was *"what tonnage of mail was carried between UK airports in 2018"*, it would be correct to add up the domestic mail tonnages reported for each individual airport and divide by two.

However, if the objective is to answer the ExA's question, what logic is there in applying an arbitrary 50% discount to the figure of domestic mail that was actually "handled" at EMA. It is hugely frustrating that SHP is consistently having to incur "wasted" expense correcting the uninformed assertions of the Applicant.

THIRD WRITTEN QUESTIONS ON SOCIO-ECONOMICS ISSUES

SHP would note that the York Aviation note attached as Annex 1 provides comment on behalf of SHP on the Applicant's answers to the third written questions on Socio-Economic issues. SHP would also refer the ExA to the written summary of oral representations put at the Socio-Economics Hearing {REP8-reference to be allocated] that provides further detailed evidence to support SHP's case that the assessment of environmental effects in the ES is fundamentally flawed.

THIRD WRITTEN QUESTIONS ON TRAFFIC AND TRANSPORT

SHP has largely not involved itself in matters of transport. However, with regard to third written question TR.3.44, SHP would note that it has recently emerged that the Applicant has an overprovision of 1,150 car parking spaces against even the year 20 forecasts. At the Transport hearing RSP appeared to state that they would not develop out these parking spaces if not needed. This is one example of where the Applicant has not even attempted to properly justify the land take in terms of CA powers.

APPENDICES

Annex 1:	York Aviation Note on behalf of SHP
Appendix CA.3.30:	Email correspondence between (i) the Applicant and SHP and (ii) CBRE and Avison Young.

York Aviation

Manston Airport NSIP

Comments on Applicant's Deadline 7a Responses to Third Questions from the Examining Authority

Introduction

Once again, as with other submissions made by the Applicant, we note that the answers given are in places inconsistent and contradictory, and this serves to undermine their credibility and to cast further doubt upon the overall robustness of the need and socio-economic cases, which feed into whether there is a compelling case in the public interest in relation to the proposed compulsory acquistion. Many of the responses simply repeat material already submitted and do not provide the further requested clarification nor, in some cases, respond to the question put.

We comment here on points of relevance to the need case, the forecasts of usage for the development that underpin the entire NSIP Justification, including the assessment of socio-economic impacts, as well as the scale of facilities required. We have referenced our answers to the ExA's question number but do not repeat in full the question and answer given. We cross refer as required to the York Aviation 2017 Report, the 2019 Update Report (appendix 4 of REP3-025), our previous comments on the Applicant's Responses to the ExA's Second [REP4-065] and Third Written Questions and submissions made following both Compulsory Acquisition Hearings, the Need and Operations Hearing and the Socio-Economic Hearing as required where points have already been addressed in our evidence. Where we have nothing to add to our previous analysis, we do not comment on the specific question and answer.

Question	Commentary
F.3.17	We note that the two investors cited as interested in investing in Manston in 2014/5 was at a time when the estimated cost of development was £20 million. There is a vast difference between the viability and attractiveness of an investment of £20 million compared to some £306 million, of which £186 million needs to be spent in the very short term. In any event, the letter from Airbus makes clear that it was solely interested in the potential for developing an aircraft recycling operation at Manston rather than investing in the redevelopment of the Airport itself. Since then, Tarmac Aerosave, in which Airbus is an investor, has invested in further recycling facilities in Tarbes and Toulouse (see appendix to York Aviation Note on the Socio-economic Hearing) so is less likely to be interested in such facilities in Manston now than in 2014.
ND.3.1	The Applicant claims that *"The forecast assumed that costs of operating from the airport would be in line with other cargo airports – i.e. that cost factors would not unduly attract nor detract the potential market. Separately, the Applicant has commissioned a viability assessment which confirms that the Project can be viably delivered in such a way that would be competitive in the market and would not detract*

	potential operators." This cannot be correct when the prospective aeronautical revenues are compared with relevant benchmark airports (see York Aviation Note on the Second Compulsory Acquisition Hearing).
ND.3.2	This answer provides information about the catches of fish landed at ports in the vicinity of Manston. This is simply irrelevant as to whether any of that fish is for export. It provides the ExA with no information on the likelihood of there being sufficient volumes of locally caught fish to justify a single freighter operation to any particular overseas destination. It is of no assistance to the ExA at all.
ND.3.3	The answer seeks to suggest that the 'cold chain' delivery temperature control problem arises due deficiencies in the facilities at airports but the full document appended (Appendix 8 to the written answers) makes clear that the problem principally arises during the aircraft loading and unloading process. Hence, state of the art facilities at Manston would not address this issue, which is, in any event, more likely to be an issue in the hotter destination countries for vaccines than in the UK.
ND.3.4	In this answer, the Applicant acknowledges that automation can result in fewer employees being required for some goods. This inevitably has consequences for the forecasts of on-site employment at Manston, which would suggest that it is likely to be lower again than assessed. To the extent that automation is introduced, we would expect the on-site employment density to fall below the 650 jobs per million WLUs at Prestwick or in airport related activities at East Midlands.
ND.3.5	We note that, in answer to the ExA's question regarding discussions with the cargo industry that corroborate the forecasts, the Applicants cite discussions with other airport operators, who would surely be unlikely to provide robust information to a potential competitor. Similarly, discussions with trade organisations, business groups, academics and the DfT do not represent discussions with anyone who might actually operate freighter aircraft from Manston. Furthermore, we are not told what these organisations said in relation to Manston. We note that the Applicant has *"reached out"* to the new integrators with a view to initiating discussions but it does not tell the ExA whether there was any response, positive or otherwise.
ND.3.6	This answer once again seeks to assert that there is a stand capacity problem at East Midlands, specifically at night. There is no evidence that this is a material constraint as EMA shows itself willing and able to construct more aircraft stands when required by the cargo sector. This is evidenced by the stands currently under construction for UPS, as acknowledged in the answer. In any event, to the extent that there is a shortage of freighter stand capacity at night at East Midlands, Manston is hardly in a position to assist given the commitment not to allow scheduled operations at night.
ND.3.7	This answer does not address the question put and it remains the case that the only evidence the ExA has on the relative cost of freight transport by bellyhold or on a dedicated freighter aircraft is set out at para. 4.7 of our February 2019 report. Although the Applicant has stated that it does not agree with this figure, it has not rebutted it with any evidence of its own. Whilst we recognise that a network airline operating freighter flights to supplement its bellyhold capacity, e.g. Emirates or Qatar Airways, may not differentiate to the shipper by how it chooses to fly the freight, this has more to do with the operation of an integrated hub and spoke model than the actual cost incurred in transporting the goods. Cost is, nonetheless relevant to the airline or aircraft operator in deciding whether it is cost effective to operate a dedicated freighter aircraft at all. The ITC report helpfully sets out at paras. 4.23 and 4.24 how sustainability in the air freight sector can best be achieved: *"Traditionally, freight has been carried in the bellies of large passenger aircraft, particularly those operating in and out of hub airports (as these offer opportunities for onward connections and therefore economies of scale). This is a highly efficient means of transporting freight, as*

	it is on-board flights that are already carrying revenue passengers and therefore the marginal cost of transporting the freight is extremely low. The use of dedicated freighters is not necessarily inefficient in itself if the loads are high for both the outbound and return legs (demand for freight can often be mono-directional), however these aircraft are usually either conversions of older passenger aircraft or the last aircraft from a given aircraft production line. This means that the rates of technology implementation for dedicated freighter airlines are among the lowest in the industry. Popular aircraft types for these airlines continue to include the McDonnell Douglas DC-10 (first flight 1970) and Airbus A300 (1974). Furthermore, dedicated freighter aircraft frequently operate at unsociable hours, due to the desire to guarantee overnight deliveries and the availability of cheap slots – this can be a primary cause of noise complaints for local residents, especially at airports without night curfews. *4.24 Sustainability for air freight is most likely to be achieved through the use of existing passenger airline hub networks supplemented by large-scale freight aggregators with dedicated aircraft fleets linking logistics hubs. This will minimise the need for extra flights, ensure economies of scale from larger aircraft, and utilise the most modern and efficient technologies available."* This report, whilst primarily dealing with the issues of environmental sustainability makes clear the circumstances where use of dedicated freighters could be viable, i.e. where there are dense flows of traffic in both direction between two points. RSP's forecasts for Manston, with inherently unbalanced inbound and outbound loads do not meet the relevant criteria. Paragraph 10 of this same report also points out the importance of night flights for freighter operations. Again, the Applicant has failed to substantiate its assertion that use of dedicated freighter aircraft is cost efficient, other than to service the integrator model, as part of an airline's hub network or in specific niche markets better able to bear the higher cost. Furthermore, there is no evidence that, other than for small volumes of specialist consignments, the industry will be willing to pay the additional cost for the purported value added services that Manston seeks to provide. The answer simply does not address the question regarding the relativity to trucking costs or where the breakeven might lie between cost and time for the majority of general air freight.
ND.3.8	In Summaries submitted by SHP following the Need and Operations Hearing, both York Aviation and Altitude Aviation Advisory have provided evidence that the new e-commerce integrators operate to similar patterns as the conventional integrators so as to achieve guaranteed delivery times. The main difference between an e-commerce integrator and a conventional integrator is that the former has internalised its supply chain with a view to minimising costs, which of itself will place pressure on an airport's ability to charge more to cover its own costs, particularly where there is a sizeable upfront capital costs. In several respects, this answer is at odds with the answer to question ND.3.4, which describes how at least some of the goods would arrive pre-labelled for direct delivery to customers. As with a conventional integrator, these goods would necessarily require night-time operations. Furthermore, to the extent that other goods are being brought into the UK to stock fulfilment centres, the time to get the goods to those centres by road will need to be factored into the time when flights need to arrive. As the ExA rightly identifies, the distance from Manston to the main centres of population inevitably mean that flights will need to arrive in the early hours so as to ensure the product reaches the fulfilment centres in time for onward distribution to customers.

	We continue to believe that EMA is likely to be the main centre for e-commerce operations in the UK as it can offer availability at night and a location convenient for many urban areas allowing product to be brought in on consolidated loads to supply fulfilment centres across the UK.
ND.3.9	York Aviation is not incorrect in relation to import/export tonnages expected in the original forecasts for integrator traffic underpinning the ES. The Applicant clearly does not understand its own Need Case. The correct information is set out in an e-mail from SHP submitted prior to the recent Hearings. If the balance of inbound and outbound tonnage by type of flight and aircraft has changed, this would have significant implications for the environmental assessment as it would fundamentally alter the time when vehicles would be on the road network, which will compound the bunching of vehicular traffic onto the road network in the morning peak as import goods arriving overnight for immediate distribution will place a burden on the road network in the morning which will not have been accounted for in the assessment.
ND.3.10	In this response, the Applicant again misrepresents what we actually said. We did not say it was either Heathrow or trucking to Europe. What we said was that, to the extent that there was a shortfall in hub airport capacity, the alternatives would be other airports in the UK or in Europe and that this could lead to an increase in trucking and associated costs. Given that this work was carried out for and in conjunction with the Freight Transport Association, it can hardly be said that it was carried out without the benefit of industry insight. Although the Applicant claims that it has taken into account the potential growth in Heathrow's global air service network within its forecasts, this is nowhere transparent as is pointed out in SHP's Summary of the Second Compulsory Acquisition Hearing. Again the Applicant asserts that the facilities that it plans to provide will give it a strategic advantage in attracting freight operators. Whilst it expresses a confidence that this will be so, there is simply no evidence that these additional services or other advantages will be sufficient to outweigh the substantial cost penalty inherent in RSP's own 'Business Model'.
ND.3.11	Here the Applicant seeks to resile from the specific carriers and types of service set out in the Azimuth Report and which have informed the assessment in the ES. If the 'forecasts' had been informed by an proper market assessment of Manston's competitive position and the likelihood of it capturing a share of the market based factors such as accessibility and cost in a top down forecasting model, then it would have been acceptable to say 'demand will be this and here is an indicative list of airlines and routes that might operate'. But that is not what Azimuth did as is made clear at para. 2.2.6 of Vol III of the Azimuth Reports, where it is stated that *As such, and also based on market knowledge and confidential discussions with airlines, airports, and organisations involved in the freight forward and integrator markets, a short and medium-term forecast was produced. The freight movements shown in the forecast relate, where possible, to particular carriers identified through the qualitative research."* These bottom up, airline by airline, short to medium term 'forecasts' were then extrapolated forward to Year 20. It is evident that the 'forecasts' upon which the whole of RSP's case is based were dependent on assumptions about specific carriers and how they would operate. As we are now told that these may not be the carriers that would operate, this invalidates the whole of the 'forecasts'. The response given is simply wrong when it says that *"the carriers identified within the ES forecasts are simply a proxy for the types and numbers of aircraft likely to be used to fly goods from Manston Airport."* Insofar as the ExA has been told that the ES forecasts are directly taken from the Azimuth Report, the 'forecasts' are entirely dependent on the assumed types and number of aircraft and the carriers as set out. If, as is now clear, the carriers, aircraft types and routes would be different, the 'bottom up' forecasts would need to be completely reworked from first principles.

ND.3.12	The answer fails to recognise that a key objective of Government in supporting the construction of a third runway at Heathrow through the Airports NPS is to increase the number and range of global air service connections offered from the UK's main hub airport. This is made clear at para. 3.18 of the Airports NPs: *Heathrow Airport is best placed to address this need by providing the biggest boost to the UK's international connectivity. Heathrow Airport is one of the world's major hub airports, serving around 180 destinations worldwide with at least a weekly service, including a diverse network of onward flights across the UK and Europe. Building on this base, expansion at Heathrow Airport will mean it will continue to attract a growing number of transfer passengers, providing the added demand to make more routes viable. In particular, this is expected to lead to more long haul flights and connections to fast-growing economies, helping to secure the UK's status as a global aviation hub, and enabling it to play a crucial role in the global economy."* It is clear that the Government expects the gaps in the route network to be filled through providing more capacity at the Heathrow hub to enable such flights to be viably provided, including delivering bellyhold freight capacity. It is far less likely that there would be sufficient cargo demand to individual currently unserved destinations to justify regular dedicated freighter operations in the foreseeable future and serving such emerging markets will depend on exploiting the power of the Heathrow hub.
ND.3.13	The graph provided by the Applicant confirms the broad trend information on fuel prices that we previously submitted in response to RSP's answers to the ExA's second written questions. What the Applicant fails to realise is that there was a threshold fuel price at which the scales tilted away from dedicated air freighters and towards trucking for shorter distances. Whilst fuel prices are volatile, they are still above the level where trucking is more cost effective than dedicated freighter operations.
ND.3.14	This response continues the unevidenced claim that new e-commerce integrators will not require to operate at night and, hence, the night movement ban at Manston will not give rise to problems for these carriers. We have presented evidence that this is not the case by reference to Amazon Air in the USA and at East Midlands. The night ban at Manston will be more onerous than the airports with which it seeks to compete, notwithstanding any tightening of constraints at Stansted over time, given the absolute prohibition of late take-offs and will act as a major deterrent to RSP's ability to attract operators, particularly those seeking flexibility.
ND.3.16	The answer from the Applicant is misleading in relation to Permitted Development Rights at airports. The response confuses those types of development that are not considered permitted development, namely extensions of a runway and major terminal extensions, with those operational developments that are considered permitted development but which require the airport to consult with the local planning authority. This latter requirement for consultation is avoided if the development *"consists of the carrying out of works, or the erection or construction of a structure or of an ancillary building, or the placing on land of equipment, and the works, structure, building, or equipment do not exceed 4 metres in height or 200 cubic metres in capacity.* (The Town and Country Planning (General Permitted Development) (England) Order 2015, Class F). Hence, the Applicant is not correct to say buildings over 4 metres in height would not be permitted development, they are, subject to the other provisions and the requirement to consult the LPA. Later in this answer, the Applicant claims that it has factored cargo growth at airports such as Doncaster Sheffield into its forecasts. This has not been transparently demonstrated in the core forecast upon which the entire case depends as produced by Azimuth.
ND.3.18	The response regarding the 'window of opportunity' fails to address the likelihood of significant delays to the time when Manston would be operational.
ND.3.19	This response asserts that Manston will offer a *"broader value for money proposition".* We have addressed the likelihood of this being so in our Submission following the Second Compulsory Acquisition Hearing.

ND.3.20	In discussing the performance of Rockford Airport in the USA, it is significant that RSP note that investors there, in this case the local government, are *"to take a long-term view financially in order to capture economic benefits locally"* and that the operations of UPS and Amazon have effectively had to be subsidised to secure these benefits given the level of competition from other airports. Surely this describes exactly the situation that Manston would find itself in but without the benefit of a local government owner willing to subsidise the operation for the long term in the light of the possible wider benefits.
ND.3.21	As pointed out in our Note on the Second Compulsory Acquisition Hearing, the NPS is clear that Heathrow's new runway is expected to deliver substantial freight benefits. The Applicant is simply wrong in its assertion that the Heathrow's third runway is the preferred location for passenger capacity only. The Applicant is also in error when it states that Heathrow had not, at the time of its January 2018 Non-Statutory Consultation, concluded that it could not accommodate the planned doubling of air freight capacity without impacting on the operation of Terminal 4. Whilst Heathrow Airport's Scheme Development Report (https://hec1.heathrowconsultation.com/) did identify closure of Terminal 4 as an option considered for accommodating freight growth, the document setting out 'Our Emerging Plans' made clear that this was not the preferred option. Section 10.3 of this document makes clear that the Terminal 4 site is not required for expansion of cargo facilities per se but, should the Terminal close for other reasons, the site might be suitable for a rail interchange to create a multimodal freight hub. This is an additional option but not a core requirement to enable the increased cargo volumes to be handled. Once again, RSP seek to misrepresent our work for TfL and the FTA. We have not changed our view on the relevance of trucking. Trucking of freight to alternative hubs with available bellyhold capacity or to the main integrator bases is a natural response to constraints biting at the UK's main air freight hub until additional capacity is provided there. This is the most economically efficient response for the operator/service provider given the relative costs of trucking, bellyhold capacity and dedicated freighter capacity. Trucking is an efficient response to any shortfall in capacity, to the extent that one exists in the much longer term following the opening of the third runway at Heathrow, albeit increasing the cost relative to securing adequate bellyhold capacity at the hub. The inefficient response would be to invest, at a substantial cost, in developing a dedicated air freight airport in a remote part of Kent requiring charges to airlines to be substantially higher than alternative better located airports to serve the UK air freight market.
ND.3.22	Again, RSP misrepresents what we have said. We have never denied that dedicated freighters <u>may</u> operate different routes to those operated for passengers. We set out the complexity inherent in dedicated freighter routes in our 2013 Note for TfL, upon which RSP have always sought to rely and which is appended to our November 2017 Report. However, these routes are only viable where there are dense flows of freight. The point of SHP's response was to point out the limited nature of these operations and, hence, the limited scale of the market that RSP might hope to penetrate.
OP.3.7	This response suggests that airports with based aircraft (i.e. those overnighting or returning to those airports as their home base) dedicate stands to particular aircraft such that they always park on the same dedicated stand overnight, with their own dedicated equipment. This is absolute nonsense. Whilst an airport has to ensure that it has sufficient aircraft stands to accommodate its based aircraft fleet, in our experience, across a range of busy airports, stands are seldom dedicated to a particular aircraft or even airline as this creates an inefficiency and inflexibility in stand allocation which would require more apron to be provided than is strictly necessary when there is flexible use. That is not to say that an airport would not seek to respect an airline's preference to park its aircraft in a particular area of the airport, e.g. close to its maintenance hangars or on a particular pier so as to be ready for the next morning's passengers. We have addressed the scale of apron required further in our Note on the Second Compulsory Acquisition Hearing.

OP.3.8	The Applicant is in error in its estimation of the area of freight warehouses at East Midlands Airport. We have also addressed this point further in our Note on the Second Compulsory Acquisition Hearing.
OP.3.9	Here the Applicant confirms that it expects that a new e-commerce integrator is likely to take some proportion of the goods directly off-site to landside fulfilment centres. This has implications both for the scale of facilities required, as Manston would not be a suitable location for a fulfilment centre, and for the levels of claimed on-site employment. In terms of the other facilities cited for the Northern Grass, we have addressed these in our Deadline 7 Response to the ExA's second written questions. In terms of a requirement for catering facilities on the Northern Grass, firstly this would not be 'Associated' with the Principal Development for cargo operations. In any event, given the scale of passenger operations proposed and the dominance of low cost airlines within it, it is highly unlikely that any local catering facility would be required. Such airlines centralise and standardise the provision of their on-board catering and dedicated flight catering facilities are now seldom provided at smaller airports with the required supplies being brought in from centralised providers serving more than one airport. By way of example, we are not aware of any dedicated in-flight catering supplier in the immediate vicinity of Liverpool Airport, despite that airport handling over 5 million passengers per annum. The suggestion that there would need to be a separate travel and information centre also applies to an airport a much larger scale, in terms of passenger, operations than is proposed at Manston. At the scale of operations proposed, it would simply not be viable for travel agents, tourist agencies etc to operate offices at Manston. The suggestion that vehicle maintenance for airside vehicles could be located on the Northern Grass is also misleading as such vehicles are unlikely to be taxed for use on the public highway (as to do so would increase the cost burden) and so would not be able to cross the B2050. Any such vehicle maintenance would need to be accommodated within an airside area on the airfield. In terms of airline offices, these are increasingly not required even at larger airports other than where there is a major airline based as the trend is for crew reporting and flight briefing to be undertaken at the aircraft using tablets and digital technologies. To the extent that handling agent accommodation is required, this would necessarily be terminal based.
OP.3.10	SHP have dealt, in previous submissions with the need for the PSZ to be established on a forward looking basis, not retrospectively in arrears as implied in the response.
SE.3.2	The relevance of the East Midlands Airport employment density was discussed at length at the Socio-economic Hearing and points related to this are addressed in a separate Note on that Hearing.
SE.3.4	The key point to note here is that whether the employment is directly by the airport operator or activities are outsourced is not directly relevant to the socio-economic impact of the development, which relates to the totality of on-site employment.
SE.3.5	We have addressed the estimates of MRO employment in our Note on the Socio-economic Hearing.
SE.3.7	There is no actual evidence that passengers with reduced mobility prefer small rather than larger airports. Ultimately, a passenger's choice of airport is related to the flights on offer, the cost and the surface access to the airport. The Applicant's answer is pure speculation as there are other factors which could also be material, such as the breadth of the in-terminal catering offer, retail, the availability of assistance, boarding aircraft through airbridges rather than up and down steps.

SE.3.8	As set out in our Note on the Socio-economic Hearing, the proportion of passengers staying overnight in the vicinity of the Airport is not likely to be more than 1-2%. Hence, the tourism benefits have been substantially overstated on the basis of 25% assumed overnight stays.
SE.3.10	See answer above.
TR.3.20	Our view is that the assumption that freight related truck movements will be spread throughout the day and night is inconsistent with the proposed ban on night operations. Furthermore, the description of how the proposed e-commerce integrator would operate would be consistent with goods being flown in early in the morning, off-loaded onto trucks which would then arrive onto the highway network in the morning peak period.

lc/14.6.19

APPENDIX CA.3.30

From: Niall Lawlor <[redacted]
Date: Friday, 24 May 2019 at 16:08
To: Pauline Bradley <[redacted]
Cc: Tony Freudmann [redacted]
Subject: Offer on Manston - Subject to Contract

Dear [redacted]auline,

Having reached out to you [redacted] last Friday, and Tony touching base with Pauline, I received Pauline's email on Monday afternoon, and subsequently Pauline and I spoke on Wednesday.

My partners and I wish to place the following on record:

- Our firm view is that this offer is at a significant premium on the current real value of the land.
- We accept that the issue of Brexit, and SHPs negotiations with the DfT, cast a delaying shadow over our previous discussions. You were unable to share the terms of the Planning Services Agreement (PSA), with the DfT with us until late February, which is fully understandable, for which we accept you were not to blame. This was followed by clear uncertainty on our side, and our surprise, at the full scale and nature of the capital works undertaken on Manston, which were still in progress during the site visit as part of the ExA's inspection on 12th March. Our ability to review the extent of works undertaken was not reached until the DfT's recent statement that there would be no further activity on Manston at least until 31st October.
- SHP's efforts have made very little progress in the various attempts to alter the planning status of Manston, as evidenced by the two mixed use applications, both of which have made no progress in three years and eighteen months respectively, and the planning appeal which was refused, and in which Manston's status as an airport was confirmed. If you succeed in defeating our proposals, and if you are not able to obtain permission for housing, as we strongly believe would be the case, the land would be next to worthless.
- There is a significant risk for you of compulsory purchase powers being granted, and hence the amount we pay you being in line with the estimate of our expert valuers CBRE. 90% of our estimate would be payable upon us entering the land, and the remainder might not be paid for several years. The evidence that exists is that the last genuine open market transaction for the land was for only £1.00.

The terms of our offer, which is subject to contract, are as follows:

1. Purchase price of £12,000,000 (Twelve million pounds) to be paid to your solicitors in full on Wednesday 29th May to be held in escrow pending completion of the purchase. £5 million of the purchase price will be structured as a deposit with the balance as completion funds.

2. Exchange of contracts on Wednesday 29th May with completion to take place asap following receipt of the DFT consent to the sale, which in turn is due within 5 working days of an application being made following exchange. Our solicitors have already prepared the documents in terms that we believe will be acceptable to you as drafted. As you know we have investigated SHP's title as part of the land referencing process which is why we can proceed so swiftly.

3. We have already paid ALL the required funds into the client account of our solicitors BDB Pitmans, who will confirm said payment to your solicitors, Cripps.

4. You may retain all the rights and obligations (including the income) from the current PSA with the DfT to December 31st, 2020. In this respect we will enter into a lease with SHP to take effect upon completion thereby triggering the obligation of the DfT to consent to the sale.

5. You withdraw your (SHP's and Kent Facilities') representation and both planning applications and take no further part in the DCO (which will also save you considerable costs)

If you will confirm acceptance of this offer I will arrange for our solicitors to send you the necessary documents together with proof of funds without delay.

Best regards,

Niall Lawlor

This email is sent from the offices of RiverOak Strategic Partners, a limited company registered in England and Wales, company number 10269461. Its registered office is 16 Charles II Street, London SW1Y 4NW. This email and any files transmitted with it are confidential. If you are not the intended recipient, you should not copy, forward or use any part of it or disclose its contents to any person. If you have received it in error please notify info@rsp.co.uk. This email and any automatic copies should be deleted after you have contacted RiverOak Strategic Partners.

Subject: FW: DCO

From: Pauline Bradley <[redacted]
Date: Friday, 31 May 20[redacted]
To: Niall Lawlor <[redacted]
Cc: Tony Freudm[redacted]
Subject: DCO

Hi Niall,

I refer to your email of 24 May 2019. Your "revised" offer of £12m has been considered by the shareholders of SHP and is unanimously rejected.

When we spoke on the telephone last week I strongly advised you not to attempt to make any changes to the terms of the offer agreed between us in January this year, following your failure to deliver on the transaction documented in the Heads of Terms signed on 3 December 2018.

I explained that my shareholders now viewed that offer as marginal - particularly given increased interest we have received in recent months. However, they have always acted in good faith and I was reasonably confident they would still honour the deal we had agreed - providing there were no more stunts and prevarications from RSP.

Predictably, that was not to be and SHP's latest attempt to acquire our land on the cheap, accompanied by thinly veiled threats surrounding how the Lands Tribunal might view the value of our site, simply smacks of desperation.

What sparse goodwill that did exist between us finally evaporated with your email of 24th May.

It simply confirmed my shareholders long-held suspicions that you were not serious in your intentions and that your engagement with us was no more than a ruse to allow you to continue to present a false narrative to the Examining Authority that RSP has made meaningful attempts to negotiate to acquire our land.

Our files are littered with correspondence from RSP that demonstrate you had no serious interest in trying to reach agreement and that RSP was seeking compulsory acquisition powers as a first, rather than a last resort.

As I advised you back in April, it is not lost on us that almost every email, text or call from you and/or Tony Freudmann seems to be timed around an impending deadline for DCO submissions or hearings. Therefore, having had sight of the Examining Authority's third written questions requiring you to substantiate your unfounded claims regarding discussions with us, we fully expected that you would make contact with us again. Having seen the lack of progress RSP has made in securing investors, we suspected that the purpose would be to muddy the waters prior to the compulsory acquisition hearing on 4 June, rather than to progress the Offer at the agreed level.

When faced with the mounting evidence before the examination and further questioning from the Examining Authority, the timing and nature of your email appears to be a blatant attempt to rile us into dismissing your offer out of hand, which you would then seek to "spin" to the Examining Authority in the hope that it overlooks your failure to meet the most basic requirements of the DCLG Guidance.

We trust the Examining Authority will see it for what it is.

Regards

Pauline

Subject: FW: Stone Hill Park Limited

From: Walton, Michael (Avison Young - UK) [redacted]
Sent: 18 March 2019 13:34
To: Smith, Colin @ London HH <c[redacted]
Cc: WALKER Angus <AngusWALKER@[redacted] Tony Freudmann <tony.freudmann[redacted]
Sayer, John @ London HH <John.Saye[redacted]
Subject: RE: Stone Hill Park Limited

Dear Colin,

Thank you for your email. In the interest of being helpful I am instructed to highlight the following, some of which your client may not have made you aware of;

- Stone Hill Park Ltd acquired the land for £7m in September 2014 on an arm's length basis on account of the new parties involved and equity invested on transfer. This is shown on the Land Registry transfer documents and was reflected in the level of SDLT paid.
- The sale to Stone Hill Park followed attempts by the related predecessor to your client, RiverOak Investment Corporation LLC ("RIC"), to acquire the land from Kent Facilities Ltd earlier in 2014.
- As George Yerrall confirmed in his evidence to the Transport Committee, RIC had made an offer of £7m; "The highest offer was £7 million. We were rejected at £4 million. We were rejected at £5 million. We ultimately offered £7 million, which we were told was the asking price." (http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/transport-committee/smaller-airports/oral/17966.html)

- The subsequent sale to Stone Hill Park Ltd reflected the £7m figure your client's related predecessor was prepared to pay.
- Your client made an offer of £20 million (subject to a residential restriction) to acquire the site immediately prior to your letter of 10 October 2018. Can you please confirm whether you were aware of this at the time you sent your letter which claimed SHP's land was valued at only c£2m?

My client has also asked that I highlight the irony in it being asked to provide details of its funding arrangements at the same as your client refuses to answer the most basic questions regarding its own funding posed by the Examining Authority.

Regards
Michael

Michael Walton
Director
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AVISON YOUNG
BEST MANAGED COMPANIES

Draft 27 March

Dated 2019

(1) UTTLESFORD DISTRICT COUNCIL

and

(2) ESSEX COUNTY COUNCIL

and

(3) STANSTED AIRPORT LIMITED

and

(4) CITICORP TRUSTEE COMPANY LIMITED

DEED OF PLANNING OBLIGATIONS

relating to Land at Stansted Airport, Essex pursuant to section 106 of the Town and Country Planning Act 1990

Planning Permission Ref No: **UTT/18/0460/FUL**

Town Legal LLP

10 Throgmorton Avenue

London EC2N 2DL

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AN AGREEMENT made the day of **2019**

BETWEEN

(1) **UTTLESFORD DISTRICT COUNCIL** of Council Offices London Road Saffron Walden Essex CB11 4ER ("**UDC**") of the first part;

(2) **ESSEX COUNTY COUNCIL** of County Hall, Market Road, Chelmsford CM1 1QH (the "County Council") of the second part;

(3) **STANSTED AIRPORT LIMITED** (Co Reg No: 01990920) whose registered office is at Enterprise House, Bassingbourn Road, Stansted Airport, Essex CM24 1QW ("**STAL**") of the third part; and

(4) **CITICORP TRUSTEE COMPANY LIMITED** (Co Reg No: 0235914) whose registered office is at Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB (the "**Chargee**") of the fourth part.

1. DEFINITIONS

1.1. **"39 mppa Date"** means the end of the first month following the point at which the annual passenger throughput at Stansted Airport exceeds 39 mppa over a period of twelve calendar months for the first time;

1.2. **"43 mppa Date"** means end of the first month following the point at which the annual passenger throughput at Stansted Airport reaches 43 mppa over a period of twelve calendar month for the first time;

1.3. **"1972 Act"** means the Local Government Act 1972;

1.4. **"1980 Act"** means the Highways Act 1980;

1.5. **"1990 Act"** means the Town and Country Planning Act 1990;

1.6. **"1999 Act"** means the Contracts (Rights of Third Parties) Act 1999;

1.7. **"2000 Act"** means the Local Government Act 2000;

1.8. **"2003 Agreement"** means the Deed of Planning Obligations dated **14 May 2003** relating to Stansted Airport and made between (1) UDC, (2) Essex County Council and (3) STAL;

1.9. **"2008 Undertaking"** means the Deed of Unilateral Undertaking relating to Stansted Airport dated **26 September 2008** entered into by (1) STAL in favour of (2) UDC and (3) Essex County Council;

1.10. **"2011 Act"** means the Localism Act 2011;

1.11. **"Airfield Infrastructure Works"** means the following works at Stansted Airport:

(a) the formation of two new taxiway links to the runway (Rapid Access Taxiway 22/04 and Rapid Exit Taxiway Mike Romeo (MR));

(b) six additional remote aircraft stands adjacent to Yankee Taxiway; and

(c) three additional remote aircraft stands (forming an extension of the Echo Apron),

as shown on the Airfield Infrastructure Works Plan;

1.12. "**Airfield Infrastructure Works Plan**" means drawing no **STAL-STAL-001-PLA-001-001** comprising **Annexure 2** to this Deed;

1.13. "**Airport Property**" means the land shown for the purpose of identification only edged in blue excluding the land edged in green on **Plan 1**;

1.14. "**Authorities**" means UDC and Essex County Council;

1.15. "**CIL Regulations**" means the Community Infrastructure Levy Regulations 2010 as amended or replaced from time to time;

1.16. "**Date of Grant**" means the date the Permission is issued by UDC;

1.17. "**Development**" means the development authorised by the Permission;

1.18. "**Essex County Council**" means Essex County Council of County Hall, Market Road, Chelmsford CM1 1QH acting as the local highway authority for Essex;

1.19. "**Existing Planning Agreements**" means all of the following deeds and documents:

(a) the 2003 Agreement;

(b) the 2008 Undertaking; and

(c) a second Unilateral Undertaking given by a Deed dated **26 September 2008** made by (1) STAL in favour of (2) UDC and (3) Hertfordshire County Council;

1.20. "**Existing Planning Consents**" means the following two planning permissions:

(a) planning permission Ref No **UTT/1000/01/OP** dated **16 May 2003**; and

(b) planning permission Ref No **UTT/0717/06/FUL** granted on appeal by the Secretaries of State, dated **8 October 2008**;

1.21. "**Implementation**" means the implementation of the Permission by the carrying out of any material operation (as defined by section 56 of the 1990 Act) pursuant to the Permission **PROVIDED ALWAYS** for the purposes of this Agreement Implementation shall exclude:

(a) all works associated with the operation of Stansted Airport other than works required for the Airfield Infrastructure Works;

(b) any works carried out pursuant to permitted development rights;

(c) site survey and site preparation in advance of and preparatory to commencement of the Airfield Infrastructure Works;

(d) ecological and archaeological survey work;

(e) any other surveys required by the Permission prior to the commencement of the Development;

(f) remediation; and

(g) the taking of preparatory measures in advance of the carrying out of the Airfield Infrastructure Works;

and "**Implement**" and "**Implemented**" shall mutatis mutandis be construed accordingly;

1.22. "**Implementation Date**" means the date of actual Implementation;

1.23. **"Indexed"** means adjusted by reference to the relevant index pursuant to the provisions of clause 7;

1.24. **"Legal Challenge"** means any challenge to the validity or lawfulness of the Planning Application or to the Permission in the courts brought by means of proceedings for judicial review, declaratory proceedings or otherwise calling into question the validity of the Permission; and includes any proceedings by way of appeal to the Court of Appeal, the Supreme Court or to any other appellate body;

1.25. **"Legal Charge"** means a legal charge dated **14 February 2014** (Charge Ref: CH373359) in favour of the Chargee referred to in the Charges Registers of relevant titles to the Airport Property;

1.26. **"mppa"** means million passengers per annum whose journey by air involves either taking off from or landing at Stansted Airport, calculated by reference to the Civil Aviation Authority definitions where:

(a) a **terminal passenger** is a passenger joining or leaving an aircraft at the reporting airport. A passenger travelling between two reporting airports is counted twice, once at each airport. A passenger who changes from one aircraft to another, whether carrying the same flight number (change of gauge) or not is treated as a terminal passenger, (known as an **"interlining passenger"** or **"transfer passenger"**) and is therefore counted twice at the airport where they change from one aircraft to another; and

(b) a **transit passenger** is a passenger who arrives at and departs from a reporting airport on the same aircraft which is transiting. Each transit passenger is counted once only and not both on arrival and on departure.

1.27. **"Passenger Level Trigger Date"** means the end of the first month following the point at which the annual passenger throughput at Stansted Airport exceeds 35 mppa over a period of twelve calendar months for the first time;

1.28. **"Permission"** means the planning permission (a draft of which is annexed at **Schedule 1)** granted or to be granted by UDC in respect of the Planning Application;

1.29. **"Plan 1"** means plan reference no SK394 comprising **Annexure 1** to this Deed;

1.30. **"Planning Application"** means the application dated **February 2018** made by STAL under reference number **UTT/18/0460/FUL**;

1.31. **"Qualifying Purposes"** means purposes that fulfil the following three tests, namely that expenditure is:

(a) necessary to make the Development, works or expenditure acceptable in planning terms; and

(b) directly related to the Development; and

(c) fairly and reasonably related in scale and kind to the Development,

in each case as approved by the Permission.

1.32. **"Reasonable Endeavours"** means it is agreed between STAL and the relevant one of the Authorities that the party under such an obligation shall not thereby be required to take proceedings (including any appeal) in any court, public inquiry or other hearing (unless expressly specified to the contrary) but **SUBJECT THERETO** such party shall be bound to make all reasonable attempts to fulfil the relevant obligation by

the expenditure of such effort and / or sums of money and the engagement of such professional or other advisers as in all the circumstances may be reasonable; and

1.33. **"Unchallenged Permission Date"** means the date when all steps by way of Legal Challenge have been exhausted.

2. RECITALS

2.1. UDC is the planning authority within the meaning of the 1990 Act for the area in which the Airport Property is situated.

2.2. The County Council is the local highway authority and the local authority for statutory education and childcare for the area within which the Airport Property is situated.

2.3. STAL is registered at the Land Registry as proprietor of the Airport Property with freehold title under the title numbers set out in **Schedule 2** subject to the Legal Charge.

2.4. The Chargee has the benefit of the Legal Charge.

2.5. STAL submitted the Planning Application to UDC; and at the meeting of its Planning Committee held on **14 November 2018** UDC resolved to grant the Permission subject to STAL entering into a binding obligation under section 106 of the 1990 Act making provision for the matters set forth in this Agreement.

2.6. UDC considers it expedient in the interests of proper planning of its area and having regard to the policies of the Development Plan, regulation 122 of the CIL Regulations and all other material considerations that provision should be made for regulating or facilitating the Development in the manner herein.

2.7. UDC and STAL and the County Council have agreed to enter into this Agreement pursuant to the operative powers described in **clause 3** for the purpose of regulating the Development and use of the Airport Property in the terms and upon the details specified in this Agreement.

2.8. It is the intention of the parties that this Agreement shall remain in full force and effect until such time as it is replaced by a further agreement pursuant to section 106 and section 106A of the 1990 Act.

3. ENABLING POWERS AND OBLIGATIONS

3.1. This Agreement is entered into pursuant to section 106 of the 1990 Act, section 111 of the 1972 Act, section 278 of the 1990 Act, section 2 of the 2000 Act and section 1 of the 2011 Act.

3.2. Such of the covenants contained herein as are capable of being planning obligations within the meaning of section 106 of the 1990 Act are declared to be planning obligations and as such are enforceable by UDC and except for the obligation at paragraph 3 of **Schedule 3** in relation to the Local Road Monitoring Scheme which may be enforced by the County Council.

4. OBLIGATIONS UNDERTAKEN BY STAL AND THE CHARGEE

4.1. With the intent that subject as provided in this Agreement the Airport Property shall be subject to the obligations and restrictions contained in this Agreement for the purpose of restricting or regulating the Development and use of the Airport Property so that the provisions of this Agreement shall be enforceable against STAL and (but only for so long as the Chargee is in possession of the Airport Property) the Chargee and their respective successors in title, STAL and the Chargee hereby jointly and severally covenant with UDC to observe and comply with the obligations contained in **Schedule 3.**

4.2. The liability of any person under this Agreement shall cease once it has parted with its interest in the Airport Property or any relevant part thereof (in which event the obligations of any person under this Agreement shall cease only in relation to that part or those parts of the Airport Property which is or are transferred by that person) but not so as to amount to a release from liability for any antecedent breaches of this Agreement arising prior to the transfer.

4.3. Tenants of any part of the Airport Property with the benefit of leases for their own occupation or for the occupation of sub-tenants (or any person or mortgagee claiming through or under such person, and any derivative interests), licensees, concessionaires and other permitted occupiers holding subordinate or temporary interests, and statutory undertakers, power and utilities suppliers, owners or providers of services to Stansted Airport having occupational estates, easements, rights or other interests shall not be bound by any part of this Agreement.

5. AGREEMENTS AND DECLARATIONS

5.1. The obligations contained in **Schedule 3** shall take effect only upon the Implementation Date (save where expressly stated to the contrary in Schedule 3) and in the event that the Planning Application is refused or the Permission is quashed or is for any other reason not Implemented and expires the obligations contained in **Schedule 3** shall absolutely cease and determine without further obligation upon STAL or the Chargee or their successors in title.

5.2. The obligations contained in **Schedule 3** shall absolutely cease and determine without further obligation upon STAL or its successors in title if the Permission is revoked or modified (in either case without the consent of STAL) or expires without being Implemented.

5.3. Save as specifically provided in **Schedule 3** nothing in this Agreement shall prohibit or limit the right to develop any part of the Airport Property in accordance with any planning permission (other than one relating to the Development).

6. ADVANCE NOTICE OF IMPLEMENTATION AND OF THE PASSENGER LEVEL TRIGGER DATE

6.1. STAL will give UDC and the County Council not less than 28 days prior notice in writing of its intention to Implement specifying the intended Implementation Date.

6.2. Forthwith upon Implementation STAL will give UDC and the County Council notice in writing of Implementation.

6.3. STAL will give UDC not less than 28 days prior notice in writing of the anticipated occurrence of the Passenger Level Trigger Date

6.4. Forthwith upon the Passenger Level Trigger Date STAL will give UDC notice in writing of such occurrence.

7. PROVISION FOR INDEXATION

7.1. References in this Agreement to sums of money shall be deemed to mean that sum plus a percentage thereof calculated in March in each year (hereinafter called the "**Review Date**") equivalent to the percentage increase in the Consumer Price Index from the date of this Agreement to each Review Date until the Developer shall have paid the full and final amount of such sums to the organisation entitled to receive the same under the terms of this Agreement to be calculated pro rata in the case of any balance of such sums remaining unpaid at each Review Date.

8. VAT

STAL shall not be obliged to make any contribution towards the VAT payable by the Authorities in respect of any works to be undertaken by the Authorities insofar as and to the extent that the amount of such VAT is (by way of set-off or otherwise) recoverable by or reimbursable to the relevant Authority.

9. PROVISOS AND INTERPRETATION

9.1. Save and except to the extent that they are amended or varied by the terms of this Agreement, the Existing Planning Agreements continue in full force and effect.

9.2. Terms and provisions defined in the Existing Planning Agreements and used in this Agreement shall except where the context otherwise requires have the same meanings as are set forth in the relevant Existing Planning Agreements.

9.3. No provision of this Agreement shall be interpreted so as to affect contrary to law the rights powers duties and obligations of UDC in the exercise of any of its statutory functions or otherwise; and if in any case any provision of this Agreement shall be in conflict with or cause STAL or its successors to breach its of their statutory functions and/or obligations as Airport Operator (as defined in section 82 of the Airport Act 1986) of Stansted Airport, the Parties shall use their Reasonable Endeavours in good faith to seek to agree any necessary modifications to the terms of this Agreement.

9.4. If any provision of this Agreement shall be held to be unlawful or unenforceable in whole or in part under any enactment or rule of law such provision shall to that extent be deemed not to form part of this Agreement and the enforceability of the remainder of this Agreement shall not be affected, except where the Permission is quashed or otherwise held to be void and of no further or continuing effect.

9.5. No waiver (whether express or implied) by UDC of any breach or default in performing or observing any of the obligations, covenants or terms and conditions of this Agreement shall constitute a continuing waiver and no such waiver shall prevent UDC from enforcing any of the said obligations, covenants or terms and conditions or from acting upon any subsequent breach or default.

9.6. Insofar as any parts of this Agreement may be subject to the rule against perpetuities those parts shall remain in force for as long as any of the provisions hereof remain to be performed or observed or 125 years whichever shall be the shorter.

9.7. Any provision contained in this Agreement requiring the consent or approval of any party hereto shall be deemed to incorporate a proviso that such consent or approval shall not be unreasonably withheld or delayed.

9.8. Words denoting an obligation on a party to do any act, matter or thing include an obligation to procure that it be done and words placing a party under a restriction include an obligation not to cause permit or suffer any infringement of the restriction.

9.9. References in this Agreement to statutes, bye-laws, regulations, orders and delegated legislation shall include any statute, bye-law, regulation, order, delegated legislation, plans, regulations, permissions and directions, amending, re-enacting or made pursuant to the same as current and in force from time to time.

9.10. The headings in this Agreement do not affect its interpretation.

9.11. Unless the context otherwise requires references to sub-clauses, clauses and schedules are to sub-clause clauses and schedules of this Agreement.

9.12. Words importing the singular meaning where the context so admits include the plural meaning and vice versa.

9.13. Unless the context otherwise so requires:

(a) references to UDC, Essex County Council, STAL and the Chargee include their respective permitted successors and assigns;

(b) references to statutory provisions include those statutory provisions as amended or re-enacted; and

(c) references to any gender include both genders.

9.14. The Interpretation Act 1978 shall apply to this Agreement.

9.15. In the event of any conflict between the terms, conditions and provisions of this Agreement and any document attached hereto or referred to herein the terms, conditions and provisions of this Agreement shall prevail.

10. ENFORCEABILITY AGAINST CHARGEES

10.1. This Agreement has been entered into by STAL and the Chargee and their respective interests in the Airport Property shall be bound by the obligations contained in this Agreement **PROVIDED THAT** no obligations in this Agreement shall be binding on or enforceable against the Chargee or any other chargee or mortgagee from time to time who shall have the benefit of a charge or mortgage of or on any part or parts of the Airport Property or any receiver appointed by such chargee or mortgagee or any person deriving title through such chargee, mortgagee or receiver unless and until such chargee, mortgagee, receiver or person has entered into possession of the Airport Property or part thereof to which such obligation relates.

11. DISPUTE RESOLUTION

11.1. Subject to Clause 11.7, if any dispute arises relating to or arising out of the terms of this Agreement persists beyond ten (10) Working Days, either STAL or UDC (or if the dispute is in respect of the obligation at paragraph 3 of Schedule 3 in relation to the Local Road Monitoring Scheme, either STAL or the County Council) may give to the other written notice requiring the dispute to be determined under this Clause 11. The notice is to propose an appropriate Specialist and specify the nature and substance of the dispute and the relief sought in relation to the dispute.

11.2. For the purposes of this Clause 11 a "Specialist" is a person qualified to act as an expert in relation to the dispute having not less than ten (10) years' professional experience in relation to developments in the nature of the Development and property in the same locality as the Site.

11.3. Any dispute over the type of Specialist appropriate to resolve the dispute may be referred at the request of any party to the dispute to the President for the time being of the Chartered Institute of Arbitrators (or other appropriate President of a professional institute with expertise in the relevant discipline as agreed between the parties in dispute) who will have the power, with the right to take such further advice as he may require, to determine the appropriate type of Specialist and to arrange his nomination under Clause 11.4.

11.4. Any dispute over the identity of the Specialist is to be referred at the request of any party to the dispute to the President or other most senior available officer of the organisation generally recognised as being responsible for the relevant type of Specialist who will have the power, with the right to take such further advice as he may require, to determine and nominate the appropriate Specialist or to arrange his nomination. If no such organisation exists, or the parties cannot agree the identity of the organisation, then the Specialist is to be nominated by the President for the time being of the Chartered Institute of Arbitrators (or other appropriate President of a professional institute with expertise in the relevant discipline as agreed between the parties in dispute).

11.5. The Specialist is to act as an independent expert and:

(a) each party to the dispute may make written representations within ten (10) Working Days of his appointment and will copy the written representations to the other party;

(b) each party to the dispute is to have a further ten (10) Working Days to make written comments on the other's representations and will copy the written comments to the other party;

(c) the Specialist is to be at liberty to call for such written evidence from the parties to the dispute and to seek such legal or other expert assistance as he or she may reasonably require;

(d) the Specialist is not to take oral representations from the parties to the dispute without giving those parties the opportunity to be present and to give evidence and to cross-examine each other;

(e) the Specialist is to have regard to all representations and evidence before him when making his decision, which is to be in writing, and is to give reasons for his decision;

(f) the Specialist is to use all reasonable endeavours to publish his decision within thirty (30) Working Days of his appointment; and

(g) the decision of the Specialist shall be final and binding on the parties save in the case of manifest error.

11.6. Responsibility for the costs of referring a dispute to a Specialist under this Clause 11 including costs connected with the appointment of the Specialist and the Specialist's own costs, but not the legal and other professional costs of any party in relation to a dispute, will be decided by the Specialist or failing such decision each party will bear its own costs

11.7. This Clause 11 does not apply to disputes in relation to matters of law or the construction or interpretation of this Agreement which will be subject to the jurisdiction of the courts of England.

12. MISCELLANEOUS PROVISIONS

Registration and cancellation

12.1. This Agreement constitutes a local land charge and shall be registered as such provided that UDC will upon the happening of any of the eventualities referred to in clauses 5.1. and 5.2. above or upon the determination of this Agreement howsoever determined procure the removal of any entry made on the local land charges register in respect of or related to this Agreement.

Satisfaction of any of the provisions of this Agreement

12.2. Where in the opinion of STAL any of the provisions of this Agreement have been satisfied, STAL shall be entitled to apply to UDC for a certificate to that effect and upon the relevant planning officer being satisfied that the relevant agreement, obligation or covenant as the case may be has been satisfied, the relevant officer shall as soon as is reasonably practicable issue a certificate to such effect subject to its reasonable costs and charges in connection with the preparation of the same being discharged by STAL.

Exclusion of the 1999 Act

12.3. For the purposes of the 1999 Act it is agreed that nothing in this Agreement shall confer on any third party any right to enforce or any benefit of any term of this Agreement.

Notices

12.4. Any notices required to be served on or any document to be supplied or submitted to any of the parties hereto shall be sent or delivered to the address stated in this Agreement as the address for the receiving party or such other address as shall from time to time be notified by a party to this Agreement as an address at which service of notices shall be accepted or (in the case of a limited company) at its registered office.

12.5. Any notices to be served or documents to be supplied or submitted or applications for approval under the terms of this Agreement to be made which are addressed to UDC shall be addressed to the Assistant Director of Planning of that Council.

Entire Agreement

12.6. This Agreement, the schedules and the documents annexed hereto or otherwise referred to herein contain the whole agreement between the parties relating to the subject matter hereof and supersede all prior agreements arrangements and understandings between the parties relating to that subject matter but **SUBJECT ALWAYS** to the provisions of clause 9.1 of this Agreement.

Costs

12.7. Upon the execution of this Agreement STAL will pay the reasonable legal costs of UDC up to a maximum of five thousand pounds (£5,000) and of the County Council up to a maximum of three thousand pounds (£3,000) in connection with the negotiation and preparation and completion thereof.

Jurisdiction

12.8. This Agreement is governed by and interpreted in accordance with the laws of England.

12.9. It is hereby agreed that the parties irrevocably submit to the exclusive jurisdiction of the courts of England.

13. DELIVERY

13.1. This Agreement is delivered on the date written at the start and the provisions of this Agreement (other than this clause which shall be of immediate effect) shall be of no effect until this Agreement has been dated.

IN WITNESS WHEREOF the parties hereto have executed this Agreement as a deed the day and year first before written

SCHEDULE 1

(The Permission)

SCHEDULE 2

(Airport Property: Relevant Land Registry Title Numbers [clause 2.3])

	Title No.	Address / Description of Land	Commentary
1.	**EX438482**	Stansted Airport (main title – runways and aprons)	
2.	**EX574504**	Car and coach parks and land at Mole Hill Green, Stansted Airport: land south of the Passenger Terminal including Terminal Road North and Terminal Road South, and land at the eastern end of the airport west of Haul Road	
3.	**EX574498 (part of title only)**	Land adjoining the World Cargo Centre, Pincey Road and land and buildings on the north side of Bassingbourn Road	The World Cargo Centre and adjacent premises are not subject to the provisions of this Deed
4.	**EX574507**	Coopers End – land between Bassingbourn Roundabout and Coopers End Roundabout, south of the existing airport runway	
5.	**EX574488**	Little Bury Lodge Farm, Bury Lodge Lane and land, buildings and car parks on the west side of Round Coppice Road, Stansted Airport	
6.	**EX438485 (part of title only)**	Land on the west side of Bury Lodge Lane, north of the land incorporated in Title No EX574488 (listed at 5 above)	The title includes land covered by the TMAG Lease, which is not subject to the provisions of this Deed
7.	**EX574491 (part of title only)**	Approach roads and Priory Wood Roundabout, east of the M11,	The title includes land covered by the TMAG Lease and land leased to Harlow College, which is not subject to the provisions of this Deed
8.	**EX438483**	Parcel of land north of the A120 Thremhall Avenue, adjacent to the land in Title No EX574491 (listed at 7 above)	
9.	**EX574508**	Land at Stansted Airport near Thremhall Avenue, on the north side of the A120 road, Takeley, and north of the B1256 Takeley Street	
10.	**EX640482**	Site 1B, south-east of Thremhall Avenue,	

		Stansted Airport (Mid-stay car park, south-west of Pincey Brook)	
11.	**EX574500**	Land forming part of Stansted Airport south of Coopers End Roundabout, including parts of Pincey Brook waterway	
12.	**EX574502 (part of title only)**	The Passenger Terminal, Enterprise House and adjoining land and buildings at Bassingbourn Road, Stansted Airport	Enterprise House, the adjacent Hotel and the Control Tower are not subject to the provisions of this Deed. Only the freehold of the Passenger Terminal is bound.
13.	**EX574523 (part of title only)**	The Fuel Farm located to the east of Bury Lodge Lane, not demised under the TMAG Lease	The remainder of the land registered under this Title is covered by the TMAG Lease and not subject to the provisions of this Deed
14.	**EX574482 (part of title only)**	Land parcel on the north side of the airfield at Stansted Airport	The title includes land covered by the TMAG Lease, which is not subject to the provisions of this Deed
15.	**EX574485 (part of title only)**	Land between Bury Lodge Lane and Sixth Avenue, Stansted Airport (eastern parcels only)	The title includes land covered by the TMAG Lease, which is not subject to the provisions of this Deed
16.	**EX744455**	Land adjoining Long Border Road, Stansted Airport	
17.	**EX574495 (part of title only)**	Land on the north-west side of Long Border Road – part only	The title includes land subject to long leaseholds (the Diamond Hangar and Ryanair site) which is not subject to the provisions of this Deed
18.	**EX948708**	Land south of Long Border Road, but excluding Taylors End Road	
19.	**EX574604**	Small land parcel adjacent to the M11 (east side) adjoining the land registered under Title No EX574491 (listed at 7 above)	

SCHEDULE 3

(Obligations entered into by STAL with UDC)

Part 1: Noise Mitigation

Definitions

- **"Enhanced Sound Insulation Grant Scheme"** means a detailed scheme designed to provide for noise insulation to Residential Properties (and specifically identified educational and ecclesiastical buildings, healthcare and community facilities referred to in para 2.2(c) below) proximate to Stansted Airport which will apply to an extended geographic area to the Existing Noise Mitigation Regime, offering higher levels of grant on a tiered basis and at a higher rate than at present, as further detailed in this Part 1;
- **"Enhanced SIGS Commencement Date"** means the 1 November following the Unchallenged Permission Date or such other date (earlier or later) as shall be agreed between UDC and STAL;
- **"Existing Noise Mitigation Regime"** means the noise insulation grant schemes set up and operated in accordance with the relevant provisions of the Existing Planning Agreements that relate to the mitigation of the impacts of air noise and ground noise caused by Stansted Airport operations;
- **"Residential Property"** means an individual dwelling registered for Council Tax;
- **"Revised SIGS Contour Plan"** means the plan so-described comprising **Annexure 3** to this Agreement, which shall be incorporated in and form part of the Enhanced Sound Insulation Grant Scheme.

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1. Discontinuance of the Existing Noise Mitigation Regime

With effect from the Enhanced SIGS Commencement Date, and the coming into operation of the Enhanced Sound Insulation Grant Scheme, the Existing Noise Mitigation Regime shall cease to apply to operations at Stansted Airport and to the basis for grants being eligible for claim by affected properties in the vicinity of Stansted Airport.

2. Enhanced Sound Insulation Grant Scheme

2.1 General Statement

By way of replacement for the Existing Noise Mitigation Regime applicable to Stansted Airport, STAL will with effect from the Enhanced SIGS Commencement Date be required to comply with the provisions of this paragraph 2 of this Part 1, to the intent that STAL will be subject to the obligation (at STAL's discretion) to make payments of or to be liable for reimbursement of the costs incurred in providing sound insulation grant for an extended geographic area (increasing the number of eligible properties) to affected eligible properties; enhanced eligibility involving increased levels of rate of financial contribution by STAL to affected properties; and an area of eligibility based on additional noise metrics all as detailed in this paragraph 2.

2.2 Detailed contents of the enhanced scheme

The following elements shall be included in the Enhanced Sound Insulation Grant Scheme with effect from the Enhanced SIGS Commencement Date:

(a) Revised geographic area covered

Eligible claimants entitled to make an application under the Enhanced Sound Insulation Grant Scheme will be freehold, and where applicable leasehold, owners of properties lying within the Revised SIGS Contour Plan, that is to say the area comprising the three areas respectively tinted red, tinted yellow and tinted green within the noise contours.

(b) Eligibility (noise impact, noise contour and grant – maximum amount)

This is as set out in Table 1 below, and applies to all Residential Properties lying within any of the three areas referred to in paragraph (a) above falling within the defined noise contours shown on the Revised SIGS Contour Plan.

Table 1

Noise Impact	Noise Contour*	Grant Maximum
Upper (tinted in red)	69 and 66dB $L_{Aeq,16h}$	£10,000 Indexed per property
Middle (tinted in yellow)	63 and 60 dB $L_{Aeq,16h}$	£8,000 Indexed per property
Lower (tinted in green)	57 dB $_{Aeq,16h}$/N65 200 / 90 dBA SEL 600m distance/55 dB $L_{Aeq,16h}$ ground noise	£5,000 Indexed per property

**The reference year for the contours set out on the Revised SIGS Contour Plan is 2023.*

(c) Non-residential properties affected

In addition to the residential properties falling within the areas designated by the Revised SIGS Contour Plan, the following non-residential properties shall be eligible for a bespoke mitigation package of works or other measures as may reasonably be agreed by STAL following discussion with individual building owners and occupiers under the Enhanced Sound Insulation Grant Scheme so long as the properties remain in education, healthcare, worship or community use (as applicable):

Schools
Howe Green School
Spellbrook Primary School
Little Hallingbury C of E Primary School
The Leventhorpe School
Mandeville Primary School

Healthcare
Falcon House, Little Hallingbury
Humpfrey Lodge, Thaxted

Worship
St Giles Church Great Hallingbury
St Mary the Virgin Church Broxted
Ebenezer Chapel Molehill Green
St Mary the Virgin Church Chickney
Thaxted Baptist Church
St Mary the Virgin Church Little Hallingbury
Thaxted Church (St. John the Baptist) Thaxted
Thaxted URC Church

Community
Thaxted Anglican Church Hall
Little Hallingbury Village Hall
Thaxted Baptist Church Hall

The respective levels of claim of the owners of each of these properties shall be a sum as may reasonably be agreed between the property owner and STAL having regard to the specific condition and characteristics of the individual property, the practicality of carrying out noise insulation works to the property and the change in noise impact resulting from the Development.

In the event that agreement is not reached between the property owner and STAL as to the sum to be paid in respect of the cost of the noise mitigation works to a non-residential property, either the property owner or STAL may refer the matter to UDC who shall appoint an expert ("**the Expert**") with relevant qualifications to determine the matter. The Expert shall act as an expert and save in case of manifest error the Expert's decision shall be final and binding on the property owner and STAL. UDC's and the Expert's costs shall be payable by the property owner and STAL in such proportion as the Expert shall determine and failing such determination shall be borne by the property owner and STAL in equal shares.

3. General Statement with respect to the operation of the Enhanced Sound Insulation Grant Scheme

3.1 Having regard to the planning purpose that the noise mitigation regime for Stansted Airport for those eligible to apply under the terms of the Enhanced Sound Insulation Grant Scheme shall be made available for claimants to secure measures to reduce the impact of aviation-related noise being in place early, the trigger for commencement of the Enhanced Sound Insulation Grant Scheme will occur at a point prior to the Passenger Level Trigger Date (35 mppa being exceeded). STAL operates, and will until agreed otherwise with UDC continue to operate, an annual applications-based grant scheme with a cut-off date of 31 October in each calendar year.

3.2 The coming into operation of the Enhanced Sound Insulation Grant Scheme shall take effect from the Enhanced SIGS Commencement Date.

3.3 Each Residential Property and non-residential property is entitled to make no more than one claim under the Enhanced Sound Insulation Grant Scheme unless otherwise agreed by STAL.

4. Lower noise penalty limits

STAL shall use its Reasonable Endeavours to seek to secure the agreement of the Department for Transport of increased limits in noise penalties payable for breach of noise thresholds and off-track flying at Stansted Airport.

5. Noise penalty payments

STAL shall pay to the Community Trust Fund the amount of any penalties received by STAL for breach of noise thresholds and off-track flying at Stansted Airport, such payments to be made annually prior to 31 May each year accompanied by a statement setting out details of all penalties received during the preceding 12 months.

Part 2: Transport

Definitions

- **"Airport Bus and Coach Station Upgrade"** means a scheme of works to enhance capacity and improve existing bus and coach facilities for passengers arriving at and departing from Stansted Airport, such scheme to give consideration to increased passenger circulation and waiting areas, bus waiting area(s), DDA compliant infrastructure, covered waiting areas, electronic signing and to be prepared by STAL and approved by UDC in consultation with the County Council in accordance with the provisions of this Part 2;
- **"Commuted Payment"** means the sum payable under paragraph 1.3 of this Part 2 in the event that it is determined that STAL will make a financial contribution in lieu of carrying out or paying for the Highway Mitigation Scheme, such sum to be ONE MILLION, ONE HUNDRED AND SIXTY THOUSAND POUNDS **(£1,160,000) Indexed**;
- **"Highway Mitigation Scheme"** means a detailed mitigation scheme as shown in principle in the Junction 8 (M11) Scheme Drawing and the Priory Wood Roundabout Drawing (or subsequent versions approved in writing by UDC in consultation with Highways England and the County Council) to adapt the Motorway Junction and Priory Wood Roundabout and associated areas of existing adopted public highway and/or land under the control of STAL agreed between Highways England and STAL in consultation with the County Council being a series of alterations and improvements to such infrastructure arising from increased traffic and forecast traffic at the Motorway Junction and using Priory Wood Roundabout associated with growth in passenger numbers at Stansted Airport between 35 and 43 mppa;
- **"Highway Mitigation Works"** means the works within the existing adopted public highway required to implement the Highway Mitigation Scheme in accordance with the requirements of Highways England;
- **"Junction 8 (M11) Scheme Drawing"** means Drawing No Steer Drawing 23003401-SDG-HGN-100-DR-D-00104 Rev P1 comprising **Annexure 4** to this Agreement;

- **"Local Bus Network Development Fund"** means a sum of ONE MILLION POUNDS **(£1,000,0000) Indexed** to be made available and operated by SATF in accordance with the provisions of paragraph 4 of this Part 2;
- **"Local Road Monitoring Scheme"** means a scheme of traffic monitoring on the local road and STAL network to be agreed with STAL and the County Council (where monitoring is not otherwise being carried out) which shall include the matters set out in **Annexure 6** for the purpose of providing information to the SATF to inform its decisions on the administration of the Local Roads Network Fund and Sustainable Transport Levy and inform decisions made by the relevant highway authority on works that are required to their respective road networks to mitigate impacts on the public highway.
- **"Local Roads Network Fund"** means a sum of up to EIGHT HUNDRED THOUSAND POUNDS **(£800,000) Indexed** to be made available to and operated by SATF (a) to cover the reasonable costs incurred for the feasibility and design and implementation of infrastructure improvements for local bus services used by passengers and employees at Stansted Airport in accordance with the provisions of paragraph 2 of this Part 2; and (b) and to cover the reasonable costs incurred for the feasibility and design and implementation of highway improvements within a five mile radius of Stansted Airport, which include (but are not limited to) safety improvements, management/mitigation of combined impacts of future traffic, measures to improve accessibility and to assist in the enforcement of local parking controls and restrictions in order to control unauthorised parking associated with the operation of Stansted Airport; and for the avoidance of doubt the Local Roads Network Fund shall be expended within Essex only
- **"Kiss and Fly"** means the picking up and/or dropping off on the forecourt areas or any other area designated for set-down within the airport of passengers, by private car or taxi, for the purposes of air travel;
- **"Motorway Junction"** means the highway infrastructure within the boundaries of the existing adopted public highway at and in the immediate vicinity of Junction 8 of the M11 motorway;
- **"Priory Wood Roundabout Drawing"** means Drawing No Steer Drawing 2300340-SDG-HGN-100-DR-D-00101 Rev P1 comprising **Annexure 5** to this Agreement showing a signalisation scheme for the roundabout;
- **"Road Investment Strategy"** means the Road Investment Strategy (RIS1) published by the Department for Transport, Highways England and (as highways monitor) the Office of Rail and Road (ORR) identifying the programme covering the period 2015 – 2020 and includes the successor project RIS2 covering the period following 2020 and any other equivalent projects designed to deliver long-term improvements in the operation of and investment in the Strategic Road Network;
- **"Strategic Highways Review"** means a review to be carried out jointly between STAL and Highways England (in consultation with the County Council) upon reaching the Passenger Level Trigger Date (35 mppa), or earlier if they jointly agree, to examine the most appropriate mitigation works for the Motorway Junction and for the Priory Wood Roundabout. Such Strategic Highways Review shall consider inter alia (a) outturn traffic conditions current at the review, (b) any other relevant traffic changes forecast; and (c) the then-current Roads Investment Strategy Programme

for the wider strategic road network for the county of Essex and for Trunk Roads in the vicinity as then relates to the Motorway Junction;

- **"Surface Access Strategy"** means the strategy (referred in the 2003 Agreement as SASAS), including subordinate modal strategies, prepared by and at the cost of STAL and overseen by SATF to increase the use of public transport by air passengers and staff at Stansted Airport as amended from time to time.;
- **"Sustainable Transport Levy"** means a levy operated in accordance with the existing Public Transport Levy operated pursuant to Part 4 of the Fourth Schedule to the 2003 Agreement (to be a minimum of £0.25 pence per transaction from passenger parking and staff charging at the minimum rate of £10 per annual parking permit) increased by the addition of a minimum of £0.10 pence contribution derived from every transaction resulting from visitor use of the Express Set-Down forecourt area on the south side of the Terminal Building (all amounts to be Indexed), subject to review in accordance with the provisions of paragraph 5 of this Part 2;
- **"SATF"** means the existing Stansted Area Transport Forum, the terms of reference for which are set out in Annexure 8;
- **"Transport Forum Revised Terms of Reference"** means the document so-entitled comprising **Annexure 8** to this Agreement;
- **"Travel Plan"** means the Travel Plan adopted by STAL with respect to travel to and from Stansted Airport by staff of STAL and persons employed at Stansted Airport.

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1. Strategic Highways Review

1.1 Commencing within 14 days following the Passenger Level Trigger Date (35 mppa), or on such other date agreed with Highways England, STAL shall in consultation with Highways England undertake the Strategic Highways Review in order to consider outturn traffic conditions and predicted future traffic conditions, taking account of the Road Investment Strategy programme for the Strategic Road Network in respect of the Motorway Junction.

1.2 Following completion of the Strategic Highways Review the Highway Mitigation Scheme shall be carried out and completed at the cost of STAL (such works to be undertaken by Highways England or their agent as then agreed with STAL) so that the Highway Mitigation Works are completed and open to traffic no later than the end of the first calendar month at the point when passenger numbers at Stansted Airport are forecast to reach 39 mppa in any twelve month period.

1.3 If following completion of the Strategic Highways Review Highways England agrees, based on Highways England's objective of providing an alternative major highways scheme for the Motorway Junction in a future Roads Investment Strategy scheme, STAL shall instead of funding the Highway Mitigation Works pay the Commuted Payment to Highways England or named nominee. The Commuted Payment will be due and payable at the end of the first calendar month at the point when passenger numbers at Stansted Airport have reached a level of 39 mppa in any twelve month period, unless Highways England and STAL agree otherwise in writing.

2. Local Roads Network Fund

2.1 Following the Implementation Date STAL hereby agrees to ring-fence and make available the amount of the Local Roads Network Fund, such fund to be

administered by SATF constituted under the 2003 Agreement and the 2008 Undertaking (subject to the modified terms of its operation as provided in the Transport Forum Revised Terms of Reference referred to in paragraph 8 of this Part 2). It shall be a condition precedent to the payment by STAL to the County Council of any sums requested by the SATF that the works and / or payment, as the case may be, are for Qualifying Purposes.

2.1.1 Following the approval and inclusion of a scheme by the SATF in the relevant work programme, funding shall be made available to the County Council in three stages (feasibility, detailed design and implementation (as follows):

(a) Before beginning any stage of a scheme, the County Council shall submit an estimate of costs and a timetable relating to that stage, to the SATF;

(b) If the SATF is content that the submitted costs and timetable are reasonable, STAL shall make the funds available to the County Council in advance of the funds being required (either in one payment or in staged payments, to correspond with the terms for payment with the contractors) for that stage of the scheme; and

(c) Where the County Council has not spent (and/or not incurred a liability to pay or reimburse) any funds received on the earliest of the following events (unless otherwise agreed by the SATF):

(i) within six months following the date that the stage was completed under the timetable provided by the SATF (or any agreed amendments to that timetable) pursuant to paragraph (b) above;

(ii) within six months following the date that the stage was suspended (so long as it has not resumed); or

(iii) within three months following the date that the stage was aborted,

the County shall return the funds received by it to STAL to the Local Road Network Fund (unless otherwise agreed by STAL).

2.2 The obligation to fund payments for the Local Roads Network Fund shall cease from the fifth anniversary of the **43 mppa Date.** STAL shall have no further liability on and following that date with respect to the Local Roads Network Fund.

3. Local Road Monitoring

3.1.1 Within two (2) months of the Implementation Date, STAL shall have agreed an implementation plan for the Local Road Monitoring Scheme on roads within Stansted Airport and, subject to the agreement of the County Council, on local roads controlled by the County Council as highway authority.

3.1.2 The Local Road Monitoring Scheme shall be implemented in accordance with the implementation plan for the Road Monitoring Scheme such scheme shall cease from the fifth anniversary of the 43 mppa Date.

4. Local Bus Network Development Fund

4.1 Following the Passenger Level Trigger Date, STAL hereby agrees to ring-fence the Local Bus Network Development Fund such fund to be administered by the SATF constituted under the 2003 Agreement and the 2008 Undertaking subject to the modified terms of its operation. It shall be a condition precedent to the payment by

STAL of any sums requested by the SATF that the works and / or payment as the case may be are for Qualifying Purposes

4.2 The obligation to fund payments for the Local Bus Network Development Fund shall cease from the fifth anniversary of the 43 mppa Date. STAL shall have no further liability on and following that date with respect to the Local Bus Network Development Fund.

5. Sustainable Transport Levy

Commencing no later than the 1st April following the Unchallenged Permission Date, the Sustainable Transport Levy will be collected by STAL and the funds made available to the SATF to finance initiatives in accordance with the Surface Access Strategy to promote the use by passengers and staff of STAL and others employed at Stansted Airport of:

(a) modes of transport to and from Stansted Airport other than private motor vehicles, taxis and private hire vehicles, and to encourage and promote car-sharing by STAL staff and others employed at Stansted Airport in order to improve the modal split in operation and to limit the impact of traffic on the surrounding highway network; and

(b) in addition to the purposes set out in paragraph 5 of Part 4 of Fourth Schedule to the 2003 Agreement, sustainable modes of transport, including but not limited to the introduction of new technologies for all vehicles and walking and cycling schemes (including off-site provisions),

SUBJECT ALWAYS to the requirement that the Sustainable Transport Levy is applied solely to initiatives for Qualifying Purposes.

6. Rail-Users: discount scheme

STAL shall operate a parking discount scheme for season ticket holding rail users to and from Stansted Airport Station in general accordance with the Rail-Users discount scheme at **Annexure 7** to this Agreement as may be amended from time to time by agreement between STAL and UDC.

7. Transport Targets

STAL shall use Reasonable Endeavours to:

(a) maintain a 50% public transport mode-share for non-transfer air passengers;

(b) reach and thereafter maintain single occupancy private car use by Stansted Airport staff at 55% by the 39 mppa Date; and

(c) to reach a passenger mode share by Kiss and Fly of:

(i) 20% by the 39 mppa Date; and

(ii) 12% by the 43 mppa Date.

and in the event that any of the targets in this paragraph 7 are not met, an interim review of the Surface Access Strategy measures (in addition to the provisions of paragraph 9 below) will be triggered.

8. **Transport Forum Revised Terms of Reference: revised working arrangements**

Subject to the like agreement of the Authorities, STAL agrees to participate in the SATF following the Unchallenged Permission Date in accordance with the Transport Forum Revised Terms of Reference comprising **Annexure 8** to this Agreement.

9. **Surface Access Strategy and Travel Plan – timetable revisions**

9.1 Following the Unchallenged Permission Date and prior to 31 December 2019, STAL shall provide updated drafts of the Airport Surface Access Strategy and the Travel Plan to UDC and the County Council; and STAL shall be under an obligation to undertake the review and updating of each of the Airport Surface Access Strategy and the Travel Plan at five yearly intervals in the cycle 2020 / 2025 / 2030 and thereafter (unless otherwise agreed between STAL and UDC); and to provide interim updates at the mid-point within each five yearly time-period.

10. **Airport Bus and Coach Station Improvements**

10.1 Following the Implementation Date and prior to the Passenger Level Trigger Date STAL shall commission a technical study of enhancement to capacity and passenger facility improvements for the forecast Stansted Airport passenger and employee travel growth using the bus and coach station at Stansted Airport, in order to define the Airport Bus and Coach Station Upgrade.

10.2 Following prior consultation with SATF concerning the Airport Bus and Coach Station Upgrade, STAL shall carry out and bring into operation the works required in order to comply with such scheme before passenger numbers reach 36 mppa.

Part 3: Skills, Education and Employment

Definitions

- **"Combined Local Benefits"** means each of the following four elements, namely:

  (a) the Education Centre;

  (b) the Employment Academy;

  (c) the Further Education College; and

  (d) Local Supply Chain Support,

  except where UDC and STAL agree to make variations.

- **"Education Centre"** means the on-site education centre at Stansted Airport (currently known as "Aerozone") available as an education facility for local children aimed at raising standards and attainment, by offering facilities for visiting local children through co-ordination with schools local to Stansted Airport;

- **"Employment Academy"** means the on-site skills and employment centre based at Stansted Airport whose aim is to enable more job seekers to strive to apply for and obtain employment at Stansted Airport;

- **"Further Education College"** means the on-site FE college currently run by Harlow College (whose aim is to provide development of skills to ensure a supply of locally-based suitably skilled labour for college-leavers seeking employment after further education in the locality of Stansted Airport); and

- **"Local Supply Chain Support"** means initiatives to bring local businesses into contact with the owners and operators of and businesses housed within Stansted Airport, aimed at increasing the level of business and contracts awarded to SMEs and other local businesses proximate to Stansted Airport.

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1. Generally

Stansted Airport Employment Forum (SAEF)

1.1 STAL agrees to continue to maintain, support and participate in the SAEF as provided in Part 6 of Schedule 2 to the 2008 Undertaking.

1.2 To review the Stansted Training Employment Strategy no later than 2020 and every four years thereafter and annually to present a report on progress to the SAEF for ratification.

1.3 Not less than once in every five years from the date of this Agreement to undertake an employment survey of on-airport employment and to present the results of such employment survey to UDC, SAEF and SBF.

2. STAL's obligations with respect to maintaining Combined Local Benefits

STAL will (subject to all requisite support from counterparties) continue to maintain support, promote and provide the Combined Local Benefits (until agreed otherwise with UDC), as follows:

(a) Education Centre

To continue to provide the Education Centre and to consult with and have regard to views expressed by local schools as the facilities provided for the benefit of local children.

(b) Employment Academy

To continue to make available the Employment Academy, and to make available STAL staff to meet with job-seekers endeavouring to find employment at Stansted Airport; and to facilitate meetings between on-site employers and job-seekers.

(c) Further Education College

To co-operate with Harlow College to enable the Further Education College to continue on-site, to deliver up to Level 2 STEM subjects targeted for employment geared to the aviation sector in accordance with the terms of any occupational lease from time to time granted by STAL to Harlow College.

(d) Local Supply Chain Support

STAL will continue to offer Local Supply Chain Support including the annual Meet the Buyers event for local businesses, to facilitate opportunities for contact and negotiation between local businesses and operators within Stansted Airport including STAL, the costs of which will be borne by STAL.

Part 4: Community Trust Fund

Definitions

- **"Area of Benefit"** means the geographic area generally within a ten mile radius of the Stansted Airport runway shown tinted in blue on the Area of Benefit Plan;
- **"Area of Benefit Plan"** means the plan so-entitled comprising **Annexure 9** to this Agreement, which identifies the boundaries of the Parish Councils within the Districts of Uttlesford, East Hertfordshire, Harlow, Epping Forest, Chelmsford and Braintree that will be eligible to apply for financial contributions from the Community Trust Fund as provided for in this Part 4;
- **"Beneficial Purposes"** means projects demonstrating to the satisfaction of the Trustees that they will help to mitigate adverse health and/ or quality of life impacts arising from the Development as a result of increased noise levels and a reduction in the amenity of local green spaces;
- **"Community Trust Fund"** means a new fund established by way of replacement of the Community Fund (as defined in and provided for in Part 8 of Schedule 2 to the 2008 Undertaking) to be established in order to support projects that satisfy the Beneficial Purposes of the Fund within the Area of Benefit;
- **"Community Trust Terms of Reference"** means the proposed terms of reference with respect to the establishment of a board of Trustees, governance, funding, eligibility, trust objectives, arrangements for application for funding, meetings, and reporting and monitoring set out in the document entitled "Community Benefit Terms of Reference" comprising **Annexure 10** to this Agreement;
- **"Trustees"** means the Trustees serving from time to time as appointed trustees of the Community Trust Fund (being a body of nine persons as set out in the Community Trust Terms of Reference).

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1. Establishing a Community Trust Fund

As soon as is reasonably practicable following the Implementation Date, STAL will establish the Community Trust Fund having the objects and upon the terms substantially as set out in the Community Trust Terms of Reference. STAL agrees with the co-operation of all other participating Trustees to use Reasonable Endeavours to procure the registration of the Trust with the Charity Commissioners as a registered charity.

2. STAL's contribution

STAL agrees to pay to the Trust by way of covenant from taxed earnings the sum of £150,000 Indexed annually in each Financial Year commencing in the Financial Year following the Unchallenged Permission Date for ten years (to a total sum of £1,500,000 plus the Indexation applied to the annual payments plus any payments due under paragraph 5 of Part 1 of this Schedule 3). If the 43 mppa Date has not been reached by the date of the tenth annual payment, the level of further funding necessary to mitigate the impact of the operation of Stansted Airport on the Area of Benefit (if any) up to the 43 mppa Date will be reviewed by agreement between STAL and UDC in consultation with the Trustees but in any event STAL shall not be required to contribute more than £150,000 Indexed in any Financial Year.

3. **Operation of the Community Trust Fund**

The Community Trust Fund shall be operated in or substantially in accordance with the Community Trust Terms of Reference as modified from time to time by the Trustees in consultation with STAL and UDC **SUBJECT ALWAYS** to the requirement that it be operated solely for Beneficial Purposes and for the Area of Benefit only.

4. **Closure of the Community Fund (2008 Undertaking)**

Except to the extent that the Community Fund has been exhausted prior to the Implementation Date, STAL shall use Reasonable Endeavours to secure (by operation of the *Cy-Près* doctrine) agreement for the transfer into the Community Trust Fund of any unexpended amounts previously paid into the Community Trust Fund established under the terms of the 2008 Undertaking and not dispersed for the purposes envisaged by that fund.

5. **Miscellaneous provisions**

Subject to the foregoing provisions of this Part 4, the provisions of Part 13 of Schedule 2 of the Fourth Schedule to the 2003 Agreement and of Part 8 of Schedule 2 to the 2008 Undertaking shall with effect from the establishment of the Community Trust Fund be of no further or continuing effect.

Part 5: Ecology provisions

Definitions

- **"Eastend Wood"** means the area of woodland designated as a Site of Special Scientific Interest lying to the north of Stansted Airport to the north of Molehill Green identified on the Woodland Plan;
- **"Hatfield Forest"** means the 400 approx hectare site designated as a Site of Special Scientific Interest and a National Nature Reserve at Takeley, Bishops Stortford identified on the Woodland Plan; and
- **"Woodland Plan"** means the plans comprising **Annexure 11** to this Agreement.

****

1. **Obligations relating to Air Quality**

1.1 Commencing on the Implementation Date, STAL shall monitor air quality at Hatfield Forest and Eastend Wood in accordance with the following provisions:

(a) continuous monitoring of oxides of nitrogen and fine particulate matter (PM10) at three fixed sites (including subject to the agreement of The National Trust a site in Hatfield Forest) at locations first agreed with UDC;

(b) diffusion tube monitoring of nitrogen dioxide levels as follows:

I. At sites in Hatfield Forest agreed with the National Trust and Natural England (subject to the requisite agreement of relevant landowners); and

II. At a site or sites in Eastend Wood agreed following detailed on-site assessment with Natural England and other relevant consultees.

(c) provide to UDC annually a written summary of the results of the monitoring described in paragraphs 1.1(a) and 1.1(b) of this Part 5;

(d) to consult with UDC with respect to appropriate measures to compensate for any material adverse effects on vegetation within Hatfield Forest and/or Eastend Wood that are identified as arising from levels of oxides of nitrogen exceeding 30 microgrammes per cubic metre annual mean within Hatfield Forest or Eastend Wood, as applicable, and such compensation shall be proportionate to the extent that the Development contributes to the measured levels; and

(e) following agreement with UDC with respect to such measures to use Reasonable Endeavours to undertake any such measures identified as a result of the consultation referred to in paragraph 1.1(d) of this Part 5.

1.2 STAL shall make the results of its obligations contained in paragraphs 1.1.(a) - 1.1(c) of this Part 5 available to UDC within 28 days of the final results becoming available to STAL.

1.3 The existing obligations with respect to the monitoring of air quality at Hatfield Forest contained in the 2008 Undertaking shall cease on the Implementation Date.

Part 6: Surface Water Discharge Quality Monitoring

Definitions

- **"Previous Monitoring Condition"** means condition **WAT2** on the Planning Permission dated **8 October 2008** relating to Stansted Airport in the following terms:

  WAT2 The water quality monitoring of the biological interests of local brooks approved by the local planning authority pursuant to condition WAT3 of planning permission ref UTT/1000/01/OP shall be continued; and

- **"Watercourse Monitoring Scheme"** means a detailed scheme prepared by STAL on the advice of its ecological consultants by way of replacement for the Previous Monitoring Condition, so as to ensure continued surface water discharge quality monitoring for local watercourses proximate to Stansted Airport into Great Hallingbury Brook and Pincey Brook from discharge points at Stansted Airport.

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1. Compliance with the Watercourse Monitoring Scheme

2.1 STAL shall implement the Watercourse Monitoring Scheme, and shall make the results of its monitoring available to UDC within 28 days of the final results becoming available to STAL.

Executed as a Deed by affixing)

the common seal of)

UTTLESFORD DISTRICT COUNCIL)

in the presence of:)

Authorised Signatory

Authorised Signatory

Executed as a Deed by affixing)
the common seal of)
ESSEX COUNTY COUNCIL)
in the presence of:)

Attesting Officer

Executed as a Deed by)
STANSTED AIRPORT LIMITED)
acting by a director)

Director

In the presence of:

Witness signature

Name of witness (BLOCK CAPITALS):

Address:

Occupation:

Executed as a Deed by)
CITICORP TRUSTEE COMPANY)

LIMITED acting by a director)

Director

In the presence of:

Witness signature

Name of witness (BLOCK CAPITALS):

Address:

Occupation:

Annexure 1: Plan 1 (Airport Property)

Annexure 2: Airfield Infrastructure Works Plan

Annexure 3: Revised SIGS Contour Plan

Annexure 4: Junction 8 (M11) Scheme Drawing

Annexure 5: Priory Wood Roundabout Drawing

Annexure 6: Scope of Local Road Monitoring Scheme (Schedule 3 Part 2)

The detailed implementation plan for the Local Road Monitoring Scheme will specify:

- What data will be collected
- The collection method
- The area to be covered by monitoring
- Start date and frequency of collection (annually)
- Annual review of monitoring scheme
- Reporting of monitoring (3 months following data collection)
- Responsibility for provision of scheme

Annexure 7: Rail-Users Discount Scheme
(Schedule 3 Part 2)

The rail-users discount scheme will commence within 30 days after the Unchallenged Permission Date has been reached.

STAL will provide parking within the short-stay car parks for rail commuters in possession of a rail season ticket from Stansted Airport at a discounted rate below the turn-up parking rate.

To qualify for the discounted parking scheme rail passengers must be in ownership of a rail season ticket from Stansted Airport station and satisfactory evidence that the user is in possession of a rail season ticket will be required. A daily ticket does not entitle a rail passenger to participate in this scheme.

Rail Passengers will be able to apply for the discounted parking scheme for a period starting no earlier than the commencement date of their valid rail season ticket and ending at the date of the expiry of their valid rail season ticket (up to a 1 year maximum period).

On expiry of the season ticket, an application will be required for renewal.

Access to the airport car park will be monitored and where necessary subject to enforcement. Abuse of scheme rules (e.g. stay duration limitations) could result in withdrawal of this offer to the individual, household, and / or vehicle.

STAL will promote the Rail-Users Discount Scheme in consultation with UDC.

Annexure 8: Transport Forum Revised Terms of Reference (Schedule 3 Part 2)

SATF Steering Group

The SATF Steering Group is the decision making group which is accountable through the chair for:

1. Investment decisions, ensuring value for money, relating to:
    - Transport related S106 agreements;
    - Projects funded by the Sustainable Transport Levy;
2. Delivery of ASAS targets and objectives; and Travel Plan
3. Setting clear objectives and work programmes for the working groups.

Terms of reference for the SATF Steering Group

4. To take executive responsibility to deliver on the objectives of the Airport Surface Access Strategy (ASAS) through the activities of the Working Groups and in particular by:
    - By advising STAL on development and production of the ASAS including forward planning to meet targets for all forms of transport and accommodation of future strategic transport links to and from the airport
    - developing annual work plans showing activity for each financial year to deliver each objective to be agreed by the SATF Steering Group before the start of each financial year;
    - monitoring progress on delivery of those plans at each quarterly meeting;
    - establishing, publishing and maintaining investment appraisal criteria for transport investment that deliver the agreed ASAS transport objectives, mode share targets and value for money; and
    - providing assurance that the activities and spend are consistent with the terms of the strategy.

5. To administer the delivery of transport related Section 106 planning obligations associated with the planning permission for the airport ensuring that spend is consistent with the terms of the agreement.

6. To ensure overall budget control of allocated transport Section 106 funding, agree funding allocations in the light of investment appraisals, and monitor the effectiveness of measures taken.

7. To monitor the airport's Travel Plan initiatives and annually to advise STAL on measures to improve passenger and employee public transport mode share.

8. To ensure completion and publication of annual reporting of SATF activities, including a detailed report on activities, spend and delivery of objectives and performance against the S106 targets.

9. STAL will provide administrative support for the Steering and Working Groups, including:
10. Arranging and hosting meetings, circulating agendas and papers
11. Providing quarterly data in advance on:
    - Performance against the S106 targets and commitments
    - Any papers on investment decisions or discussions
    - Any data or information identified in working groups strategies to support advice and performance monitoring
12. In all cases to:
    - Keep a record of decision taking and the evidence on which decisions are taken;
    - Report on spend, progress and delivery at each quarterly meeting;
    - Ensure that all spending represents value for money; and
    - For each transport investment ensure it is clear how each of the investment appraisal criteria are met.

Working Groups

The three working groups are advisory. They do not take decisions on investment and accountability remains with the SATF Steering Group through the chair.

There is a working group for each of: Highways, Bus and Coach and Rail. The three working groups have generic terms of reference but each with a different focus.

Terms of reference for the Working Groups

13. To propose a strategy to the Steering Group to deliver the ASAS objectives and targets.
14. To propose an annual work programme in stages of feasibility, design and implementation to the Steering Group setting out the delivery priorities for each financial year in order to deliver the ASAS objectives and targets.
15. To give quarterly progress reports to the Steering Group on the delivery of that work programme, including reviewing modal share, customer satisfaction and service quality STAL will provide the data to the working groups to support these reports.
16. To propose a set of investment criteria to the Steering Group for investment decisions, to include value for money, service quality, customer satisfaction, contribution to delivery of objectives and targets, and fit with work programme.
17. To put investment proposals to the Steering Group for decision.

Highways Working Group focus areas:

18. To advise on and oversee the delivery of Section 106 highway-related planning obligations conditioned by the planning permission for the airport and to recommend to the Steering Group the allocation of Section 106 funding.
19. To consider the interface between existing road schemes, any future schemes, and the airport road system.

20. To consider the opportunities for improving road-based public transport through improving journey times and reliability for bus and coach services, and assisting the development of inter-urban public transport initiatives.
21. To oversee the monitoring of fly-parking associated with the airport and to develop multi-agency activities to tackle identified and agreed incidences.
22. To work in partnership to deliver the Stansted Airport Cycling and Walking Strategy document.
23. To monitor supply and demand for car parking at the airport, both on and off site.

Bus and Coach Working Group focus areas:

24. To work in partnership with service operators and other agencies to deliver the Stansted Airport Bus and Coach Strategy.
25. To review the Stansted Bus and Coach Strategy and recommend the development of new and existing services and associated facilities to meet the objectives of the strategy.
26. To manage and oversee the delivery of the bus and coach-related S106 obligations and planning conditions and to recommend to the Steering Group the use of S106 funding.
27. To develop constructive liaison with existing and potential bus and coach operators, local authorities and TfL.
28. To review levels of service quality and customer satisfaction of bus and coach services serving Stansted Airport and recommend actions to improve such levels as necessary.

Rail Working Group focus areas:

29. To work in partnership to deliver the Stansted Airport ASAS Rail Vision;
30. To review the quality and customer satisfaction of rail services serving Stansted Airport, including monitoring of mode share & franchise commitments;
31. To provide advice to the Steering Group about any necessary steps in respect of coordination with other stakeholders and promotional activity to ensure improvements to rail infrastructure or franchises.

List of Members of SATF

Essex County Council, Uttlesford District Council Herts County Council, East Herts District Council, Highways England, TfL, Network Rail, Stansted Consultative Committee ; and STAL

Working Group Membership shall be determined by the SATF Steering Group and shall comprise of the above organisations (as appropriate) and as necessary, representatives of the public transport operators, airlines, and passenger user groups.

Agreement of the Terms of Reference

Both sets of terms of reference were ratified by the SATF Steering Group on [DATE].

Annexure 9: Area of Benefit Plan
(Schedule 3 Part 4)

Annexure 10: Community Benefit Terms of Reference (Schedule 3 Part 4)

Trustees & Governance

1. Chair to be appointed from the Trustees by UDC and STAL for two years with only one reappointment permitted which cannot run concurrently.
2. Independently administered, with a percentage of the Fund allocated for administration.
3. The body of trustees shall consist of 9 persons:

   a) Two persons to be nominated by Stansted Airport Limited, only one of whom may be an employee of the Company;

   b) One Elected Member or Officer by Uttlesford District Council;

   c) One Elected Member or Officer by Essex County Council;

   d) One Elected Member or Officer for each of the main District Councils comprised in the Area of Benefit to be nominated by such Councils consisting:

   - East Hertfordshire District Council;
   - Harlow District; and
   - Epping Forest District Council.

   e) One person to be nominated by the Stansted Airline Operators Committee; and

   f) One person to be nominated by Stansted Airport Consultative Committee.

Funding

4. Contribution to the Community Trust Fund of £150,000 every Financial Year to 31 March 2029. Following this date, the amount of funding to be contributed by STAL to the Trust Fund is to be reviewed.
5. The maximum funding per application is £5,000 with discretion of the Trustees to adopt a higher figure for exceptional applications. Each year a maximum of one application for a 'flagship' or major project may be granted, for which funding is capped at £50,000.
6. The Fund can offer full funding or funding towards a specific element or item.
7. The Fund will also receive additional contributions from any aircraft noise or track keeping fines arising from aircraft arriving or departing from Stansted Airport.

Eligibility

8. Applications can be made by an established community or other not for profit group, charity or Parish Council located, or which operates predominantly, within the Area of Benefit.
9. Parish Councils will be eligible to receive up to one grant per year. No more than 50% of total grants awarded in any year will go to Parish Councils.
10. Applications that offer match funding will be favoured.

Objectives

11. The Community Trust Fund will support capital projects which help to mitigate adverse health and/ or quality of life impacts arising from the Development as a result of increased noise levels and a reduction in the amenity of local green spaces within the defined 'Area of Benefit'.
12. The Community Trust has the discretion to give greater weight to particular objectives in line with local and community priorities at the time. Any prioritisation will be published for applicants to view, along with the application process.

Area of Benefit

13. 10-mile radius with extensions to reflect areas directly affected by operations at Stansted Airport as detailed in Appendix 1. Grants will only be awarded to schemes which are located within the Area of Benefit or deliver the vast majority of its benefits to the Area of Benefit.

Applications

14. Successful applicants can re-apply after three years.
15. Applications can be submitted on-line or in hard copy using the Community Trust Fund Application Form. Applications must provide the following information as a minimum:
    - Details of the Organisation;
    - Project Details, including itemised descriptions of all/part of the project for which the organisation is applying for; and
    - Additional supporting information.

Meetings

16. Quarterly ordinary meetings of the Trustees to review applications.
17. Quorum of a least one third of the number of trustees for the time being or three trustees whichever is the greater are present at a meeting.
18. Every matter shall be determined by a majority of votes by the trustees present and voting on the question.
19. A minute of the meeting will be recorded and signed by the Chair.

Reporting and Monitoring

20. An annual report and accounts shall be produced within 3 months of Financial Year end of the Fund including a list of grants awarded, the amount and the applicant.
21. Successful applicants will be required to publicise, in an appropriate way, the support provided by the Community Trust Fund.
22. An appropriate audit system shall be established to ensure that grants are appropriately spent and that the benefits are delivered.

Annexure 11: Woodland Plan
(Schedule 3 Part 5)

DEADLINE 9 SUBMISSION

STONE HILL PARK LTD – RESPONSE TO EXA'S FOURTH WRITTEN QUESTIONS

PINS APPLICATION REFERENCE: TR020002

Responses are provided to all written questions directed to Stone Hill Park Ltd ("SHP").

SHP would anticipate that it will provide comments on the Applicant's responses to Fourth Written Questions at Deadline 11. In view of the limited time that will be available to review and prepare comments, SHP will not be able to comment as extensively as it has on the other submissions by the Applicant.

SHP notes that the ExA has requested that interested parties;

> *"should frame their responses by considering and explaining what action they deem the ExA would need to take to resolve the issue and make a robust recommendation to the Secretary of State."*

Based on the verifiable evidence before the examination, SHP would respectfully suggest that many of the material issues and deficiencies with the Applicant's application are not capable of being resolved. To the extent that any of the less fundamental issues can be resolved through the inclusion of additional requirements in the draft Development Consent Order, SHP consider it is important that the consequential impacts of any such actions are fully assessed and understood. SHP would point to the example of the new requirement 19c, which when added to the night flight restrictions, would further undermine the prospects of attracting Ryanair, or equivalent airline, at anything like the numbers "forecast" by the Applicant – please refer to York Aviation's comments on question DCO.4.22.

Question	Question to:	Question / SHP Response
CA.4.7	SHP	**Reasonable alternatives to Compulsory Acquisition: Negotiations with SHP** The Applicant's response to CA.2.25 [REP6-012] stated that "The Applicant is hopeful that these negotiations [between the Applicant and SHP] can be concluded satisfactorily shortly". At a point less than three weeks before the close of the Examination, is SHP hopeful that the negotiations between the Applicant and SHP can be concluded satisfactorily shortly?

Question	Question to:	Question / SHP Response
		SHP Response Based on the actions of the Applicant, SHP consider it to be highly unlikely. In recent days the Applicant has sent an email making a revised offer of £15 million for SHP's land (with restrictions on uses), a level that is unacceptable and which falls well short of the price it had previously committed, but failed to, deliver on. ***NB. It is noteworthy that the Applicant is still holding on to its claim that £7.5 million is adequate to cover the costs of all land acquisition (including SDLT) and £0.5m blight costs in Article 9.*** As explained in SHP's previous submissions, these last minute moves by the Applicant had been anticipated and SHP has no confidence that the recent engagement is anything other than an attempt to distract both the ExA and SHP from the Applicant's abject failure to comply with the DCLG Guidance related to procedures for the compulsory acquisition of land (2013). Throughout this examination, SHP has always sought to provide fulsome, accurate and evidenced responses to the ExA as demonstrated in our submissions which provide context and background to engagement with RSP. We would refer the ExA to the following submissions; • SHP's answer to first written question CA.1.17 [REP3-303]; • SHP's answer to second written question CA.2.17 [REP6-053]; • SHP's answer to third written question CA.3.29 [REP6-053]; and • SHP's Comments on the Applicant's Answer to CA.3.30 [REP8-035].
CA.4.14	Various	SHP Response SHP Is unable to comment on this question.

Question	Question to:	Question / SHP Response
DCO.4.11	The Applicant Stone Hill Park Ltd	**Article 18 - Authority to survey and investigate the land** In the Written Summary of SHP's Oral Submissions put at the Compulsory Acquisition Hearing held on 20 March 2019, submitted at DL5 on 29 March [REP5-] SHP state at paragraph 7.3, with reference to Article 18 (Authority to survey and investigate the land) that: *"…the wide powers sought by the Applicant to survey and investigate land are inappropriate and are likely to have a blighting impact on land held by SHP."* In its Written Summary of Stone Hill Park Ltd's Oral Submissions put at the Second Draft Development Consent Order ("DCO") Hearing Held on 7 June 2019 [REP8-034] SHP state that: "the following minor amendments to Article 18 would need to be incorporated in the DCO submitted by the ExA; Paragraph (1) amended to; "(1) Subject to paragraph (8), the undertaker may for the purposes of this Order enter on any land shown within the Order limits or which may be affected by the authorised development and—" The inclusion of a new Paragraph (8); "(8) paragraph (1) does not apply to SHP Land without the consent of the owner of the SHP Land, but such consent must not be unreasonably withheld or delayed." Note: "SHP Land" to be defined as the freehold land comprising Title Numbers K803975, K837264, K891199, K806190, K873633, K873634 and K743314."" Comment on this suggested amendment.
		<u>SHP Response</u> SHP explained the rationale and provided full justification for the proposed amendments in paragraphs 4.11-4.17 of SHP's Oral Submissions put at the Second Draft DCO Hearing Held on 7 June 2019 [REP8-034].

Question	Question to:	Question / SHP Response
		This referred the ExA to other submissions including paragraphs 3.4 - 3.7 of SHP's covering letter submitted at Deadline 4 [REP4-064], SHP's answer (including appendices) to second written question Ec.2.2 [REP6-053] and SHP's comment on the Applicant's answer to second written question Ec.2.2 [REP7-014]. SHP has explained both the practical difficulties with the drafting of the previous article (as it refers to the operation of the Parking Services Agreement with the DfT) and the inappropriate nature of the powers that would be conferred upon the Applicant (given its past conduct) **SHP has submitted detailed evidence to the examination regarding the Applicant's unacceptable conduct (which has been highly prejudicial to SHP) and notes that the Applicant has not elected to comment on, or challenge, any of the evidence submitted by SHP.** SHP consider that the ExA must have regard to the Human Rights Act 1998, which expressly incorporates Article 1 of the first protocol of the European Convention for the Protection of Human Rights and Fundamental Freedoms. This places certain obligations on the State not to, inter alia, interfere with the peaceful enjoyment of property or deprive a person of their possessions. Any interference by the State must be in pursuit of the public interest, be in accordance with law and proportionate. It is SHP's view that the Applicant's previous unreasonable and aggressive behaviour must be a consideration of the ExA and Secretary of State.
DCO.4.22	The Applicant All Interested Parties	**New Requirement 19c** In its second dDCO [PD-018] issued on 14 June 2019, the ExA proposed a new Requirement 19c: "No passenger air transport departures can take place between the hours of 09.00 and 12.00 and no passenger air transport arrivals can take place between the hours of 07.00 and 08.00." With the stated reason for this being that: "In order to ensure that vehicle movements associated with passenger arrivals and departures do not impact on the am peak period. This is considered necessary as the original Transport Assessment [APP-61] and the revised Transport Assessment [REP5021] do not model any vehicle movements associated with passenger flight departures or arrivals in the am peak period."

Question	Question to:	Question / SHP Response
		The ExA notes that, in the Revised Noise Management Plan [REP8-004] submitted at Deadline 8, the Applicant has proposed additional wording at paragraph 1.6 which states that: "In order to minimise the effects of traffic during the am peak hour, there will be no passenger flight departures between the hours of 09.00 and 11.30". and Para 2.13 of the summary of oral submissions made at the Traffic and Transport ISH 9 [REP8-017] states that one passenger flight will be permitted at 11.30 and one at 11.45. **The ExA is seeking comment on these proposals in its questions on Transport, below.**
		SHP Response Extract from York Aviation Supplementary Note (Appendix 1 – comments after paragraph 37). "We recognise the ExA's concern that vehicles being used *by passengers to access the Airport result in congestion on the highway network during the morning peak period, particularly if there is concern that the impacts have not been properly assessed in the TA. These concerns would equally apply in the afternoon traffic peak, particularly in relation to aircraft arriving between 15.00 and 17.00 and departing between 17.00 and 19.00 as implied by the ExA's Question Tr.4.6. In our experience, this is often the more critical interaction between the highway network and the timing of flights.* *However, the key issue is the extent to which any restrictions would impact on the ability of airlines to operate flights at the times required to optimise the utilisation of their aircraft and meet passenger demand. Significantly, given Ryanair is indicated as the operator of the majority of flights, it is informative to consider their operating pattern across UK airports. We have extracted the timetable of all of Ryanair's UK flights for the week beginning 24th June 2019 (**Appendix B**). This shows that across the UK as a whole, 6% of all departing flights were between 09.00 and 12.00. More importantly, for smaller airports of a similar scale (up to 85 flights per week), 19% of all departures were between 09.00 and 12.00. Imposing a restriction during this period would have a significant impact on the ability of the airline to schedule its*

Question	Question to:	Question / SHP Response
		operations efficiently. Furthermore, any constraints on operations in this period would increase the likelihood of the airline needing to schedule arrivals later than 23.00 in order to attain full utilisation of the aircraft over the day. Restrictions on operations in the late afternoon period could be even more impactful on the overall operation, certainly pushing more movements into requiring night period slots, which would simply not be available at Manston. *We have also looked at the timetable of KLM operations at UK airports (**Appendix C**). Again, at smaller airports with a similar frequency to that projected for Manston, there is heavy reliance on morning departures between 09.00 and 12.00. Some 29% of departures are during this period. This is because the flights are optimally timed so as to allow passengers arriving on early morning long haul flights at Amsterdam to connect into the UK and for passengers to reach Amsterdam in time for afternoon long haul departures. If the airline could not achieve such flight connections, it is unlikely to operate from Manston.* *Overall, the imposition of yet further restrictions on the timing of flight operations, which we understand are required to ensure that the impact of airport operations on the highway network are managed, would, when coupled with the proposed ban on scheduled night operations, severely limit an airline's ability to optimise its schedule and make efficient use of its aircraft. Such restrictions would make it very unlikely that passenger airlines would be willing to operate at Manston, other than a small number of niche operations for which the flight timings are not material. However, we understand the importance of restricting the impact of the Airport's operation on the highway network, particularly where inadequate mitigation has been proposed."*
F.4.5	The Applicant All Parties to NOTE	**Article 9 - Guarantees in respect of payment of compensation, etc.** The Examination has received a number of submissions on the estimate of the compensation for compulsory acquisition is calculated, as being no more than £7.5 million. It is not within the remit of the ExA to recommend setting a level at which compensation should be paid. However, the ExA does need to consider whether the sum secured through Article 9 is adequate.

Question	Question to:	Question / SHP Response
		Paragraph 4.5 of Summary of Applicant's Oral Submissions at the Compulsory Acquisition Hearing on 4 June 2019 and associated appendices [REP8-011] states that: *"Mr Smith noted that SHP's advisors had not at any point presented him with a value based on the Compensation Code, preferring instead to reference commercial negotiations that have been ongoing between the parties."* **Either:** **i. Indicate where your submissions do contain a value based on the Compensation Code; or** **ii. if possible, provide such an estimate.**
		<u>SHP Response</u> SHP would refer the ExA to Appendix 6: Compensation Assessment to SHP's Written Representations [REP3-025]. As explained in paragraph 2.1 of the Avison Young report; *"The purpose of this note is to summarise the basis on which compensation (assuming a compulsory acquisition) of the Manston Airport site should be assessed and to identify RSP's material failure to undertake reasonable negotiations."* Paragraph 4.4 notes; *"With this site, a number of different approaches could be adopted to assess the land value element of compensation, all of which provide a materially higher compensation estimate than the offers made by CBRE on behalf of RSP. The key issues associated with these different approaches to calculating compensation are outlined below. The Code permits the claimant to claim on the basis which the market (in the absence of the Scheme) would attribute the greatest value."* In summary, the report considers a number of different bases of valuations, each of which provides a valuation materially higher than the level suggested by the Applicant. The highest figure quoted is the £38m land value contained within the viability appraisal undertaken by GVA in July 2018 (see paragraph 6.1). SHP would note that the ExA has not directed any questions to SHP regarding the evidence it has

Question	Question to:	Question / SHP Response
		submitted. SHP continues to progress commercial discussions with interested parties on developing the site, further details of which SHP would hope to share with the ExA prior to the end of the examination. SHP would also refer the ExA tp paragraphs 4.7 – 4.10 of SHP's Written Summary of Oral Representations to the second CA Hearing [REP8-030], which referred to the Avison Young Report and contrasted SHP's submissions with the limited information submitted by the Applicant, despite the requests made by the ; *"4.7. As SHP has explained in previous submissions, the amount set out in the Article 9(1)(a) would grossly understate the level that would be required. Compensation is not for the Examination, but one necessity for the Examination is to ensure that the Promoter has demonstrated there would be adequate funds for any costs associated with compulsory acquisition, noise mitigation and blight.* *4.8. Notwithstanding all the matters the ExA has to consider in assessing whether the Applicant has satisfied the relevant compulsory acquisition tests (which the Applicant demonstrably has not), the ExA is required to submit its DCO with its report to the Secretary of State irrespective of the merits of the Applicant's case or the recommendation from the Panel. Therefore, in preparing its DCO, the ExA would need to be satisfied that the amount in the Article would be sufficient - otherwise the ExA would be unable to satisfy themselves under the Guidance and any Article would be defective. This would be prejudicial and have human rights implications given land could be forcibly taken. The precise level of compensation is not for the Examining Authority, and if the Compensation figure from the Upper Tribunal was lower than the amount in the Article, then the remaining amount could be returned to the Promoter. But it should not be the other way around, that the Article did not secure sufficient funds to pay third parties for their land. Therefore, the ExA must take a precautionary approach and look at the higher figure for security purposes. In this regard, the ExA should refer to the detail set out in Appendix 6: Compensation Assessment to SHP's Written Representations [REP3-025]. In paragraph 8.2, Avison Young (formerly GVA) states;* *"The compensation provision made in RSP's funding statement is insufficient to meet the compensation obligations resulting from a made DCO. It is important to note that RSP's most recent offer of £20m excludes any value associated with residential development potential, demonstrating the need for RSP's funding provision and business case to be reassessed to reflect significantly higher compensation liabilities."*

Question	Question to:	Question / SHP Response
		4.9. The Applicant's estimate for the costs of Compulsory Acquisition of £7 million includes costs such as SDLT that would run to c.£0.5m. Accordingly, it would appear that the Applicant has only allowed for c.£6.5m to be paid to the owners of the land, and despite the ExA's request for more information the Applicant has refused to provide any breakdown. The only information before the examination on the Applicant's "value estimate" is the copy of the letter dated 10 October 2018 from the Applicant's adviser Colin Smith of CBRE, stating his view that the SHP land was valued at £2m - this letter was submitted by SHP as part of its Answers of First Written Questions [REP3-303] and was appended to the Avison Young Compensation Report). Mr Smith's letter was factually inaccurate in a number of areas, and this was compounded by incomplete testimony at the CA hearing where he omitted the fact that SHP had acquired the land from the previous owner of the closed airport in September 2014 for a price of £7 million. Please note that further detail and evidence on the adequacy of funding will be included in SHP's Written Summary of Oral Submission put at the Second CA Hearing."
ND.4.2	The Applicant	**European airports** The Applicant's answer to question ND.3.10 [REP7a-002] states "*why is there any logic in using freighters flying from Liege, Luxembourg and Hahn, when facilities for these same freighters can be provide conveniently on VFM terms to handle UK freight within the UK at Manston or UK regional airports*". The same answer notes earlier on the concentration of people and economic activity within 3-4 hours trucking time of the north west European airports. The Steer Report notes the amount of air freight transported in customs-bonded trucks between the UK and continental Europe as there is often more available air freight capacity than at UK airports and also notes goods often trucked the other way (from Northern mainland Europe to Heathrow) to fly to the US. **i. Do UK goods travelling to north European airports assist in making more frequent cargo services (whether bellyhold or pure freight) more viable?** **ii. Do UK goods too fall within the catchment for the golden triangle in NW Europe?** **iii. Conversely would UK goods provide the numbers and tonnage alone to make regular pure freight services viable to, for instance, SW Asia?**

		SHP Response Extract from York Aviation Supplementary Note (Appendix 1 – comments after paragraph 37). *"The key point is that for dedicated freighter services to be viable, they need to operate at high load factors. Hence, the importance of consolidating operations where high volumes of import and export freight can be concentrated. This is why there is a 'golden triangle' of airports with high air freight volumes in northern Europe reflecting a concentration of population and industry generating demand for air freight. The same logic applies within the UK in relation to concentration at East Midlands. It is a gross over-simplification to suggest that freight destined for the UK could be flown to Manston instead as the local area would not generate sufficient freight demand for such a service to be viable."*
ND.4.5	The Applicant	**Business Plan** The Business Plan summary submitted at Deadline 8 [REP8-011] contains figures for Aeronautical Yield (£/WLU), with figures ranging from £4.48 in year 2 to £3.18 in year 20. Appendix 3 of the Summary of Applicant's Oral Submissions at the Compulsory Acquisition Hearing on 4 June 2019 and associated appendices [REP8-011] states that a similar figure for East Midlands Airport (EMA) in 2017-2018 equates to £2.75. For the second year of operation therefore the figure for Manston is considerably higher than that at EMA, an established airport. **i. How would the Proposed Development establish a foothold in the industry, given the above figures?** **ii. Given the established nature of EMA and the facilities available there, wouldn't the applicant need to provide rates lower than EMA to attract much of the business it seeks?**
		SHP Response Extract from York Aviation Supplementary Note (Appendix 1 – comments after paragraph 37). *"See comments above [NB. in York Aviation Supplementary Note] on the comparability of the proposed charges with East Midlands. We agree with the ExA that, at least in the early years, Manston would need to incentivise airlines to use it and would need to rebate charges substantially until its place in the market is established."*

ND.4.21	The Applicant	**Freight and trucking** At Compulsory Acquisition Hearing 2 [EV-018] held on 4 June 2019, it was stated by the Applicant that information sourced from Securitas considered that 2 million tonnes of freight is currently flown to northern European airports which is then trucked to the UK, of which variously 40% or 20% could be attracted to fly to Manston instead. **Provide further information and evidence on this point, including evidence from Securitas.**
		SHP Response Extract from York Aviation Supplementary Note (Appendix 1 – comments after paragraph 37). *"What the Securitas information (if correct) does not state is the nature of this trucked cargo. To the extent that this is trucking under bond with airline flight numbers, such cargo is more likely related to availing of bellyhold capacity, including goods being trucked into the UK to avail of bellyhold capacity at Heathrow. Other trucking is likely to relate to conventional integrator operations linked to the established integrator hubs in Europe. The overall tonnage being trucked between the UK and Europe does not provide any indication of how likely it is or not that Manston could attract any share of it sufficient to justify a number of dedicated freighter operations at Heathrow."*
ND.4.28	The Applicant	**Stansted Airport** The Applicant's answer to question ND.2.22 [REP6-013] counts 3 dedicated stands for Code E aircraft and three for Code E aircraft at Stansted Airport, based on the information provided by SHP in their DL4 response [REP4-065]. **Has your calculation taken account of the additional cargo apron shown to the east of the cargo warehouses?**
		SHP Response Extract from York Aviation Supplementary Note (Appendix 1 – comments after paragraph 37).

		"Stansted Airport helpfully provides confirmation of the number of cargo stands that it has at https://www.magairports.com/our-expertise/cargo-services/london-stansted-cargo/. This accords with the information previously submitted by ourselves: Stansted's dedicated cargo stands can simultaneously accommodate 4 x A380, 3 x B747-8F, 1 x B747-400F and 1 X B767-300. *In relation to freight at Stansted currently, we can confirm that we have checked with the CAA and the Airport and there has been an omission in the freight statistics submitted to the CAA regarding bellyhold freight being carried by Emirates. This will be rectified in CAA statistics from July onwards."*

York Aviation

Manston Airport

Deadline 9: Supplementary Note in the Applicant's Summaries of Oral Evidence at ISH5 regarding Socio-Economics and CAH2 regarding Compulsory Acquisition

1. This note provides further comments on the Applicant's written summaries in relation to Socio-economics and Compulsory Acquisition, in particular responding to additional information provided by the Applicant at Deadline 8. We also cross refer as relevant to the ExA's Fourth Written Questions and address a few additional points contained therein. We cross refer as required to the previous evidence submitted on behalf of Stone Hill Park. As with our previous submissions, these remarks are without prejudice to our continued view that the 'forecasts' underpinning RSP's case for the development of a cargo airport at Manston are not robust and not capable of being realised.

Socio-Economics ISH5

Direct on-site employment

2. **Para. 2.7** again demonstrates that the Applicant's team does not understand how to estimate employment at airports. It remains our view that the employment density (direct jobs per WLU) at Prestwick is the most relevant comparator (see York Aviation February 2019 Report para. 3.54) or, if data from East Midlands is to be used then the non-aviation related jobs on Pegasus Business Park need to be excluded. Either way, the employment density used by Azimuth Associates to estimate direct on-site employment is too high and this impacts on the total employment estimates derived solely through multipliers from the direct employment estimate.

3. We note that the ExA (Question SE.4.1) has asked the Applicant for further information regarding the extent to which Pegasus Business Park was developed out in 2013. We can confirm that the estimate that we made of on-site employment for East Midlands in 2013 included non-airport related employment on Pegasus Business Park. This is made clear at page 5 of the *East Midlands Airport Sustainable Development Strategy Economics and Surface Access*, as relied on as a basis by Azimuth (Vol IV, para. 4.2.1) as made clear at para. 5 of our note of ISH5. This should have been taken into account by Dr Dixon in preparing her estimates rather than simply adopting the total East Midlands employment figures but was not. Indeed, the page referred to by Azimuth provides information about how much employment at East Midlands was cargo related and how much passenger related specifically, leaving 19% of the employment within the site as non-aviation related:

"In 2013, 6,730 employees were based on the Airport site, employed by 90 companies. Passenger related employment provides the largest proportion of airport jobs (45%), with Cargo at 36%.

4. These figures could have been applied by Dr Dixon to assess a specific employment density relevant to the passenger/cargo mix projected for Manston, albeit account would also need to have been taken of the extent to which DHL's employment serves surface access transport as well as simply air freight (see York Aviation February 2019 Report, para. 6.23). When all relevant factors are taken into account, the relevant employment density for Manston would be similar to that at Prestwick.

5. In relation to **Para. 2.8**, we advised Dr Dixon in Autumn 2017, appended to our Note of Oral Evidence given at ISH5, that use of our 2004 work for ACI EUROPE was not appropriate in 2017 as it was substantially out of date. We also made clear (at para. 8 of that Note) that the overall Europe-wide employment density was not necessarily valid for any particular airport as this would depend on its characteristics.

Indirect/Induced Employment

6. **Paras. 2.14-2.15 & 2.21** again serve to demonstrate that the Applicant does not understand the data upon which it relies for assessing the likely employment and economic effects of the proposed development. Dr Dixon clearly does not understand the application of multipliers to assess the indirect and induced effects of a development and how the size of the multiplier relates to the scale of the study area, reflecting how much of the supply chain for an airport is contained locally or spread more widely. At para 2.15, the Applicant cites the adoption of a multiplier of 1.8 indirect/induced jobs in addition to every direct job as valid for the local area.

7. In the case of the Oxford Economics work for London Luton Airport, the multiplier of 1.9 (not 1.8) for every on-site direct job is applicable at the UK level (see para. 19 of our Note on ISH5) and the relevant local area multipliers were materially lower (see para. 20 of our Note on ISH5).

8. In the case of London Stansted, also referred to by the Applicant, a multiplier of 1.8 times the number of direct jobs to estimate total employment impact is cited as applicable to the study area comprising 16 districts/boroughs in London and the East of England in the ES for its recently approved Planning Application[1]. It is clear from Table 11.8 of the ES that the Stansted multiplier has been applied as a multiple of direct jobs, i.e. the comparable multiplier to that applied by OE for Luton at the national level is 0.8 at the pan-regional level for estimating additional indirect/induced jobs, consistent with OE's sub-regional multiplier for Luton.

9. It is notable also that the recent PEIR for Heathrow Airport suggests a national level indirect/induced multiplier of 1.3, with the study area multiplier being 0.7 for a study area comprising the London Boroughs of Ealing, Hillingdon and Hounslow as well as districts in Buckinghamshire and Surrey.[2] It is important to note that there is a direct relationship between the scale of multiplier to be adopted and the scale of population and activity within the study area reflecting the likelihood of supply chain purchases being made within the area as well as secondary rounds of spending.

10. Hence, correctly understood, the examples of multipliers used at other airports would strongly suggest that the appropriate multiplier for the indirect and induced employment likely to arise in Thanet would be less than 0.8, consistent with our best estimate of 0.7 for Kent and the Thames Estuary and 0.4 as a maximum for Thanet.

11. It is clear that the Applicant, as advised by Dr Dixon, simply does not understand the evidence from other airports upon which it seeks to rely. Given the manifest errors in the assessment of the jobs and broader economic impact of the proposed development, the ExA can have no confidence in the socio-economic assessment. Clearly, if the number of jobs created is substantially lower, as would be the case if correctly assessed, then the benefits to Thanet and Kent would be materially less than set out in the ES.

12. **Paras. 2.18-2.19** address the potential employment due to MRO activities. It is important to recognise that these would not be additional to the on-site employment estimates as, for example at Prestwick, maintenance related employment is already included within the employment density stated. We have addressed the more realistic assessment of how many jobs might be associated with such activities on the scale proposed at paras. 11-14 of our Note on ISH5.

[1] Transforming London Stansted Airport, 35+ Planning Application, Environmental Statement, Section 11.

[2] Heathrow Airport Ltd, PEIR, Chapter 18, para 18.10.148.

Catalytic Impact

13. At **Para. 2.23**, the Applicant states that the catalytic employment estimates are assumed to be at the UK level but, as we pointed out in our November 2017 Report (para. 5.8), the ICAO estimate relates to the global catalytic effect of aviation and the 2015 Intervistas study referred to by the Applicant to the Europe-wide effects. Neither of these are relevant at the national level similarly to the importance of distinguishing the relevant study area and the extent to which purchases are local or even national. As pointed out in our reports and at the Hearing, consideration of the catalytic benefits of an airport are more usually examined by reference to the specific business that it seeks to serve and how this benefits passengers and businesses in the relevant study area. It is for this reason that crude multipliers are not normally applied, not least as direct employment at an airport provides no indication of the extent to which wider catalytic benefits would be generated, for example a busy airport serving primarily outbound leisure flights might well employ more staff than a small airport focussed entirely on core business links. Heathrow Airport's PEIR provides an example of how to consider the likelihood of catalytic effects arising. Furthermore, to the extent that direct employment has been overestimated, this would flow through to the catalytic employment estimates when a crude multiplier is adopted. The quantification of the catalytic impact of Manston has simply no validity at the national or any other level.

Displacement

14. The Applicant seeks to deny the relevance of any displacement effects at **Paras. 3.1-3.4**. Whilst this might be a reasonable approach if the impacts had only been assessed and scaled appropriately to a small local study area containing no other airport and few affected businesses, it is not correct given that the impacts have been assessed at least at a national scale. The Applicant continues to be in error when it says that displacement of activity at other airports or a switch from trucking to flown freight does not need to be accounted for.

15. We note that Heathrow correctly considered displacement effects in its recent PEIR.

Tourism

16. At **Paras 4.1-4.2**, the Applicant continues to assert large potential inbound tourism benefits by reference to Southend Airport. We have provided actual information in relation to Southend Airport at paras. 27-29 of our Note on ISH5, as noted in the ExA'.

Compulsory Acquisition CA2

Compelling Case

17. At **Paras. 5.2-5.3**, the Applicant simply reiterates the arguments previously made. We have addressed the weakness in these arguments, sufficient to negate the existence of a compelling case, in our February 2019 Report (paras. 2.2-2.21) and in our Note of Oral Evidence at CAH2, paras. 16-19).

18. It is significant that that since this Note was written, Heathrow Airport has confirmed its plans in relation to the development of its freight facilities in its recent Statutory Consultation documents. The *Preferred Master Plan* Report (Figures 5.2.11 and 5.2.12) illustrates clearly where additional cargo facilities are to be provided to accommodate the doubling of cargo throughput expected by Government as a consequence of the additional flights facilitated by the third runway. These do not, as claimed by the Applicant in various submissions, involve the closure and demolition of Terminal 4.

19. As we have noted in previous reports and submissions, the expected increase in cargo handling capability at Heathrow when coupled with expected uplifts in cargo capacity at East Midlands and other airports removes any shortfall in capacity for air cargo across the UK and removes that plank of the Applicant's compelling case argument completely. We have addressed the substantial overstatement of socio-economic benefits above.

Associated Development

20. We note that in the Heathrow Master Plan Report referred to above, that Heathrow has made clear that its definition of Airport Supporting Development (ASD) or Associated Development for the purpose of the NSIP is that which is essential to support the operation of the Airport and only that which requires to be located within the immediate vicinity of the Airport:

The Preferred Masterplan only includes replacement and additional ASD that is essential for the successful operation of the airport, with regards to site suitability, planning considerations and other factors" (para. 4.9.13) (emphasis added)

21. Given that the NSIP at Heathrow relates to the provision of an additional runway as well as passenger terminal capacity, the inclusion of facilities relevant to passengers, freight and aircraft support (MRO) are relevant. Applying the same 'essential for the successful operation' test to the list of potential 'airport related' uses suggested by the Applicant for Manston or potentially allowed within the definition currently included within the Draft DCO would show that most of them would fail a test of being essential for the successful operation of the cargo terminal and associated infrastructure (see our Deadline 7 comments on the Applicant's responses to ExA's Second Questions).

22. Contrary to what is said by the Applicant at **Para. 6.6**, the appropriate test is not whether the proposed use *"requires a location at or in close proximity to an airport"* but whether the use is necessary or essential for the successful operation, in this case, of a cargo terminal and associated stands.

23. We notice that the ExA has recognised the potential inconsistencies in the definition of what is or is not part of the Principal Development and what is Associated Development in relation to its recent Question ND.4.3 & 4.4, DCO.4.2 & 4.3, particularly in relation to the definition of airport related development. This is an important issue which needs further clarification, particularly in the absence of any cogent explanation from the Applicant as to the justification for the overall scale of development proposed. As explained in our Note on CA2, this extends beyond the justification for any development on the Northern Grass to the justification for the overall scale of development, even if the Applicant's 'forecasts' were correct.

Business Model

24. Appended to the Applicant's Note on CAH2, are two documents responding to the ExA's request for an updated and more detailed business plan and business model. We provided, in our Note on CAH2, an explanation of the minimum level of information that a Business Plan for an Airport seeking funding or to demonstrate viability should contain. The information provided by the Applicant remains woefully deficient and certainly insufficient for any party to assess the plausibility of the revenue and cost estimates that underpin the claimed viability of the proposed development and operation of Manston as a cargo airport.

25. In its response, the Applicant has provided a brief note explaining the differences between how it intends to operate Manston compared to East Midlands Airport and a revised spreadsheet with limited further information in relation to revenues and costs. There is no meaningful explanation as to how the figures have been derived sufficient for their veracity to be tested. In any event, a spreadsheet is not a Business Plan. A Business Plan is a document that sets out clearly how a business is going to achieve its forecasts by reference to the revenues to be earned and the costs of doing so. As became evident at the Need and Operations Hearing (ISH2), the Applicant appears not to have made the linkage between the deliverability of the so-called 'forecasts', or rather a wish list of who might operate at Manston, and the costs to users of doing so based on the expected prices to be charged. The spreadsheet as presented cannot be considered a Business Plan in any normal sense of the term, nor are the assumptions underpinning the calculations clearly set out.

26. In terms of the comparison to East Midlands, we note that RSP intend for Manston to provide its own handling, except for the (e-commerce) integrator, and so would earn revenue from this source, which we understand is included in the aeronautical revenue estimates. Clearly there would be a cost attached to providing this handling service, which we assume is contained within the staff and other operating costs, albeit this is not clear from the level of detail provided. We have some doubts as to the profitability of operating such handling services in house as experience at most airports would suggest that handling activities are outsourced given the low revenues that can be earned relative to the staff and other costs involved. Insufficient detail has been provided to enable this to be ascertained for Manston. We note that the ExA has asked for further information in relation to benchmarked charges for cargo handling (Question ND.4.6). Without such information it is simply not possible to check the reasonableness of the assumed income from this source.

27. We note also the RSP intends to supply aviation fuel directly and the explanatory note to the spreadsheet suggests that the income is shown within aeronautical revenues net of the costs of buying the fuel, i.e. as a profit margin on sales. Firstly, we note that it tends only to be very small airports that operate on this basis. This is because major airlines tend to have global fuel supply contracts with the main oil companies at heavily discounted rates applicable at most airports from which they operate. An airport itself, operating on a stand alone basis, can seldom match the selling price of aviation fuel offered by the main suppliers. Thus, most of the UK's larger airports, including East Midlands, contract out the supply of aviation fuel taking only a small throughput levy typically included within commercial revenues to ensure that the cost of aviation fuel, which makes up a major part of an airline's costs, does not act as a deterrent to airlines operating to/from them.

28. Airlines tend to seek to minimise fuel purchases at airports where their contracted supplier is not able to provide the fuel. As an independent supplier of fuel, RSP would a) be purchasing fuel from the oil companies and, as a relatively small operation, not able to avail of discounts available on a high volume basis and b) their mark-up on the base price (profit margin) would of itself increase the sale price to the airline still further. The extent of fuel sales would, thus, in all likelihood be in an inverse relationship to the overall cost to the airline relative to buying fuel elsewhere. Insufficient information is provided to explain the assumptions that underpin this part of the aeronautical revenue estimate in terms of the expected selling price of fuel relative to other airports and the margin on sales assumed (% or fixed amount).

29. The note setting out the comparison to East Midlands asserts that, once these revenues have been separated out, the comparable aeronautical revenue per WLU is £3.18, which RSP compare to the average aviation revenue earned at EMA in 2017/8 of £2.75 per WLU. The spreadsheet shows that the Manston estimate of £3.18 per WLU is made up of an assumed aeronautical revenue per passenger of £0.50, which is consistent with our expectation of the level of aeronautical income per passenger that Manston might attain, albeit some marketing support payments might need to be made in the early years reducing the net income for a period, and an assumed freight related aeronautical income of £4.28 per WLU (42.83 per metric tonne) in Year 20. This is then weighted by the relative WLU's produce an estimated average aeronautical revenue per WLU.

30. First of all, it is relevant to consider what this tells us about comparability to the level of charges at EMA. Whilst the assumed aeronautical revenue per passenger at Manston is of the order that we would expect for a small airport trying to establish itself in the market, this does not mean that passenger related aeronautical revenues would necessarily be as low at an established airport such as East Midlands. Taking the closest example of a regional airport, with limited cargo activity, average aeronautical revenue per passenger at Leeds Bradford Airport was £2.51 in 2016/7 (the most recent year for which information is available[3]). It is notable that this is amongst the lowest average aeronautical revenues at airports covered in the report. Leeds Bradford has outsourced its handling and does not directly sell fuel. Taking this as a reasonable proxy for passenger related revenues at East Midlands would imply that East Midlands earns around £3.10 per WLU of freight based on the WLUs set out by the Applicant for East Midlands for the FY ending March 2018. Hence, direct aeronautical charges at Manston would be still be 40% higher than at East Midlands, still acting as a significant deterrent to attracting airlines to use it, leaving aside whether Manston is cost competitive in other aspects of the service it seeks to provide directly.

31. The other costs of using an airport are equally relevant to whether airlines will chose to operate, particularly fuel and handling costs as noted above. This is particularly relevant given that, based on the information provided by the Applicant, such charges are assumed to make up the vast majority of the aeronautical income that RSP expects to earn at Manston:

<u>Aeronautical Income</u>:		
Passenger Income:	*£3,407,000*	
Direct Aeronautical Income	*£703,877*	
Handling and Fuel Income	*£2,703,123*	*79% of pax related income*
Cargo Income:	*£50,966,000*	
Direct Aeronautical Income	*£14,594,665*	
Handling and Fuel Income	*£36,371,335*	*71% of cargo related income*

32. In overall terms, handling and fuel related income accounts for 72% of the claimed aeronautical revenue, yet the build up of this income is without any explanation as to the assumptions used. This is all the more extraordinary given that the e-commerce integrator, accounting for 50% of cargo traffic is not expected to purchase any handling services. Potentially each cargo aircraft departing Manston would be facing a fuel mark-up (additional cost) of c.£3,000-4,000, dependent on what is assumed for handling income.

33. Handling and fuel costs would be an important part of airlines' decision making as to whether they would be willing to operate yet no information is provided by the Applicant to justify such high levels of revenue being realistically attainable. Whilst we appreciate that the Azimuth Report provides a table of fuel storage required (Table 8), no information is provided as to how this has been calculated in terms the extent to which airlines would purchase fuel at Manston at the price proposed. These levels of income from handling charges and fuel margin seem extraordinarily high and likely to constitute another material factor as to why airlines would not choose to operate from Manston and would certainly influence the extent to which they were willing to purchase these services or goods from the airport operator when alternatives are available, handling freight off-site or purchasing fuel elsewhere, particularly given the propensity of freighter aircraft to multi-stop across Europe en-route to longer haul destinations.

[3] Leigh Fisher UK Airport Performance Indicators for 2016/7.

34. In terms of property income, which makes up over 35% of total income in Year 20 (over £32 million), SHP provide separate comments on the realism of this. Given that the clear intention of RSP is to operate its own cargo sheds, the scope for rental income would be limited by the extent to which legitimate airport related uses can be attracted and the level of rent they are likely to be willing to pay. Most essential airport operationally related activities are generally only low rental income generators. At the very least, further explanation is required of the build up of this large rental stream in order that the legitimacy of the proposed rental generating activities can be ascertained. By way of comparator, total other income (including property income) at East Midlands Airport in 2017/8 (Annual Report and Accounts attached at **Appendix A**) was only £5.34 million, including income earned from the large scale DHL cargo hub, UPS building and other cargo operations, as well as the Airport's share of rental income from Pegasus Business Park (developed in conjunction with Wilson Bowden). In the circumstances where Manston intends to own and operate its own cargo facilities, the estimated property income at six times that earned at East Midlands is not credible given that the projected cargo throughput in Year 20 is of a similar order to that at East Midlands currently.

35. We are not able to comment further in relation to passenger related commercial revenues or operating costs pending provision of further information by the Applicant.

36. Overall, the information currently provided is inadequate to enable the realism of the overall Business Case for the proposed development to be understood and the likelihood of viability being obtained even over the longer term to be assessed. We remain of the view as set out in Section 7 of our February 2019 Report that the development of Manston is highly unlikely to be financially viable and that the claimed revenues would not be achievable even if it were to achieve its forecasts, which we do not consider credible for the reasons set out in our Reports.

Supplementary Points in Relation to ExA's 4th Questions

37. We set out here a few additional points of information that the ExA may find helpful in relation to its 4th Questions

DCO.4.22	We recognise the ExA's concern that vehicles being used by passengers to access the Airport result in congestion on the highway network during the morning peak period, particularly if there is concern that the impacts have not been properly assessed in the TA. These concerns would equally apply in the afternoon traffic peak, particularly in relation to aircraft arriving between 15.00 and 17.00 and departing between 17.00 and 19.00 as implied by the ExA's Question Tr.4.6. In our experience, this is often the more critical interaction between the highway network and the timing of flights. However, the key issue is the extent to which any restrictions would impact on the ability of airlines to operate flights at the times required to optimise the utilisation of their aircraft and meet passenger demand. Significantly, given Ryanair is indicated as the operator of the majority of flights, it is informative to consider their operating pattern across UK airports. We have extracted the timetable of all of Ryanair's UK flights for the week beginning 24th June 2019 (**Appendix B**). This shows that across the UK as a whole, 6% of all departing flights were between 09.00 and 12.00. More importantly, for smaller airports of a similar scale (up to 85 flights per week), 19% of all departures were between 09.00 and 12.00. Imposing a restriction during this period would have a significant impact on the ability of the airline to schedule its operations efficiently. Furthermore, any constraints on operations in this period would increase the likelihood of the airline needing to schedule arrivals later than 23.00 in order to attain full utilisation of the aircraft over the day. Restrictions on operations in the late afternoon period could be even more impactful on the overall operation, certainly pushing more movements into requiring night period slots, which would simply not be available at Manston. We have also looked at the timetable of KLM operations at UK airports (**Appendix C**). Again, at smaller airports with a similar frequency to that projected for Manston, there is

	heavy reliance on morning departures between 09.00 and 12.00. Some 29% of departures are during this period. This is because the flights are optimally timed so as to allow passengers arriving on early morning long haul flights at Amsterdam to connect into the UK and for passengers to reach Amsterdam in time for afternoon long haul departures. If the airline could not achieve such flight connections, it is unlikely to operate from Manston. Overall, the imposition of yet further restrictions on the timing of flight operations, which we understand are required to ensure that the impact of airport operations on the highway network are managed, would, when coupled with the proposed ban on scheduled night operations, severely limit an airline's ability to optimise its schedule and make efficient use of its aircraft. Such restrictions would make it very unlikely that passenger airlines would be willing to operate at Manston, other than a small number of niche operations for which the flight timings are not material. However, we understand the importance of restricting the impact of the Airport's operation on the highway network, particularly where inadequate mitigation has been proposed.
ND.4.2	The key point is that for dedicated freighter services to be viable, they need to operate at high load factors. Hence, the importance of consolidating operations where high volumes of import and export freight can be concentrated. This is why there is a 'golden triangle' of airports with high air freight volumes in northern Europe reflecting a concentration of population and industry generating demand for air freight. The same logic applies within the UK in relation to concentration at East Midlands. It is a gross over-simplification to suggest that freight destined for the UK could be flown to Manston instead as the local area would not generate sufficient freight demand for such a service to be viable.
ND.4.5	See comments above on the comparability of the proposed charges with East Midlands. We agree with the ExA that, at least in the early years, Manston would need to incentivise airlines to use it and would need to rebate charges substantially until its place in the market is established.
ND.4.21	What the Securitas information (if correct) does not state is the nature of this trucked cargo. To the extent that this is trucking under bond with airline flight numbers, such cargo is more likely related to availing of bellyhold capacity, including goods being trucked into the UK to avail of bellyhold capacity at Heathrow. Other trucking is likely to relate to conventional integrator operations linked to the established integrator hubs in Europe. The overall tonnage being trucked between the UK and Europe does not provide any indication of how likely it is or not that Manston could attract any share of it sufficient to justify a number of dedicated freighter operations at Heathrow.
ND.4.25	See comments at para. 17 above.
ND.4.28	Stansted Airport helpfully provides confirmation of the number of cargo stands that it has at https://www.magairports.com/our-expertise/cargo-services/london-stansted-cargo/. This accords with the information previously submitted by ourselves: Stansted's dedicated cargo stands can simultaneously accommodate 4 x A380, 3 x B747-8F, 1 x B747-400F and 1 X B767-300. In relation to freight at Stansted currently, we can confirm that we have checked with the CAA and the Airport and there has been an omission in the freight statistics submitted to the CAA regarding bellyhold freight being carried by Emirates. This will be rectified in CAA statistics from July onwards.
SE.4.3/SE.4.4	We have addressed these points above.

28th June 2019

Appendix A

East Midlands International Airport Limited

Annual report and financial statements

Registered number 02078271

Year ended 31 March 2018

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COMPANIES HOUSE

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Strategic report

The directors present their strategic report for the Company for the year ended 31 March 2018.

Principal activity
The principal activity of the Company during the year was the operation and management of East Midlands International Airport. The Company's revenues were derived primarily from aircraft and passenger handling charges, together with income from aviation, commercial, car park and retail activities.

The Company is a wholly owned subsidiary of East Midlands Airport Nottingham Derby Leicester Limited, which itself is a wholly owned subsidiary of Manchester Airports Holdings Limited. Manchester Airports Holdings Limited and its subsidiaries (including the Company) are referred to below as 'the Group'.

Business review and future outlook
The results for the year are set out on page 7. During the year the Company made a profit before tax of £31,230,000 (2017: £11,194,000). At the year end the Company had net assets of £94,056,000 (2017: £222,638,000).

The Company intends to continue the development of East Midlands International Airport as a world class airport to meet the requirements of users and for the benefit of the economy in the East Midlands region.

In preparing the financial statements for the year ended 31 March 2018 the previously reported figures for aviation and car parking income have been restated to bring their treatment in line with the presentation in the consolidated financial statements of the ultimate parent company Manchester Airports Holdings Limited. Aviation income has been restated to present certain rebates and discounts as a reduction of revenue rather than a cost of sale, and car parking income has been restated to present car park booking commissions paid to third parties as a cost of sale rather than a reduction of revenue. These adjustments have no effect on either the profit for the year or net assets.

Manchester Airports Group ('MAG'), the group of companies whose ultimate parent company is Manchester Airports Holdings Limited, and of which the Company is a member, has continued to work with industry partners to help shape the UK Government's approach to Brexit. MAG is confident that the UK Government and the EU recognise the need to provide continuity for aviation and the importance of a transitional period after the UK leaves the EU in March 2019. In particular, MAG welcomes the commitment from both sides to putting in place a framework to enable air services to be maintained post Brexit. Maintaining the current liberal regime in the long term, alongside other agreements with other countries, must be a priority of the Government, to help ensure that the recent successful growth of aviation continues into the future.

MAG's resilient foundations, healthy financial position and the fundamental strengths of MAG's airports, will ensure that the Company is well placed to respond to any challenges that may be felt by the UK economy in the future, and the directors continue to take a positive long-term view of the Company's prospects.

Principal risks and uncertainties
The key risks faced by the Company are aligned with those of Manchester Airports Holdings Limited. For more details of these risks and how they are managed please refer to the strategic report in the annual report and accounts for Manchester Airports Holdings Limited. The directors have not identified any other significant risks for the Company.

Key performance indicators ('KPIs')
The key performance indicators for the Company are aligned with those of Manchester Airports Holdings Limited. For more details of these KPIs please refer to the strategic report in the annual report and accounts for Manchester Airports Holdings Limited. The directors do not use any additional KPIs for this Company.

By order of the Board

N Thompson
Director

24 December 2018

Directors' report

The directors present their directors' report and audited financial statements for the Company for the year ended 31 March 2018.

Directors
The directors who held office during the year and up to the date of signing the financial statements were as follows:

A Cliffe	(resigned 12 April 2018)
C Cornish	
K Smart	(appointed 12 April 2018)
K O'Toole	
N Thompson	

Employees
The Company's employment policies are regularly reviewed and updated by the Board.

The Company is committed to providing equality of opportunity to all employees and potential employees. The Company gives full and careful consideration to applications for employment from all people regardless of their gender, ethnic origin, nationality, sexuality, age, disability or religious beliefs, bearing in mind the respective aptitudes and abilities of the applicant concerned. This also applies to training and promotion within the Company.

In the event of members of staff becoming disabled every effort is made to ensure that their employment with the Company continues and the appropriate training is arranged. It is the policy of the Company that the training, career development and promotion of a disabled person should, as far as possible, be identical to that of a person who does not suffer from a disability.

Diversity
The Company provides services for a changing and diverse society and the board of directors considers that to provide the best services for our customers it is essential that the Company embraces diversity in the workforce. Accordingly, the Company has a programme of activity that aims to ensure that these objectives are achieved.

Consultation and communication
Consultation with employees or their representatives has continued at all levels, with the aim of ensuring that views are taken into account when decisions are made that are likely to affect their interests, and that all employees are aware of the financial and economic performance of their business units and of the Company as a whole. At regular intervals all employees are invited to take part in a Company wide survey of employee views. Employees receive a written summary of the results of the survey and are given the opportunity to discuss these with their respective management teams.

The Company is constantly looking for ways to ensure that employees are able to participate and engage in the business. As part of the Trade Union recognition arrangements, various employee forums exist for each business area. In addition, business briefings are cascaded throughout the organisation to communicate key business and operational issues.

Financial risk management
The Company's activities expose it to a variety of financial risks. The Company's funding, liquidity and exposure to interest rate risks are managed by the Group's treasury function.

Treasury operations are conducted within a framework of policies, which are approved and subsequently monitored by the Board. These include guidelines on funding, interest rate risk management and counterparty risk management.

For more details of the management of these risks please refer to page 40 of the annual report and accounts for Manchester Airports Holdings Limited. The directors have not identified any additional risks specific to this Company.

Directors' report *(continued)*

Going concern
The Company is able to rely on the Group of which it is a member for financial support. Manchester Airports Holdings Limited, the Company's ultimate parent undertaking, has confirmed that it will continue to provide financial and other support to the Company, for at least the next twelve months from the date of approval of the financial statements, to the extent necessary to enable the Company to continue to trade, and in particular will not seek repayment of the amounts currently made available.

It should be recognised that any consideration of the foreseeable future involves making a judgement, at a particular point in time, about future events, which are inherently uncertain. Nevertheless, at the time of preparation of these accounts and after making appropriate enquiries, the directors have a reasonable expectation that the Group has adequate resources to continue operating for the foreseeable future. For this reason the directors continue to adopt the going concern basis in preparing these accounts. For further details see note 1.

Dividends
A dividend of £160,545,000 (2017: £nil) was declared and paid in the year.

Disclosure of information to auditor
The directors who held office at the date of approval of this directors' report confirm that, so far as they are each aware, there is no relevant audit information of which the Company's auditor is unaware; and each director has taken all the steps that they ought to have taken as a director to make themselves aware of any relevant audit information, and to establish that the Company's auditor is aware of that information.

Independent auditor
Written resolutions relating to the reappointment of KPMG LLP as auditor, and to the authority of the directors to fix the auditor's remuneration, are to be put before the Company's voting shareholders for execution in the short term (and in the case of the former resolution, within the relevant period prescribed by statute).

By order of the Board

N Thompson
Director
24 December 2018

Olympic House
Manchester Airport
Manchester
M90 1QX

Statement of directors' responsibilities relating to the strategic report, the directors' report and the financial statements

The directors are responsible for preparing the strategic report, the directors' report and the financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare financial statements for each financial year. Under that law they have elected to prepare the financial statements in accordance with UK accounting standards and applicable law (UK Generally Accepted Accounting Practice), including FRS 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland.*

Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the company and of the profit or loss of the company for that period. In preparing these financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable UK accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- assess the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and
- use the going concern basis of accounting unless they either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the company and to prevent and detect fraud and other irregularities.

KPMG LLP
1 St Peter's Square
Manchester
M2 3AE
United Kingdom

Independent auditor's report to the members of East Midlands International Airport Limited

Opinion

We have audited the financial statements of East Midlands International Airport Limited ("the company") for the year ended 31 March 2018, which comprise the income statement and other comprehensive income, statement of financial position and statement of changes in equity, and related notes, including the accounting policies in note 1.

In our opinion the financial statements:

- give a true and fair view of the state of the company's affairs as at 31 March 2018 and of its profit for the year then ended;
- have been properly prepared in accordance with UK accounting standards, including FRS 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland*; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ('ISAs (UK)') and applicable law. Our responsibilities are described below. We have fulfilled our ethical responsibilities under, and are independent of the company in accordance with, UK ethical requirements including the FRC Ethical Standard. We believe that the audit evidence we have obtained is a sufficient and appropriate basis for our opinion.

Going concern

We are required to report to you if we have concluded that the use of the going concern basis of accounting is inappropriate or there is an undisclosed material uncertainty that may cast significant doubt over the use of that basis for a period of at least twelve months from the date of approval of the financial statements. We have nothing to report in these respects.

Strategic report and directors' report

The directors are responsible for the strategic report and the directors' report. Our opinion on the financial statements does not cover those reports and we do not express an audit opinion thereon.

Our responsibility is to read the strategic report and the directors' report and, in doing so, consider whether, based on our financial statements audit work, the information therein is materially misstated or inconsistent with the financial statements or our audit knowledge. Based solely on that work:

- we have not identified material misstatements in the strategic report and the directors' report;
- in our opinion the information given in those reports for the financial year is consistent with the financial statements; and
- in our opinion those reports have been prepared in accordance with the Companies Act 2006.

Independent auditor's report to the members of East Midlands International Airport Limited *(continued)*

Matters on which we are required to report by exception

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in these respects.

Directors' responsibilities

As explained more fully in their statement set out on page 4, the directors are responsible for: the preparation of the financial statements and for being satisfied that they give a true and fair view; such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error; assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and using the going concern basis of accounting unless they either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue our opinion in an auditor's report. Reasonable assurance is a high level of assurance, but does not guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

A fuller description of our responsibilities is provided on the FRC's website at www.frc.org.uk/auditorresponsibilities.

The purpose of our audit work and to whom we owe our responsibilities

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members, as a body, for our audit work, for this report, or for the opinions we have formed.

Nicola Quayle (Senior Statutory Auditor)
for and on behalf of KPMG LLP, Statutory Auditor
Chartered Accountants
1 St Peter's Square
Manchester
M2 3AE

24 December 2018

Income statement

for the year ended 31 March 2018

	Note	**2018 £000**	2017 £000 Restated*
Revenue	*2*	**61,048**	50,751
Operating costs		**(54,121)**	(41,528)
Operating profit		**6,927**	9,223
Profit on disposal of fixed assets	*3*	**-**	4,202
Profit on disposal of investment properties	*9*	**4,769**	-
Revaluation of investment properties	*9*	**(2,771)**	(246)
Interest payable and similar charges	*6*	**(2,185)**	(1,985)
Dividends receivable		**24,490**	-
Profit before taxation	*3*	**31,230**	11,194
Tax on profit	*7*	**(2,791)**	(877)
Profit for the financial year		**28,439**	10,317

The results presented above are all derived from the Company's continuing operations.

The notes on pages 11 to 31 form an integral part of these financial statements.

*See note 1 for details of the restatement.

Other comprehensive income

for the year ended 31 March 2018

	2018 £000	2017 £000
Profit for the year	**28,439**	10,317
Other comprehensive income		
Remeasurement of the net defined benefit liability	**4,500**	(10,400)
Income tax on other comprehensive (expense)/income	**(765)**	1,836
Effect of change in rate of corporation tax on deferred tax	**-**	(118)
Other comprehensive income for the year, net of income tax	**3,735**	(8,682)
Total comprehensive income for the year	**32,174**	1,635

The notes on pages 11 to 31 form an integral part of these financial statements.

Statement of financial position

at 31 March 2018

	Note	**2018 £000**	**2018 £000**	2017 £000	2017 £000
Non-current assets					
Tangible assets	*8*		**216,943**		217,255
Investment properties	*9*		**4,901**		12,004
Deferred tax assets	*14*		**3,310**		3,956
			225,154		233,215
Current assets					
Inventories	*10*	**187**		187	
Trade and other receivables	*12*	**119,179**		76,749	
Cash at bank and in hand		**1,827**		938	
		121,193		77,874	
Current liabilities					
Trade and other payables	*13*	**(209,886)**		(42,354)	
Net current liabilities			**(88,693)**		35,520
Total assets less current liabilities			**136,461**		268,735
Provisions for liabilities					
Deferred tax	*14*		**(23,605)**		(23,497)
Pension liabilities	*19*		**(18,800)**		(22,600)
			(42,405)		(46,097)
Net assets			**94,056**		222,638
Capital and reserves					
Share capital	*15*		**17,614**		17,614
Revaluation reserve	*16*		**-**		68,969
Retained earnings	*16*		**76,442**		136,055
Shareholders' funds			**94,056**		222,638

The notes on pages 11 to 31 form an integral part of these financial statements.

These financial statements of East Midland International Airport Limited, registered number, 02078271 were approved by the board of directors on 24 December 2018 and were signed on its behalf by:

N Thompson
Director

Statement of changes in equity

For the year ended 31 March 2018

	Share capital	Revaluation reserve	Retained earnings	Total equity
	£000	£000	£000	£000
Balance at 1 April 2017	**17,614**	**68,969**	**136,055**	**222,638**
Total comprehensive income for the year				
Profit for the year	-	-	28,439	28,439
Other comprehensive income (see note 16)	-	2,922	601	3,523
Total comprehensive income for the year	-	2,922	29,040	31,962
Transactions with owners recorded directly in equity				
Transfer of revaluation reserves to retained earnings	-	(71,892)	71,892	-
Dividends paid	-	-	(160,545)	(160,545)
Balance at 31 March 2018	**17,614**	**-**	**76,442**	**94,056**

	Share capital	Revaluation reserve	Retained earnings	Total equity
	£000	£000	£000	£000
Balance at 1 April 2016	17,614	70,265	133,123	221,002
Total comprehensive income for the year				
Profit for the year	-	-	10,317	10,317
Other comprehensive income (see note 16)	-	(1,296)	(7,385)	(8,681)
Total comprehensive income for the year	-	(1,296)	2,932	1,636
Balance at 31 March 2017	**17,614**	**68,969**	**136,055**	**222,638**

The notes on pages 11 to 31 form an integral part of these financial statements.

Notes
(forming part of the financial statements)

1 Accounting policies

East Midlands International Airport Limited (the 'Company') is a company limited by shares and incorporated and domiciled in the UK.

The Company is exempt by virtue of section 400 of the Companies Act 2006 from the requirement to prepare group financial statements. These financial statements present information about the Company as an individual undertaking and not about its group.

These financial statements were prepared in accordance with Financial Reporting Standard 102 *The Financial Reporting Standard* applicable in the UK and Republic of Ireland (*'FRS 102'*) as issued in August 2014. The amendments issued in July 2015 have been applied. The presentation currency of these financial statements is sterling. All amounts in the financial statements have been rounded to the nearest £1,000.

The Company's ultimate parent undertaking, Manchester Airports Holdings Limited, includes the Company in its consolidated financial statements. The consolidated financial statements of Manchester Airports Holdings Limited are prepared in accordance with International Financial Reporting Standards as adopted by the EU, are available to the public and may be obtained from Olympic House, Manchester Airport, M90 1QX.

In these financial statements, the Company is considered to be a qualifying entity (for the purposes of this FRS) and has applied the exemptions available under FRS 102 relating to the following disclosures:

- Reconciliation of the number of shares outstanding from the beginning to end of the year;
- Cash Flow Statement and related notes; and
- Key Management Personnel compensation.

The Company has taken advantage of section 33.1A of FRS 102 and not disclosed transactions with fellow Group companies.

As the consolidated financial statements of Manchester Airports Holdings Limited include the equivalent disclosures, the Company has also taken the exemptions under FRS 102 available relating to the following disclosures:

- The disclosures required by FRS 102.11 *Basic Financial Instruments* and FRS 102.12 *Other Financial Instrument Issues* relating to financial instruments not falling within the fair value accounting rules of Paragraph 36(4) of Schedule 1.

The Company proposes to continue to adopt the reduced disclosure framework of FRS 102 in its next financial statements.

The accounting policies set out over the page have, unless otherwise stated, been applied consistently to all years presented in these financial statements.

1.1 Measurement convention
The financial statements are prepared on the historical cost basis with the exception of certain assets and liabilities, namely investment properties and defined benefit scheme assets and liabilities, which are stated at their fair value at each statement of financial position date.

1.2 Going concern
The financial statements have been prepared on the going concern basis, which the directors believe to be appropriate for the following reasons.

The Company is able to rely on the Group of which it is a member for financial support. Manchester Airports Holdings Limited, the Company's ultimate parent undertaking, has confirmed that it will continue to provide financial and other support to the Company, for at least the next twelve months from the date of approval of the financial statements, to the extent necessary to enable the Company to continue to trade, and in particular will not seek repayment of the amounts currently made available.

Notes *(continued)*

1 Accounting policies *(continued)*

The Group has considerable financial resources, as well as long-term contracts with a number of customers and suppliers across different geographic areas and industries. As a consequence, the directors of the Group believe that the Group is well placed to manage its business risks successfully despite the current uncertain economic outlook.

The Group's forecasts and projections, taking account of reasonably possible changes in trading performance, show that the Group should be able to operate within the level of its current facilities.

After considering all this available information, the directors of the Group have a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future.

As with any company placing reliance on other group entities for financial support, the directors of the Company acknowledge that there can be no certainty that this financial and other support will continue, although at the date of approval of these financial statements, they have no reason to believe that it will not do so. On the basis of the above, the directors of the Company consider it appropriate to prepare the financial statements on a going concern basis.

1.3 Restatement

	2017	Reclassification	2017 Restated
Revenue	£000	£000	£000
Aviation	20,115	(4,254)	15,861
Retail concessions	11,128		11,128
Car parking	16,303	2,340	18,643
Other	5,119		5,119
	52,665	(1,914)	50,751
Operating costs	(43,442)	1,914	(41,528)
Operating profit	9,223		9,223
Profit before taxation	11,194		11,194
Profit for the financial year	11,194		11,194

In preparing the financial statements for the year ended 31 March 2018 the previously reported figures for aviation and car parking income have been restated to appropriately present certain rebates and discounts as a reduction of revenue rather than a cost of sale, and car parking income has been restated to appropriately present car park booking commissions paid to third parties as a cost of sale rather than a reduction of revenue. These adjustments have no effect on either the profit for the year or net assets.

1.4 Foreign currency

The Company financial statements are presented in pound sterling and rounded to thousands. The Company's functional and presentation currency is the pound sterling.

Foreign currency transactions are translated into the functional currency using the spot exchange rates at the dates of the transactions. At each year end foreign currency monetary items are translated using the closing rate. Foreign exchange gains and losses resulting from the settlement of transactions, and from the translation at year end exchange rates of monetary assets and liabilities denominated in foreign currencies, are recognised in the income statement within operating costs.

Notes *(continued)*

1 Accounting policies *(continued)*

1.5 Classification of financial instruments issued by the Company

In accordance with FRS 102.22, financial instruments issued by the Company are treated as equity only to the extent that they meet the following two conditions:

(a) they include no contractual obligations upon the Company to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party under conditions that are potentially unfavourable to the Company; and

(b) where the instrument will or may be settled in the Company's own equity instruments, it is either a non-derivative that includes no obligation to deliver a variable number of the Company's own equity instruments or is a derivative that will be settled by the Company's exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments.

To the extent that this definition is not met, the proceeds of issue are classified as a financial liability. Where the instrument so classified takes the legal form of the Company's own shares, the amounts presented in these financial statements for called up share capital and share premium exclude amounts in relation to those shares.

1.6 Basic financial instruments

Trade and other receivables/payables

Trade and other receivables are recognised initially at transaction price less attributable transaction costs. Trade and other payables are recognised initially at transaction price plus attributable transaction costs. Subsequent to initial recognition they are measured at amortised cost using the effective interest method, less any impairment losses in the case of trade receivables. If the arrangement constitutes a financing transaction, for example if payment is deferred beyond normal business terms, then it is measured at the present value of future payments discounted at a market rate of instrument for a similar debt instrument.

Investments in subsidiaries

Investments in subsidiaries are carried at cost less impairment, with changes recognised in other comprehensive income. Impairments are recognised in the income statement.

1.7 Revenue

Revenue, which excludes value added tax, represents amounts received and receivable by the Company for services provided in the normal course of business, rent receivable and income from commercial concessions.

The Company recognises revenue when (a) the significant risks and rewards of ownership have been transferred to the buyer; (b) the Company retains no continuing involvement or control over the services; (c) the amount of revenue can be measured reliably; (d) it is probable that future economic benefits will flow to the entity and (e) when the specific criteria relating to each of the Company's sales channels have been met, as described below.

The following revenue recognition criteria apply to the Company's main income streams:

- Various passenger charges for handling and security based upon the number of departing passengers, are recognised at point of departure;
- Aircraft departure and arrival charges levied according to weight and time of departure/arrival, are recognised at point of departure;
- Aircraft parking charges based upon a combination of weight and time parked, are recognised at the point of departure;
- Car parking income is recognised at the point of exit for turn-up short and long stay parking. Contract parking and pre-book parking is recognised over the year to which it relates on a straight-line basis;
- Concession income from retail and commercial concessionaries is recognised in the year to which it relates on an accruals basis;
- Rental income arising from operating leases on investment properties is accounted for on a straight-line basis over the lease term; and
- Development profits are recognised upon legal completion of contracts.

Notes *(continued)*

1 Accounting policies *(continued)*

1.8 Tangible fixed assets

Tangible fixed assets constitute the Company's operational asset base including terminal, airfield, car parking, land, plant, and owner-occupied property assets. Investment properties held to earn rentals or for capital growth are accounted for separately. Fixed assets are stated at cost or deemed cost less accumulated depreciation. Cost includes directly attributable own labour.

Tangible fixed assets are stated at cost less accumulated depreciation and accumulated impairment losses. Certain items of tangible fixed assets that had been revalued to fair value prior to the date of transition to FRS 102, are measured on the basis of deemed cost, being the revalued amount at the date of that revaluation.

Where parts of an item of tangible fixed assets have different useful lives, they are accounted for as separate items of tangible fixed assets, for example land is treated separately from buildings.

The Company assesses at each reporting date whether tangible fixed assets are impaired.

Depreciation is charged to the income statement on a straight-line basis over the estimated useful lives of each part of an item of tangible fixed assets. No depreciation is provided on freehold land. Assets in the course of construction are stated at cost. These assets are not depreciated until they are available for use.

The estimated useful lives are as follows:

Freehold and long leasehold property	-	10 - 50 years
Runways, taxiways and aprons	-	10 - 75 years
Main services	-	7 - 50 years
Plant and machinery	-	5 - 25 years
Motor vehicles	-	3 - 7 years
Fixtures, fittings, tools and equipment	-	5 - 10 years

Depreciation methods, useful lives and residual values are reviewed if there is an indication of a significant change since last annual reporting date in the pattern by which the Company expects to consume an asset's future economic benefits.

Subsequent costs, including major inspections, are included in an asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that economic benefits associated with the item will flow to the Company and the cost can be measured reliably. The carrying amount of any replaced component is derecognised. Major components are treated as a separate asset where they have significantly different patterns of consumption of economic benefits and are depreciated separately over their useful lives.

Repairs, maintenance and minor inspection costs are expensed as incurred.

Tangible assets are derecognised on disposal or when no future economic benefits are expected. On disposal, the difference between the net disposal proceeds and the carrying amount is recognised in the income statement and included in operating costs.

1.9 Investment property

Investment properties are properties that are held either to earn rental income or for capital appreciation or for both. Investment properties are recognised initially at cost.

Subsequent to initial recognition:

i. investment properties whose fair value can be measured reliably without undue cost or effort are held at fair value. Any gains or losses arising from changes in the fair value are recognised in the income statement in the year that they arise; and

ii. no depreciation is provided relating to investment properties applying the fair value model.

Notes *(continued)*

1 Accounting policies *(continued)*

All investment properties are valued by an independent property valuer as at the statement of financial position date. These valuations were prepared in accordance with the appraisal and valuation manual issued by the Royal Institution of Chartered Surveyors.

1.10 Inventories

Inventories are stated at the lower of cost and estimated selling price less costs to complete and sell.

Cost is determined on the first-in, first-out (FIFO) method. Cost includes the purchase price, including taxes, duties, transport and handling, directly attributable to bringing the inventory to its present location and condition.

At the end of each reporting year inventories are assessed for impairment. If an item of inventory is impaired, the identified inventory is reduced to its selling price less costs to complete and sell and an impairment charge is recognised in the income statement. Where a reversal of the impairment is required the impairment charge is reversed, up to the original impairment loss, and is recognised as a credit in the income statement.

1.11 Impairment excluding stocks, investment properties and deferred tax assets

Financial assets (including trade and other receivables)

A financial asset not carried at fair value through the income statement is assessed at each reporting date to determine whether there is objective evidence that it is impaired. A financial asset is impaired if objective evidence indicates that a loss event has occurred after the initial recognition of the asset, and that the loss event had a negative effect on the estimated future cash flows of that asset that can be estimated reliably.

An impairment loss relating to a financial asset measured at amortised cost is calculated as the difference between its carrying amount and the present value of the estimated future cash flows discounted at the asset's original effective interest rate. For financial instruments measured at cost less impairment, an impairment is calculated as the difference between its carrying amount and the best estimate of the amount that the Company would receive for the asset if it were to be sold at the reporting date. Interest on the impaired asset continues to be recognised through the unwinding of the discount. Impairment losses are recognised in the income statement. When a subsequent event causes the amount of impairment loss to decrease, the decrease in impairment loss is reversed through the income statement.

Non-financial assets

The carrying amounts of the Company's non-financial assets, other than investment property and deferred tax assets, are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. The recoverable amount of an asset or cash-generating unit is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or groups of assets (the 'cash-generating unit').

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its estimated recoverable amount. Impairment losses are recognised in the income statement.

Impairment losses recognised relating to cash generating units are allocated first to reduce the carrying amount of any goodwill allocated to the units, and then to reduce the carrying amounts of the other assets in the unit (group of units) on a *pro rata* basis.

An impairment loss is reversed only if the reasons for the impairment have ceased to apply. Impairment losses recognised in prior years are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

Notes *(continued)*

1 Accounting policies *(continued)*

1.12 Employee benefits

The Company provides a range of benefits to employees, including annual bonus arrangements, paid holiday arrangements, and defined benefit and defined contribution pension plans.

Short term benefits

Short term benefits, including holiday pay and other similar non-monetary benefits, are recognised as an expense in the year in which the service is received.

Defined contribution plans and other long term employee benefits

The Company operates a defined contribution pension scheme for all qualifying employees. A defined contribution plan is a post-employment benefit plan under which the Company pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised as an expense in the income statement in the years during which services are rendered by employees. Amounts not paid are shown in accruals in the statement of financial position. The assets of the plan are held separately from the Company in independently administered funds.

Defined benefit plans

The Company participates in a defined benefit pension scheme. A defined benefit plan defines the pension benefit that the employee will receive on retirement, usually dependent upon several factors including age, length of service and remuneration. A defined benefit plan is a post-employment benefit plan other than a defined contribution plan.

The liability recognised in the statement of financial position relating to the defined benefit plan is the present value of the defined benefit obligation at the reporting date less the fair value of the plan assets at the reporting date.

The defined benefit obligation is calculated using the projected unit credit method. Annually the Company engages independent actuaries to calculate the obligation. The present value is determined by discounting the estimated future payments using market yields on high quality corporate bonds that are denominated in sterling and that have terms approximating the estimated year of the future payments ('discount rate').

The fair value of plan assets is measured in accordance with the FRS 102 fair value hierarchy and in accordance with the Company's policy for similarly held assets. This includes the use of appropriate valuation techniques.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income. These amounts together with the return on plan assets, less amounts included in net interest, are disclosed as 'Remeasurement of net defined benefit liability'.

The cost of the defined benefit plan, recognised in the income statement as employee costs, except where included in the cost of an asset, comprises:

(a) the increase in pension benefit liability arising from employee service during the year; and
(b) the cost of plan introductions, benefit changes, curtailments and settlements.

The net interest cost is calculated by applying the discount rate to the net balance of the defined benefit obligation and the fair value of plan assets. This cost is recognised in the income statement as 'interest costs'.

Annual bonus plan

The Company operates a number of annual bonus plans for employees. An expense is recognised in the income statement when the Company has a legal or constructive obligation to make payments under the plans as a result of past events and a reliable estimate of the obligation can be made.

Notes *(continued)*

1 Accounting policies *(continued)*

1.13 Expenses

Operating leases

Payments (excluding costs for services and insurance) made under operating leases are recognised in the income statement on a straight-line basis over the term of the lease unless the payments to the lessor are structured to increase in line with expected general inflation, in which case the payments related to the structured increases are recognised as incurred.

Lease incentives received are recognised in the income statement over the term of the lease as an integral part of the total lease expense.

Interest receivable and interest payable

Interest payable and similar charges include interest payable and finance charges. Interest income and interest payable are recognised in the income statement as they accrue, using the effective interest method.

1.14 Significant items

Significant items are material items of income and expense that, because of the unusual nature or frequency of the events giving rise to them, merit separate presentation to allow an understanding of the Company's underlying financial performance.

Such items include impairment of assets, major reorganisation of businesses and integration costs associated with significant acquisitions.

1.15 Taxation

Tax on the profit or loss for the year comprises current and deferred tax. Tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity or other comprehensive income, in which case it is recognised directly in equity or other comprehensive income.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the statement of financial position date, and any adjustment to tax payable relating to previous years.

Deferred tax is provided on timing differences that arise from the inclusion of income and expenses in tax assessments in years different from those in which they are recognised in the financial statements. The following timing differences are not provided for: differences between accumulated depreciation and tax allowances for the cost of a fixed asset if and when all conditions for retaining the tax allowances have been met; and differences relating to investments in subsidiaries, to the extent that it is not probable that they will reverse in the foreseeable future and the reporting entity is able to control the reversal of the timing difference. Deferred tax is not recognised on permanent differences arising because certain types of income or expense are non-taxable, or are disallowable for tax, or because certain tax charges or allowances are greater or smaller than the corresponding income or expense.

Deferred tax is measured at the tax rate that is expected to apply to the reversal of the related difference, using tax rates enacted or substantively enacted at the statement of financial position date. For investment property that is measured at fair value, deferred tax is provided at the rates and allowances applicable to the sale of the property. Deferred tax balances are not discounted.

Unrelieved tax losses and other deferred tax assets are recognised only to the extent that is it probable that they will be recovered against the reversal of deferred tax liabilities or other future taxable profits.

1.16 Critical accounting estimates and judgements

In applying the Company's accounting policies, the Company has made estimates and judgements, concerning the future. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Actual results may, however, differ from the estimates calculated, and management believe that the following are the more significant judgements impacting these financial statements.

Notes *(continued)*

1 Accounting policies *(continued)*

Investment properties
Investment properties were valued at fair value at 31 March 2018 by Deloitte LLP. The valuations were prepared in accordance with IFRS and the appraisal and valuation manual issued by the Royal Institution of Chartered Surveyors. Valuations were carried out having regard to comparable market evidence of transaction prices for similar properties, land valuations and discounted cash flow methods.

Pensions
Certain assumptions have been adopted for factors that determine the valuation of the Company's liability for pension obligations at year end and future returns on pension scheme assets and charges to the income statement. The factors have been determined in consultation with the Company's independent actuary taking into account market and economic conditions.

Changes in assumptions can vary from year to year as a result of changing conditions and other determinants which may cause increases or decreases in the valuation of the Company's liability for pension obligations. The objective of setting pension scheme assumptions for future years is to reflect the expected actual outcomes. The impact of the change in assumptions on the valuation of the net financial position for pension schemes is reflected in the statement of changes in equity. Further details are available in note 19.

Notes *(continued)*

2 Analysis of revenue

	2018 £000	2017 £000 Restated*
By activity		
Aviation	**23,201**	15,861
Car parking	**20,762**	18,643
Retail concessions	**11,655**	11,128
Other	**5,430**	5,119
	61,048	50,751

*See note 1 for details of the restatement.

All of the Company's revenue arises in the United Kingdom and details of the revenue generated by each of the Company's key activities are disclosed above.

3 Notes to the income statement

	2018 £000	2017 £000
Profit before taxation is stated after charging/(crediting)		
Depreciation of tangible fixed assets	**11,572**	9,045
Hire of plant and machinery - operating leases	**6**	68
Profit on disposal of fixed assets	**-**	(4,202)

Auditor's remuneration
Amounts receivable by the Company's auditor and the auditor's associates relating to services to the Company have been borne by the Company's ultimate parent, Manchester Airports Holdings Limited. The directors believe that the proportion of the consolidated fee applicable to the Company is £20,000 (2017: £17,000).

4 Remuneration of directors

C Cornish, K O'Toole and N Thompson were directors of Manchester Airports Holdings Limited during the year, and their aggregate remuneration is disclosed in that company's financial statements. The directors believe that the total directors' remuneration applicable to the Company based on services provided is £800,000 (2017: £786,834). A Cliffe's aggregate emoluments as highest paid director of East Midlands Airport Limited is £500,556 (2017: £434,952).

Notes *(continued)*

5 Staff numbers and costs

The average number of persons employed by the Company (including directors) during the year, analysed by category, was as follows:

	Number of employees	
	2018	2017
Operational	**619**	532
Management and administrative	**10**	10
	629	542

The aggregate payroll costs of these persons were as follows:

	2018	2017
	£000	£000
Wages and salaries	**17,171**	13,941
Social security costs	**1,547**	1,402
Other pension costs	**1,795**	1,014
	20,513	16,357

6 Interest payable and similar charges

	2018	2017
	£000	£000
Interest payable on preference shares (see note 13)	**1,585**	1,585
Interest expense on net defined benefit liabilities (see note 19)	**600**	400
	2,185	1,985

Of the above amount £1,585,000 (2017: £1,585,000) was payable to Group undertakings.

Notes *(continued)*

7 Taxation

Total tax expense/(income) recognised in the income statement

	2018 £000	2018 £000	2017 £000	2017 £000
UK corporation tax				
Current tax on income for the year	2,425		2,140	
Adjustments relating to prior years	377		235	
Total current tax		2,802		2,375
Deferred tax				
Origination/reversal of timing differences	234		(50)	
Adjustment relating to prior years	(245)		(70)	
Effect of change in rate of corporation tax	-		(1,378)	
Total deferred tax		(11)		(1,498)
Tax on profit		2,791		877

Total tax expense/(income) included in other comprehensive income

	2018 £000	2017 £000
Deferred tax		
Origination/reversal of timing differences	765	(1,836)
Effect of change in rate of corporation tax	-	118
Total tax income included in other comprehensive income	765	(1,718)

Total tax expense/(income) recognised in the income statement, other comprehensive income and equity

	2018 Current tax £000	2018 Deferred tax £000	2018 Total tax £000	2017 Current tax £000	2017 Deferred tax £000	2017 Total tax £000
Recognised in the income statement	2,802	(11)	2,828	2,375	(1,498)	877
Recognised in other comprehensive income	-	765	765	-	(1,718)	(1,718)
Total tax	2,802	754	3,556	2,375	(3,216)	(841)

Notes *(continued)*

7 Taxation *(continued)*

Reconciliation of effective tax rate

	2018	2017
	£000	£000
Current tax reconciliation		
Profit for the year	**28,439**	10,317
Total tax expense	**2,791**	877
Profit before tax	**31,230**	11,194
Profit before tax multiplied by the standard rate of corporation tax of 19% (2017: 20%)	**5,934**	2,239
Effects of:		
Expenses not deductible for tax purposes	**1,495**	(599)
Income exempt from tax	**(4,653)**	-
Adjustments to tax charge to prior years	**377**	235
Adjustments to deferred tax charge to prior years	**(245)**	(70)
Lower than standard rate used for deferred tax temporary differences	**(117)**	450
Change in rate of corporation tax	**-**	(1,378)
Total tax expense included in the income statement	**2,791**	877

Factors that may affect future current and total tax charges

The Finance Bill 2016 was substantively enacted on 6 September 2016 and included a reduction in the rate of corporation tax to 17% from 1 April 2020.

Deferred tax balances at 31 March 2018 have therefore been calculated at 17%, unless they are expected to unwind earlier than 1 April 2020, in which case the deferred tax balances have been calculated at the prevailing rate at the time the unwind is expected.

Notes *(continued)*

8 Tangible fixed assets

	Freehold land and property £000	Long leasehold property £000	Airport infrastructure £000	Plant, fixtures and equipment £000	Assets in the course of construction £000	Total £000
Cost						
At beginning of year	32,531	104,581	212,411	51,077	11,539	412,139
Additions	-	-	-	-	11,450	11,450
Reclassification	-	417	5,813	6,838	(13,068)	-
Disposals	-	(810)	(204)	(4,937)	-	(5,951)
At end of year	32,531	104,188	218,020	52,978	9,921	417,638
Depreciation						
At beginning of year	-	64,991	82,862	47,031	-	194,884
Charge for year	-	2,064	5,021	4,487	-	11,572
Disposals	-	(810)	(14)	(4,937)	-	(5,761)
At end of year	-	66,245	87,869	46,581	-	200,695
Net book value						
At 31 March 2018	**32,531**	**37,943**	**130,151**	**6,397**	**9,921**	**216,943**
At 31 March 2017	32,531	39,590	129,549	4,046	11,539	217,255

The carrying amount of land not depreciated as at 31 March 2018 is £32,531,000 (2017: £32,531,000).

9 Investment properties

	Investment properties £000
Balance at 1 April 2017	12,004
Reclassification from operational assets	(56)
Disposals	(4,276)
Revaluations	(2,771)
Net book value	
At 31 March 2018	**4,901**
Historical cost net book value	3,070

The fair value of the Company's commercial investment property at 31 March 2018 has been arrived at on the basis of a valuation carried out at that date by Deloitte LLP. The valuers are independent and are not connected with the Company. The valuation, which conforms to International Valuation Standards, was arrived at by reference to market evidence of transaction prices for similar properties, land valuations and discounted cash flow methods.

The existing use value of land and buildings includes notional directly attributable acquisition costs. The open market value of land and buildings is determined before the deduction of expected selling costs.

Any gain or loss arising from a change in fair value is recognised in the income statement. Rental income from investment property is accounted for as described in the revenue accounting policy on page 13.

Notes *(continued)*

10 Inventories

	2018	2017
	£000	£000
Raw materials and consumables	**187**	187
	187	187

11 Fixed asset investments

	res in subsidiary undertakings
	£
Cost and net book value	
At 31 March 2018 and 31 March 2017	**4**

At 31 March 2018 the Company held investments in the following subsidiary undertakings:

Subsidiary undertakings	**Country of incorporation**	**Principal activity**	**Class and percentage of shares held**
East Midlands Airport Property Investments (Hotels) Limited	England and Wales	Investment property company	100% ordinary
East Midlands Airport Property Investments (Industrial) Limited	England and Wales	Investment property company	100% ordinary
East Midlands Airport Property Investments (Offices) Limited	England and Wales	Investment property company	100% ordinary
East Midlands Airport Core Property Investments Limited	England and Wales	Investment property company	100% ordinary

The registered office address for all of the above entities is Olympic House, Manchester Airport, Manchester, M90 1QX.

Notes *(continued)*

12 Trade and other receivables

	2018	2017
	£000	£000
Trade receivables	**7,425**	4,473
Amounts owed by group undertakings	**104,506**	65,415
Other receivables	**109**	1,034
Prepayments and accrued income	**7,139**	5,827
	119,179	76,749

Amounts owed by group undertakings are unsecured, interest free and are repayable on demand, and as at 31 March 2018 include dividends receivable of £24,490,000 (2017: £nil).

13 Trade and other payables

	2018	2017
	£000	£000
Trade payables	**5,125**	2,163
Amounts owed to group undertakings	**166,728**	-
Taxation and social security	**5,329**	6,835
Other payables	**2,048**	1,045
Accruals and deferred income	**13,042**	14,697
Preference shares classified as liabilities	**17,614**	17,614
	209,886	42,354

Amounts owed to group undertakings are unsecured, interest free and are repayable on demand, and as at 31 March 2018 include dividends payable of £160,545,000 (2017: £nil).

The 9% cumulative redeemable preference shares have no fixed redemption date. They are to be repaid, fully or in part, after either the Company or a shareholder has given one month's notice. No premium is payable on redemption. The preference shares have no voting rights attached.

Notes *(continued)*

14 Deferred tax assets and liabilities

	Differences between accumulated depreciation and capital allowances	Short term timing differences	Deferred tax on investment properties	Deferred tax asset on pension liability	Net tax assets/ (liabilities)
	£000	£000	£000	£000	£000
At 1 April 2017	(1,837)	114	(21,660)	3,842	(19,541)
(Charge)/credit to income	389	-	(497)	119	11
Credit to equity	-	-	-	(765)	(765)
At 31 March 2018	**(1,448)**	**114**	**(22,157)**	**3,196**	**(20,295)**

	Differences between accumulated depreciation and capital allowances	Short term timing differences	Deferred tax on investment properties	Deferred tax asset on pension liability	Net tax assets/ (liabilities)
	£000	£000	£000	£000	£000
At 1 April 2016	(1,503)	121	(23,499)	2,124	(22,757)
(Charge)/credit to income	(334)	(7)	1,839	-	1,498
(Charge)/credit to equity	-	-	-	1,718	1,718
At 31 March 2017	(1,837)	114	(21,660)	3,842	(19,541)

	2018 £000	2017 £000
Deferred tax assets	**3,310**	3,956
Deferred tax liabilities	**(23,605)**	(23,497)
	(20,295)	(19,541)

15 Called up share capital

	2018 £000	2017 £000
Issued, called up and fully paid		
17,614,008 Ordinary shares of £1 each	**17,614**	17,614
	17,614	17,614

Notes *(continued)*

16 Reserves

2018	Revaluation Reserve £000	Retained earnings £000
At beginning of year	68,969	136,055
Profit for the year	-	31,616
Movement in operational assets fair values	2,676	(2,676)
Movement in investment property fair values	(2,771)	(246)
Remeasurement of the net defined benefit liability	-	3,735
Transfer of revaluation reserves to retained earnings	(68,875)	68,875
Dividends paid	-	(160,545)
At end of year	**-**	**76,442**

2017	Revaluation Reserve £000	Retained earnings £000
At beginning of year	70,265	133,123
Profit for the year	-	10,317
Movement in investment property fair values	(246)	246
Deferred tax arising on movement in investment property fair values	42	(42)
Remeasurement of the net defined benefit liability	-	(8,564)
Effect of change in rate of corporation tax	1,306	(1,423)
Depreciation transfer to the income statement	(2,398)	2,398
At end of year	**68,969**	**136,055**

17 Commitments

Capital commitments at the end of the financial year, for which no provision has been made, are as follows:

	2018 £000	2017 £000
Contracted	**3,449**	127

Notes *(continued)*

18 Operating leases

At 31 March 2018 the Company has commitments under non-cancellable operating leases which expire as follows:

	2018 Other £000	2017 Other £000
Operating leases which expire:		
Within one year	**59**	68
In the second to fifth years inclusive	**63**	125
After five years	**-**	-
	122	193

Leases as a lessor

The investment properties are let under operating leases. The future minimum lease payments receivable under non-cancellable leases are as follows:

	2018 £000	2017 £000
Operating leases which expire:		
Within one year	**165**	737
In the second to fifth years inclusive	**398**	2,662
After five years	**6,068**	33,149
	6,631	36,548

Notes *(continued)*

19 Pension schemes

Defined contribution pension scheme

The Company operates a defined contribution pension scheme. The pension cost charge for the year represents contributions payable by the Company to the scheme and amounted to £389,000 (2017: £304,000).

As at 31 March 2018 there were £nil (2017: £nil) contributions due relating to the year then ended that had not been paid over to the scheme.

Defined benefit scheme

An actuarial valuation of the East Midlands International Airport Limited scheme, using the projected unit basis, was carried out at 6 April 2017 by PricewaterhouseCoopers, independent consulting actuaries. The information disclosed below is relating to the whole of the plans for which the Company is either the sponsoring employer or has been allocated a share of cost under an agreed Group policy throughout the years shown.

	2018	2017
	£000	£000
Present value of funded defined benefit obligations	**(80,100)**	(82,500)
Fair value of plan assets	**61,300**	59,900
Deficit	**(18,800)**	(22,600)

Movements in present value of defined benefit obligation

	2018	2017
	£000	£000
At 1 April	**(82,500)**	(64,700)
Current service cost	**(1,100)**	(800)
Interest cost	**(2,200)**	(2,300)
Actuarial (losses)/gains	**3,900**	(15,900)
Contributions by members	**(300)**	(300)
Net benefits paid out	**2,100**	1,500
At 31 March	**(80,100)**	(82,500)

Notes *(continued)*

19 Pension schemes *(continued)*

Movements in fair value of plan assets

	2018	2017
	£000	£000
At 1 April	**59,900**	52,900
Expected return on plan assets	**1,600**	1,900
Actuarial gains/(losses)	**600**	5,500
Contributions by employer	**1,200**	1,200
Contributions by members	**300**	300
Benefits paid	**(2,100)**	(1,500)
Administration expenses	**(200)**	(400)
At 31 March	**61,300**	59,900

Expense recognised in the income statement

	2018	2017
	£000	£000
Current service cost	**1,100**	800
Administration expenses	**200**	400
Interest on net defined benefit liability	**600**	400
Total	**1,900**	1,600

The expense is recognised in the following line items in the income statement:

	2018	2017
	£000	£000
Operating costs	**1,300**	1,200
Interest payable and similar charges	**600**	400
	1,900	1,600

The total amount recognised in other comprehensive income relating to actuarial gains on remeasurement is £4,500,000 (2017: loss of £10,400,000).

The fair values of the plan assets are as follows:

	2018	2017
	Fair value	Fair value
	£000	£000
Equities	**36,700**	35,600
Corporate bonds	**15,300**	15,300
Property	**6,500**	6,100
Other	**2,800**	2,900
	61,300	59,900

Notes *(continued)*

19 Pension schemes *(continued)*

Principal actuarial assumptions (expressed as weighted averages) at the year end were as follows:

	2018	2017
	%	%
Discount rate	**2.60**	2.65
Future salary increases	**2.00**	2.00
Inflation assumption	**2.15**	2.35

The mortality assumptions are based on the S1NXA standard mortality tables allowing for medium cohort 1% minimum mortality improvements. The assumptions are equivalent to expecting a 65-year old to live for a number of years as follows:

- Current pensioner aged 65: 22.7 years (male), 25.1 years (female)
- Future retiree upon reaching 65: 23.7 years (male), 26.3 years (female)

Experience adjustments

	2018	2017
	£000	£000
Experience adjustments on scheme liabilities	**300**	400
Experience adjustments on scheme assets	**600**	5,500

The Company expects to contribute approximately £1.2m (2017: £1.2m) to its defined benefit plans in the next financial year.

20 Contingent liabilities

Under the Common Terms Agreement signed on 14 February 2014, the Company and a number of its fellow subsidiaries have entered into a security agreement with the Group's bondholders and bankers. The bonds and bank loans are secured by a fixed and floating charge over substantially all of the Group's assets. The total amount outstanding under this agreement at 31 March 2018 is £1,095.3m (2017: £937.1m).

21 Ultimate parent company and parent undertaking of larger group of which the Company is a member

The Company is a subsidiary undertaking of East Midlands Airport Nottingham Derby Leicester Limited. The smallest Group in which the results of the Company are consolidated is that headed by Manchester Airport Group Investments Limited. The Company's ultimate parent is Manchester Airports Holdings Limited. The consolidated financial statements of Manchester Airports Holdings Limited Group are available to the public and may be obtained from the Company Secretary at Olympic House, Manchester Airport, Manchester M90 1QX, or via the website at www.magairports.com.

Appendix B Ryanair UK flights w/b 24th June 2019

Carrier Code	Flight No	Dep Airport Name	Arr Airport Name	Local Days Of Op	Local Dep Time	Local Arr Time	General Aircraft Name	Frequency
FR	1005	London Stansted Apt	Bucharest Henri Coanda Apt	7	0835	1345	Boeing 737 Passenger	1
FR	1005	London Stansted Apt	Bucharest Henri Coanda Apt	123456	0840	1350	Boeing 737 Passenger	6
FR	1006	Bucharest Henri Coanda Apt	London Stansted Apt	3	0650	0815	Boeing 737 Passenger	1
FR	1006	Bucharest Henri Coanda Apt	London Stansted Apt	12 4567	0645	0810	Boeing 737 Passenger	6
FR	1007	London Stansted Apt	Bucharest Henri Coanda Apt	6	1935	0045	Boeing 737 Passenger	1
FR	1007	London Stansted Apt	Bucharest Henri Coanda Apt	2	1845	2355	Boeing 737 Passenger	1
FR	1007	London Stansted Apt	Bucharest Henri Coanda Apt	1 345 7	1800	2310	Boeing 737 Passenger	5
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	6	1740	1910	Boeing 737 Passenger	1
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	3	1600	1730	Boeing 737 Passenger	1
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	2	1650	1820	Boeing 737 Passenger	1
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	1 45 7	1605	1735	Boeing 737 Passenger	4
FR	1013	London Stansted Apt	Prague Ruzyne	1234567	0800	1055	Boeing 737 Passenger	7
FR	1014	Prague Ruzyne	London Stansted Apt	1234567	0635	0735	Boeing 737 Passenger	7
FR	1017	Edinburgh	Budapest	5	1850	2250	Boeing 737 Passenger	1
FR	1017	Edinburgh	Budapest	3	1935	2335	Boeing 737 Passenger	1
FR	1017	Edinburgh	Budapest	1	1515	1915	Boeing 737 Passenger	1
FR	1018	Budapest	Edinburgh	5	1625	1825	Boeing 737 Passenger	1
FR	1018	Budapest	Edinburgh	3	1710	1910	Boeing 737 Passenger	1
FR	1018	Budapest	Edinburgh	1	1250	1450	Boeing 737 Passenger	1
FR	102	Shannon	London Stansted Apt	1234567	0705	0835	Boeing 737 Passenger	7
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	7	0835	1150	Boeing 737 Passenger	1
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	4 6	0855	1210	Boeing 737 Passenger	2
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	3	0930	1245	Boeing 737 Passenger	1
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	2 5	0850	1205	Boeing 737 Passenger	2
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	1	0700	1015	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	7	1215	1345	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	6	0700	0830	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	4	1235	1405	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	3	0735	0905	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	2 5	0655	0825	Boeing 737 Passenger	2
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	1	1040	1210	Boeing 737 Passenger	1
FR	103	London Stansted Apt	Shannon	1234567	0905	1030	Boeing 737 Passenger	7
FR	1047	Karlsruhe/Baden-Baden Baden Airpar	Edinburgh	5	1805	1910	Boeing 737 Passenger	1
FR	1047	Karlsruhe/Baden-Baden Baden Airpar	Edinburgh	1	1025	1130	Boeing 737 Passenger	1
FR	1048	Edinburgh	Karlsruhe/Baden-Baden Baden Airpar	5	1440	1740	Boeing 737 Passenger	1
FR	1048	Edinburgh	Karlsruhe/Baden-Baden Baden Airpar	1	0700	1000	Boeing 737 Passenger	1
FR	1049	Edinburgh	Katowice	7	1755	2130	Boeing 737 Passenger	1
FR	1049	Edinburgh	Katowice	5	1815	2150	Boeing 737 Passenger	1
FR	1050	Katowice	Edinburgh	7	2155	2340	Boeing 737 Passenger	1
FR	1050	Katowice	Edinburgh	5	2215	2359	Boeing 737 Passenger	1
FR	1051	Edinburgh	Nantes Atlantique Airport	5	1345	1635	Boeing 737 Passenger	1
FR	1051	Edinburgh	Nantes Atlantique Airport	3	0705	0955	Boeing 737 Passenger	1
FR	1051	Edinburgh	Nantes Atlantique Airport	1	1155	1445	Boeing 737 Passenger	1
FR	1052	Nantes Atlantique Airport	Edinburgh	5	1700	1750	Boeing 737 Passenger	1
FR	1052	Nantes Atlantique Airport	Edinburgh	3	1020	1110	Boeing 737 Passenger	1
FR	1052	Nantes Atlantique Airport	Edinburgh	1	1510	1600	Boeing 737 Passenger	1
FR	1053	Prague Ruzyne	Edinburgh	4 7	1755	1910	Boeing 737 Passenger	2
FR	1053	Prague Ruzyne	Edinburgh	2	1950	2105	Boeing 737 Passenger	1
FR	1054	Edinburgh	Prague Ruzyne	4 7	1410	1730	Boeing 737 Passenger	2
FR	1054	Edinburgh	Prague Ruzyne	2	1605	1925	Boeing 737 Passenger	1
FR	1064	Edinburgh	Toulouse	7	1150	1510	Boeing 737 Passenger	1
FR	1064	Edinburgh	Toulouse	3	1830	2150	Boeing 737 Passenger	1
FR	1065	Toulouse	Edinburgh	7	1535	1655	Boeing 737 Passenger	1
FR	1065	Toulouse	Edinburgh	3	2215	2335	Boeing 737 Passenger	1
FR	1068	Edinburgh	Venice Treviso/Sant'Angelo Apt	5	0655	1030	Boeing 737 Passenger	1
FR	1068	Edinburgh	Venice Treviso/Sant'Angelo Apt	3	1750	2125	Boeing 737 Passenger	1
FR	1068	Edinburgh	Venice Treviso/Sant'Angelo Apt	1	1440	1815	Boeing 737 Passenger	1
FR	1069	Venice Treviso/Sant'Angelo Apt	Edinburgh	5	1055	1240	Boeing 737 Passenger	1
FR	1069	Venice Treviso/Sant'Angelo Apt	Edinburgh	3	2150	2335	Boeing 737 Passenger	1
FR	1069	Venice Treviso/Sant'Angelo Apt	Edinburgh	1	1840	2025	Boeing 737 Passenger	1
FR	1070	Valencia Airport	Edinburgh	6	2140	2345	Boeing 737 Passenger	1
FR	1070	Valencia Airport	Edinburgh	4	1910	2115	Boeing 737 Passenger	1
FR	1070	Valencia Airport	Edinburgh	2	1250	1455	Boeing 737 Passenger	1
FR	1071	Edinburgh	Valencia Airport	6	1715	2110	Boeing 737 Passenger	1
FR	1071	Edinburgh	Valencia Airport	4	1445	1840	Boeing 737 Passenger	1
FR	1071	Edinburgh	Valencia Airport	2	0825	1220	Boeing 737 Passenger	1
FR	1073	Nottingham East Midlands Airport	Reus	5	0810	1125	Boeing 737 Passenger	1

FR	1073	Nottingham East Midlands Airport	Reus	1	1805	2120	Boeing 737 Passenger	1
FR	1074	Reus	Nottingham East Midlands Airport	5	1150	1305	Boeing 737 Passenger	1
FR	1074	Reus	Nottingham East Midlands Airport	1	2145	2300	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	7	1730	1820	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	6	0625	0715	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	4	0620	0710	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	2	0610	0700	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	7	1410	1655	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	6	0740	1025	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	4	0735	1020	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	2	0725	1010	Boeing 737 Passenger	1
FR	108	Shannon	London Stansted Apt	67	2140	2310	Boeing 737 Passenger	2
FR	108	Shannon	London Stansted Apt	1 45	2120	2250	Boeing 737 Passenger	3
FR	1080	London Stansted Apt	Lisbon	6	1505	1755	Boeing 737 Passenger	1
FR	1080	London Stansted Apt	Lisbon	4	0950	1240	Boeing 737 Passenger	1
FR	1080	London Stansted Apt	Lisbon	23 5 7	1510	1800	Boeing 737 Passenger	4
FR	1080	London Stansted Apt	Lisbon	1	1010	1300	Boeing 737 Passenger	1
FR	1081	Lisbon	London Stansted Apt	4	1305	1555	Boeing 737 Passenger	1
FR	1081	Lisbon	London Stansted Apt	23 567	1825	2115	Boeing 737 Passenger	5
FR	1081	Lisbon	London Stansted Apt	1	1335	1625	Boeing 737 Passenger	1
FR	109	London Stansted Apt	Shannon	67	1950	2115	Boeing 737 Passenger	2
FR	109	London Stansted Apt	Shannon	1 45	1930	2055	Boeing 737 Passenger	3
FR	11	London Stansted Apt	Athens (GR)	1 3 5 7	1820	2359	Boeing 737 Passenger	4
FR	1108	Eindhoven Airport	Edinburgh	7	1045	1125	Boeing 737 Passenger	1
FR	1108	Eindhoven Airport	Edinburgh	5	2030	2110	Boeing 737 Passenger	1
FR	1108	Eindhoven Airport	Edinburgh	1	1400	1440	Boeing 737 Passenger	1
FR	1109	Edinburgh	Eindhoven Airport	7	0740	1020	Boeing 737 Passenger	1
FR	1109	Edinburgh	Eindhoven Airport	5	1345	1625	Boeing 737 Passenger	1
FR	1109	Edinburgh	Eindhoven Airport	1	0715	0955	Boeing 737 Passenger	1
FR	1117	Krakow John Paul II - Balice	Belfast International Apt	7	0655	0850	Boeing 737 Passenger	1
FR	1117	Krakow John Paul II - Balice	Belfast International Apt	4	0620	0815	Boeing 737 Passenger	1
FR	1117	Krakow John Paul II - Balice	Belfast International Apt	2	0650	0845	Boeing 737 Passenger	1
FR	1118	Belfast International Apt	Krakow John Paul II - Balice	7	0915	1310	Boeing 737 Passenger	1
FR	1118	Belfast International Apt	Krakow John Paul II - Balice	4	0840	1235	Boeing 737 Passenger	1
FR	1118	Belfast International Apt	Krakow John Paul II - Balice	2	0910	1305	Boeing 737 Passenger	1
FR	1119	Edinburgh	Carcassonne	6	0735	1105	Boeing 737 Passenger	1
FR	1119	Edinburgh	Carcassonne	2	1145	1515	Boeing 737 Passenger	1
FR	112	Dublin (IE)	London Gatwick Apt	1234567	0735	0910	Boeing 737 Passenger	7
FR	1120	Carcassonne	Edinburgh	6	1130	1255	Boeing 737 Passenger	1
FR	1120	Carcassonne	Edinburgh	2	1540	1705	Boeing 737 Passenger	1
FR	1121	Birmingham Airport	Tenerife Sur Apt	7	0635	1110	Boeing 737 Passenger	1
FR	1121	Birmingham Airport	Tenerife Sur Apt	5	0635	1105	Boeing 737 Passenger	1
FR	1121	Birmingham Airport	Tenerife Sur Apt	2 4	0555	1030	Boeing 737 Passenger	2
FR	1122	Tenerife Sur Apt	Birmingham Airport	7	1145	1605	Boeing 737 Passenger	1
FR	1122	Tenerife Sur Apt	Birmingham Airport	5	1140	1600	Boeing 737 Passenger	1
FR	1122	Tenerife Sur Apt	Birmingham Airport	2 4	1105	1525	Boeing 737 Passenger	2
FR	1128	Birmingham Airport	Gran Canaria	5	1815	2250	Boeing 737 Passenger	1
FR	1128	Birmingham Airport	Gran Canaria	1	1905	2340	Boeing 737 Passenger	1
FR	1129	Gran Canaria	Birmingham Airport	5	1330	1750	Boeing 737 Passenger	1
FR	1129	Gran Canaria	Birmingham Airport	1	1420	1840	Boeing 737 Passenger	1
FR	113	London Gatwick Apt	Dublin (IE)	1234567	0940	1100	Boeing 737 Passenger	6
FR	1130	Nottingham East Midlands Airport	Girona Costa Brava Apt	3 7	1950	2300	Boeing 737 Passenger	2
FR	1131	Girona Costa Brava Apt	Nottingham East Midlands Airport	3 7	1815	1925	Boeing 737 Passenger	2
FR	114	Dublin (IE)	London Gatwick Apt	5	1110	1245	Boeing 737 Passenger	1
FR	114	Dublin (IE)	London Gatwick Apt	1234 67	1105	1240	Boeing 737 Passenger	6
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	7	0900	1015	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	6	1045	1200	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	5	1210	1325	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	4	1335	1450	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	3	1005	1120	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	2	1105	1220	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	1	1040	1155	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	7	1040	1335	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	6	1225	1520	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	5	1350	1645	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	4	1515	1810	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	3	1145	1440	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	2	1245	1540	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	1	1220	1515	Boeing 737 Passenger	1
FR	115	London Gatwick Apt	Dublin (IE)	5	1315	1440	Boeing 737 Passenger	1

FR	115	London Gatwick Apt	Dublin (IE)	1234 67	1310	1435	Boeing 737 Passenger	5
FR	1158	Wroclaw	Edinburgh	4	0635	0800	Boeing 737 Passenger	1
FR	1158	Wroclaw	Edinburgh	2	1110	1235	Boeing 737 Passenger	1
FR	1159	Edinburgh	Wroclaw	4	0825	1140	Boeing 737 Passenger	1
FR	1159	Edinburgh	Wroclaw	2	0730	1045	Boeing 737 Passenger	1
FR	116	Dublin (IE)	London Gatwick Apt	1234567	1535	1710	Boeing 737 Passenger	7
FR	1163	Belfast International Apt	London Stansted Apt	5	1325	1445	Boeing 737 Passenger	1
FR	1164	London Stansted Apt	Belfast International Apt	5	1130	1300	Boeing 737 Passenger	1
FR	1165	Belfast International Apt	London Stansted Apt	7	2205	2325	Boeing 737 Passenger	1
FR	1166	London Stansted Apt	Belfast International Apt	7	2010	2140	Boeing 737 Passenger	1
FR	117	London Gatwick Apt	Dublin (IE)	1234567	1735	1855	Boeing 737 Passenger	6
FR	1174	Porto	Manchester (GB)	6	1225	1455	Boeing 737 Passenger	1
FR	1174	Porto	Manchester (GB)	4	1335	1605	Boeing 737 Passenger	1
FR	1174	Porto	Manchester (GB)	2	1905	2135	Boeing 737 Passenger	1
FR	1175	Manchester (GB)	Porto	6	0930	1200	Boeing 737 Passenger	1
FR	1175	Manchester (GB)	Porto	4	1040	1310	Boeing 737 Passenger	1
FR	1175	Manchester (GB)	Porto	2	1610	1840	Boeing 737 Passenger	1
FR	118	Dublin (IE)	London Gatwick Apt	234 67	1920	2055	Boeing 737 Passenger	5
FR	118	Dublin (IE)	London Gatwick Apt	1 5	1920	2050	Boeing 737 Passenger	2
FR	1182	Shannon	London Gatwick Apt	7	1820	1955	Boeing 737 Passenger	1
FR	1182	Shannon	London Gatwick Apt	5	1825	2000	Boeing 737 Passenger	1
FR	1182	Shannon	London Gatwick Apt	3	1805	1940	Boeing 737 Passenger	1
FR	1182	Shannon	London Gatwick Apt	12 4 6	1755	1930	Boeing 737 Passenger	4
FR	1183	London Gatwick Apt	Shannon	7	2020	2145	Boeing 737 Passenger	1
FR	1183	London Gatwick Apt	Shannon	5	2025	2150	Boeing 737 Passenger	1
FR	1183	London Gatwick Apt	Shannon	34	2010	2135	Boeing 737 Passenger	2
FR	1183	London Gatwick Apt	Shannon	12 6	1955	2120	Boeing 737 Passenger	3
FR	1184	Nottingham East Midlands Airport	Sevilla Airport	6	0625	1010	Boeing 737 Passenger	1
FR	1184	Nottingham East Midlands Airport	Sevilla Airport	2	0610	0955	Boeing 737 Passenger	1
FR	1185	Sevilla Airport	Nottingham East Midlands Airport	6	1045	1230	Boeing 737 Passenger	1
FR	1185	Sevilla Airport	Nottingham East Midlands Airport	2	1030	1215	Boeing 737 Passenger	1
FR	119	London Gatwick Apt	Dublin (IE)	1234567	2135	2255	Boeing 737 Passenger	6
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	7	1940	2245	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	6	2030	2335	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	3	1855	2200	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	2	1835	2140	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	1 45	1745	2050	Boeing 737 Passenger	3
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	7	1750	1915	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	6	1840	2005	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	3	2225	2350	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	2	2205	2330	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	1 45	2115	2240	Boeing 737 Passenger	3
FR	12	Athens (GR)	London Stansted Apt	1 3 5 7	1605	1755	Boeing 737 Passenger	4
FR	120	Dublin (IE)	London Gatwick Apt	23456	0630	0810	Boeing 737 Passenger	5
FR	120	Dublin (IE)	London Gatwick Apt	1 7	0630	0805	Boeing 737 Passenger	2
FR	1202	London Stansted Apt	Palma de Mallorca	7	0850	1215	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	56	0745	1110	Boeing 737 Passenger	2
FR	1202	London Stansted Apt	Palma de Mallorca	4	0655	1020	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	3	0900	1230	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	2	0740	1105	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	1	0730	1055	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	7	1250	1425	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	56	1145	1320	Boeing 737 Passenger	2
FR	1203	Palma de Mallorca	London Stansted Apt	4	1055	1230	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	3	1305	1440	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	2	1140	1315	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	1	1130	1305	Boeing 737 Passenger	1
FR	121	London Gatwick Apt	Dublin (IE)	1234567	0850	1010	Boeing 737 Passenger	7
FR	1212	Birmingham Airport	Bydgoszcz	6	0600	0915	Boeing 737 Passenger	1
FR	1212	Birmingham Airport	Bydgoszcz	4	0620	0935	Boeing 737 Passenger	1
FR	1212	Birmingham Airport	Bydgoszcz	2	1335	1650	Boeing 737 Passenger	1
FR	1213	Bydgoszcz	Birmingham Airport	6	0940	1100	Boeing 737 Passenger	1
FR	1213	Bydgoszcz	Birmingham Airport	4	1000	1120	Boeing 737 Passenger	1
FR	1213	Bydgoszcz	Birmingham Airport	2	1715	1835	Boeing 737 Passenger	1
FR	122	Dublin (IE)	London Gatwick Apt	7	1255	1430	Boeing 737 Passenger	1
FR	122	Dublin (IE)	London Gatwick Apt	3	1335	1510	Boeing 737 Passenger	1
FR	122	Dublin (IE)	London Gatwick Apt	12 45	1250	1425	Boeing 737 Passenger	4
FR	1227	Manchester (GB)	Reus	7	1725	2050	Boeing 737 Passenger	1
FR	1227	Manchester (GB)	Reus	3	1640	2005	Boeing 737 Passenger	1
FR	1228	Reus	Manchester (GB)	7	2125	2255	Boeing 737 Passenger	1

FR	1228	Reus	Manchester (GB)	3	2040	2210	Boeing 737 Passenger	1
FR	123	London Gatwick Apt	Dublin (IE)	7	1455	1615	Boeing 737 Passenger	1
FR	123	London Gatwick Apt	Dublin (IE)	3	1535	1655	Boeing 737 Passenger	1
FR	123	London Gatwick Apt	Dublin (IE)	12 45	1450	1610	Boeing 737 Passenger	3
FR	124	London Stansted Apt	Ancona	7	0620	0945	Boeing 737 Passenger	1
FR	124	London Stansted Apt	Ancona	23456	0625	0950	Boeing 737 Passenger	5
FR	124	London Stansted Apt	Ancona	1	0600	0925	Boeing 737 Passenger	1
FR	1248	Tenerife Sur Apt	Manchester (GB)	6	1255	1725	Boeing 737 Passenger	1
FR	1248	Tenerife Sur Apt	Manchester (GB)	3	1240	1710	Boeing 737 Passenger	1
FR	1249	Manchester (GB)	Tenerife Sur Apt	6	0745	1220	Boeing 737 Passenger	1
FR	1249	Manchester (GB)	Tenerife Sur Apt	3	1735	2210	Boeing 737 Passenger	1
FR	125	Ancona	London Stansted Apt	7	1010	1135	Boeing 737 Passenger	1
FR	125	Ancona	London Stansted Apt	23456	1015	1140	Boeing 737 Passenger	5
FR	125	Ancona	London Stansted Apt	1	0950	1115	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	7	0755	1030	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	6	0815	1050	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	4	1235	1510	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	2	0715	0950	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	7	1055	1140	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	6	1115	1200	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	4	1535	1620	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	2	1015	1100	Boeing 737 Passenger	1
FR	1253	Birmingham Airport	Katowice	5	0750	1110	Boeing 737 Passenger	1
FR	1253	Birmingham Airport	Katowice	1	1510	1830	Boeing 737 Passenger	1
FR	1254	Katowice	Birmingham Airport	5	1135	1310	Boeing 737 Passenger	1
FR	1254	Katowice	Birmingham Airport	1	1855	2030	Boeing 737 Passenger	1
FR	1263	Manchester (GB)	Ibiza	5	1535	1925	Boeing 737 Passenger	1
FR	1263	Manchester (GB)	Ibiza	1	1520	1910	Boeing 737 Passenger	1
FR	1264	Ibiza	Manchester (GB)	5	2000	2145	Boeing 737 Passenger	1
FR	1264	Ibiza	Manchester (GB)	1	1945	2130	Boeing 737 Passenger	1
FR	1265	Agadir	Manchester (GB)	6	1205	1600	Boeing 737 Passenger	1
FR	1265	Agadir	Manchester (GB)	2	2010	0005	Boeing 737 Passenger	1
FR	1266	Manchester (GB)	Agadir	6	0750	1140	Boeing 737 Passenger	1
FR	1266	Manchester (GB)	Agadir	2	1555	1945	Boeing 737 Passenger	1
FR	1277	Belfast International Apt	Wroclaw	1 5	0905	1245	Boeing 737 Passenger	2
FR	1278	Wroclaw	Belfast International Apt	1 5	0705	0840	Boeing 737 Passenger	2
FR	1279	Manchester (GB)	Venice Treviso/Sant'Angelo Apt	6	1700	2025	Boeing 737 Passenger	1
FR	1279	Manchester (GB)	Venice Treviso/Sant'Angelo Apt	4	1255	1620	Boeing 737 Passenger	1
FR	1279	Manchester (GB)	Venice Treviso/Sant'Angelo Apt	2	0930	1255	Boeing 737 Passenger	1
FR	1280	Venice Treviso/Sant'Angelo Apt	Manchester (GB)	6	2050	2215	Boeing 737 Passenger	1
FR	1280	Venice Treviso/Sant'Angelo Apt	Manchester (GB)	4	1645	1810	Boeing 737 Passenger	1
FR	1280	Venice Treviso/Sant'Angelo Apt	Manchester (GB)	2	1320	1445	Boeing 737 Passenger	1
FR	1286	Marseille Provence Apt	Edinburgh	1 5	0925	1055	Boeing 737 Passenger	2
FR	1287	Edinburgh	Marseille Provence Apt	1 5	1120	1455	Boeing 737 Passenger	2
FR	1307	Belfast International Apt	Alicante Airport	6	1645	2040	Boeing 737 Passenger	1
FR	1307	Belfast International Apt	Alicante Airport	2	1015	1410	Boeing 737 Passenger	1
FR	1307	Belfast International Apt	Alicante Airport	1 3 5	1640	2035	Boeing 737 Passenger	3
FR	1308	Alicante Airport	Belfast International Apt	6	1420	1620	Boeing 737 Passenger	1
FR	1308	Alicante Airport	Belfast International Apt	2	0750	0950	Boeing 737 Passenger	1
FR	1308	Alicante Airport	Belfast International Apt	1 3 5	2110	2310	Boeing 737 Passenger	3
FR	1314	Malaga Airport	Belfast International Apt	7	2115	2325	Boeing 737 Passenger	1
FR	1314	Malaga Airport	Belfast International Apt	2 4	2120	2330	Boeing 737 Passenger	2
FR	1314	Malaga Airport	Belfast International Apt	1	0755	1005	Boeing 737 Passenger	1
FR	1315	Belfast International Apt	Malaga Airport	4	1645	2045	Boeing 737 Passenger	1
FR	1315	Belfast International Apt	Malaga Airport	2 7	1635	2035	Boeing 737 Passenger	2
FR	1315	Belfast International Apt	Malaga Airport	1	1030	1430	Boeing 737 Passenger	1
FR	1318	Naples Capodichino Apt	Nottingham East Midlands Airport	6	2135	2330	Boeing 737 Passenger	1
FR	1318	Naples Capodichino Apt	Nottingham East Midlands Airport	2	1940	2135	Boeing 737 Passenger	1
FR	1319	Nottingham East Midlands Airport	Naples Capodichino Apt	6	1720	2100	Boeing 737 Passenger	1
FR	1319	Nottingham East Midlands Airport	Naples Capodichino Apt	2	1515	1855	Boeing 737 Passenger	1
FR	1364	London Stansted Apt	Rabat	2 4 6	1645	1955	Boeing 737 Passenger	3
FR	1365	Rabat	London Stansted Apt	2 4 6	2020	2330	Boeing 737 Passenger	3
FR	1372	London Stansted Apt	Biarritz	7	1845	2145	Boeing 737 Passenger	1
FR	1372	London Stansted Apt	Biarritz	3	1805	2105	Boeing 737 Passenger	1
FR	1373	Biarritz	London Stansted Apt	7	2210	2305	Boeing 737 Passenger	1
FR	1373	Biarritz	London Stansted Apt	3	2130	2225	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	7	1205	1500	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	6	1300	1555	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	4	1350	1645	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	3 5	1715	2010	Boeing 737 Passenger	2

FR	1374	London Stansted Apt	Prague Ruzyne	2	1810	2105	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	1	1410	1705	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	7	1525	1620	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	6	1620	1710	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	4	1710	1810	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	3 5	2035	2135	Boeing 737 Passenger	2
FR	1375	Prague Ruzyne	London Stansted Apt	2	2140	2240	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	1	1730	1820	Boeing 737 Passenger	1
FR	1377	Belfast International Apt	Milan Bergamo/orio al Serio Apt	3 6	0630	0955	Boeing 737 Passenger	2
FR	1378	Milan Bergamo/orio al Serio Apt	Belfast International Apt	3 6	1020	1155	Boeing 737 Passenger	2
FR	1392	London Stansted Apt	Oslo Gardermoen Airport	6	0915	1210	Boeing 737 Passenger	1
FR	1392	London Stansted Apt	Oslo Gardermoen Airport	12345 7	0940	1235	Boeing 737 Passenger	6
FR	1393	Oslo Gardermoen Airport	London Stansted Apt	6	0745	0850	Boeing 737 Passenger	1
FR	1393	Oslo Gardermoen Airport	London Stansted Apt	2345 7	0810	0915	Boeing 737 Passenger	5
FR	1393	Oslo Gardermoen Airport	London Stansted Apt	1	0815	0915	Boeing 737 Passenger	1
FR	1394	London Stansted Apt	Oslo Gardermoen Airport	7	1755	2100	Boeing 737 Passenger	1
FR	1394	London Stansted Apt	Oslo Gardermoen Airport	6	1915	2220	Boeing 737 Passenger	1
FR	1394	London Stansted Apt	Oslo Gardermoen Airport	12345	1905	2210	Boeing 737 Passenger	5
FR	1395	Oslo Gardermoen Airport	London Stansted Apt	7	2130	2235	Boeing 737 Passenger	1
FR	1395	Oslo Gardermoen Airport	London Stansted Apt	6	2245	2350	Boeing 737 Passenger	1
FR	1395	Oslo Gardermoen Airport	London Stansted Apt	12345	2235	2340	Boeing 737 Passenger	5
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	7	1140	1445	Boeing 737 Passenger	1
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	6	1200	1505	Boeing 737 Passenger	1
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	345	1155	1500	Boeing 737 Passenger	3
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	2	1300	1605	Boeing 737 Passenger	1
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	7	1510	1615	Boeing 737 Passenger	1
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	6	1530	1635	Boeing 737 Passenger	1
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	345	1525	1630	Boeing 737 Passenger	3
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	2	1635	1740	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	7	0645	0835	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	6	0655	0845	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	5	1450	1640	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	4	0630	0820	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	123	0700	0850	Boeing 737 Passenger	3
FR	142	Dublin (IE)	London Gatwick Apt	3	1650	1820	Boeing 737 Passenger	1
FR	142	Dublin (IE)	London Gatwick Apt	12 4567	1645	1820	Boeing 737 Passenger	6
FR	143	London Gatwick Apt	Dublin (IE)	234567	1900	2030	Boeing 737 Passenger	6
FR	1432	Milan Malpensa Apt	Liverpool	4	1210	1320	Boeing 737 Passenger	1
FR	1432	Milan Malpensa Apt	Liverpool	2 6	1225	1335	Boeing 737 Passenger	2
FR	1433	Liverpool	Milan Malpensa Apt	4	1345	1655	Boeing 737 Passenger	1
FR	1433	Liverpool	Milan Malpensa Apt	2 6	1400	1710	Boeing 737 Passenger	2
FR	144	Berlin Schoenefeld Apt	London Stansted Apt	1234567	0630	0725	Boeing 737 Passenger	7
FR	1442	Dublin (IE)	Liverpool	7	1825	1920	Boeing 737 Passenger	1
FR	1442	Dublin (IE)	Liverpool	12345	1450	1545	Boeing 737 Passenger	5
FR	1443	Liverpool	Dublin (IE)	7	2015	2110	Boeing 737 Passenger	1
FR	1443	Liverpool	Dublin (IE)	12345	1330	1425	Boeing 737 Passenger	5
FR	1448	Birmingham Airport	Lanzarote	5	1205	1615	Boeing 737 Passenger	1
FR	1448	Birmingham Airport	Lanzarote	3	1200	1610	Boeing 737 Passenger	1
FR	1448	Birmingham Airport	Lanzarote	1	0900	1310	Boeing 737 Passenger	1
FR	1449	Lanzarote	Birmingham Airport	3 5	0725	1135	Boeing 737 Passenger	2
FR	1449	Lanzarote	Birmingham Airport	1	1345	1755	Boeing 737 Passenger	1
FR	145	London Stansted Apt	Berlin Schoenefeld Apt	1234567	0750	1040	Boeing 737 Passenger	7
FR	146	Berlin Schoenefeld Apt	London Stansted Apt	5	1830	1915	Boeing 737 Passenger	1
FR	146	Berlin Schoenefeld Apt	London Stansted Apt	3	1950	2035	Boeing 737 Passenger	1
FR	146	Berlin Schoenefeld Apt	London Stansted Apt	12 4 7	1800	1855	Boeing 737 Passenger	4
FR	1465	Birmingham Airport	Krakow John Paul II - Balice	7	0735	1100	Boeing 737 Passenger	1
FR	1465	Birmingham Airport	Krakow John Paul II - Balice	3	0555	0920	Boeing 737 Passenger	1
FR	1465	Birmingham Airport	Krakow John Paul II - Balice	1	2010	2335	Boeing 737 Passenger	1
FR	1466	Krakow John Paul II - Balice	Birmingham Airport	7	1125	1300	Boeing 737 Passenger	1
FR	1466	Krakow John Paul II - Balice	Birmingham Airport	3	0945	1120	Boeing 737 Passenger	1
FR	1466	Krakow John Paul II - Balice	Birmingham Airport	1	1810	1945	Boeing 737 Passenger	1
FR	147	London Stansted Apt	Berlin Schoenefeld Apt	5	1940	2230	Boeing 737 Passenger	1
FR	147	London Stansted Apt	Berlin Schoenefeld Apt	3	2100	2350	Boeing 737 Passenger	1
FR	147	London Stansted Apt	Berlin Schoenefeld Apt	12 4 7	1920	2210	Boeing 737 Passenger	4
FR	1477	Belfast International Apt	Berlin Schoenefeld Apt	4 7	0655	1015	Boeing 737 Passenger	2
FR	1478	Berlin Schoenefeld Apt	Belfast International Apt	4 7	1040	1200	Boeing 737 Passenger	2
FR	15	London Stansted Apt	Athens (GR)	7	0900	1440	Boeing 737 Passenger	1
FR	15	London Stansted Apt	Athens (GR)	6	0920	1500	Boeing 737 Passenger	1
FR	15	London Stansted Apt	Athens (GR)	45	0845	1425	Boeing 737 Passenger	2
FR	15	London Stansted Apt	Athens (GR)	123	0915	1455	Boeing 737 Passenger	3

FR	1503	Leeds Bradford	Gdansk Lech Walesa	6	1855	2215	Boeing 737 Passenger	1
FR	1503	Leeds Bradford	Gdansk Lech Walesa	4	1105	1425	Boeing 737 Passenger	1
FR	1503	Leeds Bradford	Gdansk Lech Walesa	3	1725	2045	Boeing 737 Passenger	1
FR	1503	Leeds Bradford	Gdansk Lech Walesa	2	1345	1705	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	6	1710	1830	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	4	1450	1610	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	3	2110	2230	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	2	1200	1320	Boeing 737 Passenger	1
FR	1517	Hamburg Airport	London Stansted Apt	6	0650	0725	Boeing 737 Passenger	1
FR	1517	Hamburg Airport	London Stansted Apt	4	0635	0710	Boeing 737 Passenger	1
FR	1517	Hamburg Airport	London Stansted Apt	23 5 7	0640	0715	Boeing 737 Passenger	4
FR	1517	Hamburg Airport	London Stansted Apt	1	0605	0640	Boeing 737 Passenger	1
FR	1518	London Stansted Apt	Hamburg Airport	7	0745	1015	Boeing 737 Passenger	1
FR	1518	London Stansted Apt	Hamburg Airport	4	0735	1005	Boeing 737 Passenger	1
FR	1518	London Stansted Apt	Hamburg Airport	23 56	0750	1020	Boeing 737 Passenger	4
FR	1518	London Stansted Apt	Hamburg Airport	1	0705	0935	Boeing 737 Passenger	1
FR	1519	Hamburg Airport	London Stansted Apt	5	1820	1855	Boeing 737 Passenger	1
FR	1519	Hamburg Airport	London Stansted Apt	4 6	1800	1835	Boeing 737 Passenger	2
FR	1519	Hamburg Airport	London Stansted Apt	3 7	1845	1920	Boeing 737 Passenger	2
FR	1519	Hamburg Airport	London Stansted Apt	1	1855	1930	Boeing 737 Passenger	1
FR	152	Dublin (IE)	Leeds Bradford	2 456	0755	0900	Boeing 737 Passenger	4
FR	152	Dublin (IE)	Leeds Bradford	1 3 7	0800	0905	Boeing 737 Passenger	3
FR	1520	London Stansted Apt	Hamburg Airport	7	1945	2215	Boeing 737 Passenger	1
FR	1520	London Stansted Apt	Hamburg Airport	5	1920	2150	Boeing 737 Passenger	1
FR	1520	London Stansted Apt	Hamburg Airport	4 6	1900	2130	Boeing 737 Passenger	2
FR	1520	London Stansted Apt	Hamburg Airport	3	2000	2230	Boeing 737 Passenger	1
FR	1520	London Stansted Apt	Hamburg Airport	1	1955	2225	Boeing 737 Passenger	1
FR	1522	Aberdeen (GB)	Malta	7	1845	2345	Boeing 737 Passenger	1
FR	1522	Aberdeen (GB)	Malta	3	1835	2325	Boeing 737 Passenger	1
FR	1523	Malta	Aberdeen (GB)	7	1510	1820	Boeing 737 Passenger	1
FR	1523	Malta	Aberdeen (GB)	3	1510	1810	Boeing 737 Passenger	1
FR	153	Leeds Bradford	Dublin (IE)	2 456	0630	0730	Boeing 737 Passenger	4
FR	153	Leeds Bradford	Dublin (IE)	1 3 7	0635	0735	Boeing 737 Passenger	3
FR	1546	Frankfurt International Apt	London Stansted Apt	45	1825	1900	Boeing 737 Passenger	2
FR	1546	Frankfurt International Apt	London Stansted Apt	3 67	1815	1850	Boeing 737 Passenger	3
FR	1546	Frankfurt International Apt	London Stansted Apt	2	1835	1910	Boeing 737 Passenger	1
FR	1546	Frankfurt International Apt	London Stansted Apt	1	1810	1845	Boeing 737 Passenger	1
FR	1547	London Stansted Apt	Frankfurt International Apt	7	1930	2205	Boeing 737 Passenger	1
FR	1547	London Stansted Apt	Frankfurt International Apt	45	1925	2200	Boeing 737 Passenger	2
FR	1547	London Stansted Apt	Frankfurt International Apt	3 6	1915	2150	Boeing 737 Passenger	2
FR	1547	London Stansted Apt	Frankfurt International Apt	2	1935	2210	Boeing 737 Passenger	1
FR	1547	London Stansted Apt	Frankfurt International Apt	1	1910	2145	Boeing 737 Passenger	1
FR	1556	Dublin (IE)	Manchester (GB)	6	2130	2235	Boeing 737 Passenger	1
FR	1556	Dublin (IE)	Manchester (GB)	12345 7	1905	2010	Boeing 737 Passenger	6
FR	1557	Manchester (GB)	Dublin (IE)	6	2000	2105	Boeing 737 Passenger	1
FR	1557	Manchester (GB)	Dublin (IE)	12345 7	1735	1840	Boeing 737 Passenger	6
FR	156	Dublin (IE)	Leeds Bradford	7	2135	2240	Boeing 737 Passenger	1
FR	156	Dublin (IE)	Leeds Bradford	6	2130	2235	Boeing 737 Passenger	1
FR	156	Dublin (IE)	Leeds Bradford	5	1550	1655	Boeing 737 Passenger	1
FR	156	Dublin (IE)	Leeds Bradford	234	1535	1640	Boeing 737 Passenger	3
FR	156	Dublin (IE)	Leeds Bradford	1	1605	1710	Boeing 737 Passenger	1
FR	1562	Birmingham Airport	Verona Villafranca Airport	5	0625	0940	Boeing 737 Passenger	1
FR	1562	Birmingham Airport	Verona Villafranca Airport	1	1140	1450	Boeing 737 Passenger	1
FR	1563	Verona Villafranca Airport	Birmingham Airport	5	1005	1120	Boeing 737 Passenger	1
FR	1563	Verona Villafranca Airport	Birmingham Airport	1	1515	1635	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	7	2010	2110	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	6	2005	2105	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	5	1720	1820	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	234	1710	1810	Boeing 737 Passenger	3
FR	157	Leeds Bradford	Dublin (IE)	1	1735	1835	Boeing 737 Passenger	1
FR	1584	Leeds Bradford	Fuerteventura	1 5	0625	1045	Boeing 737 Passenger	2
FR	1585	Fuerteventura	Leeds Bradford	1 5	1120	1530	Boeing 737 Passenger	2
FR	1590	Cologne/Bonn Apt	Bristol	5	1735	1815	Boeing 737 Passenger	1
FR	1590	Cologne/Bonn Apt	Bristol	1 3 7	1510	1550	Boeing 737 Passenger	3
FR	1591	Bristol	Cologne/Bonn Apt	5	1840	2115	Boeing 737 Passenger	1
FR	1591	Bristol	Cologne/Bonn Apt	1 3 7	1210	1445	Boeing 737 Passenger	3
FR	1592	Cologne/Bonn Apt	Manchester (GB)	7	0630	0710	Boeing 737 Passenger	1
FR	1592	Cologne/Bonn Apt	Manchester (GB)	4	0745	0825	Boeing 737 Passenger	1
FR	1592	Cologne/Bonn Apt	Manchester (GB)	1 3 56	0755	0835	Boeing 737 Passenger	4
FR	1593	Manchester (GB)	Cologne/Bonn Apt	7	0735	1010	Boeing 737 Passenger	1

FR	1593	Manchester (GB)	Cologne/Bonn Apt	4	0850	1125	Boeing 737 Passenger	1
FR	1593	Manchester (GB)	Cologne/Bonn Apt	1 3 56	0900	1135	Boeing 737 Passenger	4
FR	1612	Nottingham East Midlands Airport	Carcassonne	5	1155	1450	Boeing 737 Passenger	1
FR	1612	Nottingham East Midlands Airport	Carcassonne	1	1130	1425	Boeing 737 Passenger	1
FR	1613	Carcassonne	Nottingham East Midlands Airport	5	1515	1610	Boeing 737 Passenger	1
FR	1613	Carcassonne	Nottingham East Midlands Airport	1	1450	1545	Boeing 737 Passenger	1
FR	1624	Nottingham East Midlands Airport	Lodz Wladyslaw Reymont	2 6	1835	2150	Boeing 737 Passenger	2
FR	1625	Lodz Wladyslaw Reymont	Nottingham East Midlands Airport	2 6	2215	2335	Boeing 737 Passenger	2
FR	1632	Nottingham East Midlands Airport	Limoges	6	1355	1640	Boeing 737 Passenger	1
FR	1632	Nottingham East Midlands Airport	Limoges	4	1345	1630	Boeing 737 Passenger	1
FR	1632	Nottingham East Midlands Airport	Limoges	2	1325	1610	Boeing 737 Passenger	1
FR	1633	Limoges	Nottingham East Midlands Airport	6	1705	1745	Boeing 737 Passenger	1
FR	1633	Limoges	Nottingham East Midlands Airport	4	1655	1735	Boeing 737 Passenger	1
FR	1633	Limoges	Nottingham East Midlands Airport	2	1635	1715	Boeing 737 Passenger	1
FR	1638	Nottingham East Midlands Airport	Berlin Schoenefeld Apt	1 5	0640	0935	Boeing 737 Passenger	2
FR	1639	Berlin Schoenefeld Apt	Nottingham East Midlands Airport	5	1005	1110	Boeing 737 Passenger	1
FR	1639	Berlin Schoenefeld Apt	Nottingham East Midlands Airport	1	1000	1105	Boeing 737 Passenger	1
FR	1640	London Luton Apt	Bydgoszcz	5	1810	2120	Boeing 737 Passenger	1
FR	1640	London Luton Apt	Bydgoszcz	3 7	1750	2100	Boeing 737 Passenger	2
FR	1641	Bydgoszcz	London Luton Apt	5	2145	2255	Boeing 737 Passenger	1
FR	1641	Bydgoszcz	London Luton Apt	3 7	2125	2235	Boeing 737 Passenger	2
FR	1642	London Stansted Apt	Lviv	1 5 7	0645	1125	Boeing 737 Passenger	3
FR	1643	Lviv	London Stansted Apt	1 5 7	1150	1240	Boeing 737 Passenger	3
FR	1646	Nottingham East Midlands Airport	Wroclaw	3 7	1905	2225	Boeing 737 Passenger	2
FR	1646	Nottingham East Midlands Airport	Wroclaw	1 5	0630	0950	Boeing 737 Passenger	2
FR	1647	Wroclaw	Nottingham East Midlands Airport	5	1015	1130	Boeing 737 Passenger	1
FR	1647	Wroclaw	Nottingham East Midlands Airport	3 7	2250	0005	Boeing 737 Passenger	2
FR	1647	Wroclaw	Nottingham East Midlands Airport	1	1020	1135	Boeing 737 Passenger	1
FR	1652	Nottingham East Midlands Airport	Dinard/St-Malo	6	1400	1615	Boeing 737 Passenger	1
FR	1652	Nottingham East Midlands Airport	Dinard/St-Malo	2	1225	1440	Boeing 737 Passenger	1
FR	1653	Dinard/St-Malo	Nottingham East Midlands Airport	6	1640	1655	Boeing 737 Passenger	1
FR	1653	Dinard/St-Malo	Nottingham East Midlands Airport	2	1505	1520	Boeing 737 Passenger	1
FR	1662	Bologna Guglielmo Marconi	London Stansted Apt	5	1200	1305	Boeing 737 Passenger	1
FR	1662	Bologna Guglielmo Marconi	London Stansted Apt	1	1225	1330	Boeing 737 Passenger	1
FR	1663	London Stansted Apt	Bologna Guglielmo Marconi	5	1330	1650	Boeing 737 Passenger	1
FR	1663	London Stansted Apt	Bologna Guglielmo Marconi	1	1355	1715	Boeing 737 Passenger	1
FR	1664	Nottingham East Midlands Airport	Riga	5	1055	1540	Boeing 737 Passenger	1
FR	1664	Nottingham East Midlands Airport	Riga	3	1720	2205	Boeing 737 Passenger	1
FR	1664	Nottingham East Midlands Airport	Riga	1	0950	1435	Boeing 737 Passenger	1
FR	1665	Riga	Nottingham East Midlands Airport	5	1605	1700	Boeing 737 Passenger	1
FR	1665	Riga	Nottingham East Midlands Airport	3	2230	2325	Boeing 737 Passenger	1
FR	1665	Riga	Nottingham East Midlands Airport	1	1500	1555	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	6	1345	1655	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	4	1320	1630	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	2	1350	1700	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	1	0915	1225	Boeing 737 Passenger	1
FR	1682	Nottingham East Midlands Airport	Bergerac	3 7	0700	0945	Boeing 737 Passenger	2
FR	1683	Bergerac	Nottingham East Midlands Airport	3 7	1010	1055	Boeing 737 Passenger	2
FR	1686	Frankfurt International Apt	London Stansted Apt	7	0700	0735	Boeing 737 Passenger	1
FR	1686	Frankfurt International Apt	London Stansted Apt	6	0640	0715	Boeing 737 Passenger	1
FR	1686	Frankfurt International Apt	London Stansted Apt	345	0705	0740	Boeing 737 Passenger	3
FR	1686	Frankfurt International Apt	London Stansted Apt	12	0630	0705	Boeing 737 Passenger	2
FR	1687	London Stansted Apt	Frankfurt International Apt	7	0800	1035	Boeing 737 Passenger	1
FR	1687	London Stansted Apt	Frankfurt International Apt	6	0740	1015	Boeing 737 Passenger	1
FR	1687	London Stansted Apt	Frankfurt International Apt	345	0805	1040	Boeing 737 Passenger	3
FR	1687	London Stansted Apt	Frankfurt International Apt	12	0730	1005	Boeing 737 Passenger	2
FR	169	Trieste	London Stansted Apt	6	1720	1835	Boeing 737 Passenger	1
FR	169	Trieste	London Stansted Apt	4	1655	1810	Boeing 737 Passenger	1
FR	169	Trieste	London Stansted Apt	2	1725	1840	Boeing 737 Passenger	1
FR	169	Trieste	London Stansted Apt	1	1250	1405	Boeing 737 Passenger	1
FR	1702	Nottingham East Midlands Airport	Milan Bergamo/orio al Serio Apt	4	1800	2110	Boeing 737 Passenger	1
FR	1702	Nottingham East Midlands Airport	Milan Bergamo/orio al Serio Apt	2 6	1325	1635	Boeing 737 Passenger	2
FR	1703	Milan Bergamo/orio al Serio Apt	Nottingham East Midlands Airport	4	2135	2245	Boeing 737 Passenger	1
FR	1703	Milan Bergamo/orio al Serio Apt	Nottingham East Midlands Airport	2 6	1700	1810	Boeing 737 Passenger	2
FR	1707	Pisa	Nottingham East Midlands Airport	3 7	1505	1625	Boeing 737 Passenger	2
FR	1708	Nottingham East Midlands Airport	Pisa	3 7	1120	1440	Boeing 737 Passenger	2
FR	1717	Malta	Belfast International Apt	6	0615	0925	Boeing 737 Passenger	1
FR	1717	Malta	Belfast International Apt	2	1520	1820	Boeing 737 Passenger	1
FR	1718	Belfast International Apt	Malta	6	0950	1445	Boeing 737 Passenger	1
FR	1718	Belfast International Apt	Malta	2	1845	2330	Boeing 737 Passenger	1

FR	172	Dublin (IE)	Newcastle	7	0735	0845	Boeing 737 Passenger	1
FR	172	Dublin (IE)	Newcastle	123456	0945	1055	Boeing 737 Passenger	6
FR	1724	Nottingham East Midlands Airport	Krakow John Paul II - Balice	5	0910	1240	Boeing 737 Passenger	1
FR	1724	Nottingham East Midlands Airport	Krakow John Paul II - Balice	3	0850	1220	Boeing 737 Passenger	1
FR	1724	Nottingham East Midlands Airport	Krakow John Paul II - Balice	1	1725	2055	Boeing 737 Passenger	1
FR	1725	Krakow John Paul II - Balice	Nottingham East Midlands Airport	5	0710	0845	Boeing 737 Passenger	1
FR	1725	Krakow John Paul II - Balice	Nottingham East Midlands Airport	3	0650	0825	Boeing 737 Passenger	1
FR	1725	Krakow John Paul II - Balice	Nottingham East Midlands Airport	1	2130	2305	Boeing 737 Passenger	1
FR	173	Newcastle	Dublin (IE)	7	0910	1020	Boeing 737 Passenger	1
FR	173	Newcastle	Dublin (IE)	123456	1120	1230	Boeing 737 Passenger	6
FR	174	Dublin (IE)	Newcastle	7	2005	2115	Boeing 737 Passenger	1
FR	174	Dublin (IE)	Newcastle	5	1935	2045	Boeing 737 Passenger	1
FR	174	Dublin (IE)	Newcastle	1 4	2055	2205	Boeing 737 Passenger	2
FR	1742	Nottingham East Midlands Airport	Knock	7	1305	1420	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	5	1220	1335	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	4	1255	1410	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	3	1335	1450	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	1	1320	1435	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	7	1445	1600	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	5	1400	1515	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	4	1435	1550	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	3	1515	1630	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	1	1500	1615	Boeing 737 Passenger	1
FR	175	Newcastle	Dublin (IE)	7	2140	2250	Boeing 737 Passenger	1
FR	175	Newcastle	Dublin (IE)	5	2110	2220	Boeing 737 Passenger	1
FR	175	Newcastle	Dublin (IE)	1 4	2230	2340	Boeing 737 Passenger	2
FR	1756	Nottingham East Midlands Airport	Valencia Airport	6	1640	2010	Boeing 737 Passenger	1
FR	1756	Nottingham East Midlands Airport	Valencia Airport	2 4	1500	1830	Boeing 737 Passenger	2
FR	1756	Nottingham East Midlands Airport	Valencia Airport	1	1600	1930	Boeing 737 Passenger	1
FR	1757	Valencia Airport	Nottingham East Midlands Airport	6	1440	1615	Boeing 737 Passenger	1
FR	1757	Valencia Airport	Nottingham East Midlands Airport	2 4	1900	2035	Boeing 737 Passenger	2
FR	1757	Valencia Airport	Nottingham East Midlands Airport	1	2000	2135	Boeing 737 Passenger	1
FR	1766	Nottingham East Midlands Airport	Faro	6	1520	1815	Boeing 737 Passenger	1
FR	1766	Nottingham East Midlands Airport	Faro	3	1015	1310	Boeing 737 Passenger	1
FR	1766	Nottingham East Midlands Airport	Faro	12 45 7	1550	1845	Boeing 737 Passenger	5
FR	1767	Faro	Nottingham East Midlands Airport	6	1840	2130	Boeing 737 Passenger	1
FR	1767	Faro	Nottingham East Midlands Airport	3	1335	1625	Boeing 737 Passenger	1
FR	1767	Faro	Nottingham East Midlands Airport	12 45 7	1910	2200	Boeing 737 Passenger	5
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	7	1950	2235	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	6	1410	1655	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	5	1645	1930	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	4	1935	2220	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	3	1550	1835	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	1	1030	1315	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	7	1840	1925	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	6	1305	1345	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	5	1535	1620	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	4	1825	1910	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	3	1440	1525	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	1	0920	1005	Boeing 737 Passenger	1
FR	1788	London Stansted Apt	Dortmund	7	1315	1535	Boeing 737 Passenger	1
FR	1788	London Stansted Apt	Dortmund	123456	1300	1520	Boeing 737 Passenger	6
FR	1789	Dortmund	London Stansted Apt	7	1600	1620	Boeing 737 Passenger	1
FR	1789	Dortmund	London Stansted Apt	123456	1545	1605	Boeing 737 Passenger	6
FR	1802	London Stansted Apt	Kerkyra	7	1650	2205	Boeing 737 Passenger	1
FR	1802	London Stansted Apt	Kerkyra	4	1500	2015	Boeing 737 Passenger	1
FR	1802	London Stansted Apt	Kerkyra	3	1420	1935	Boeing 737 Passenger	1
FR	1803	Kerkyra	London Stansted Apt	7	2230	2345	Boeing 737 Passenger	1
FR	1803	Kerkyra	London Stansted Apt	4	2040	2155	Boeing 737 Passenger	1
FR	1803	Kerkyra	London Stansted Apt	3	2000	2115	Boeing 737 Passenger	1
FR	1832	London Stansted Apt	Naples Capodichino Apt	5	0645	1030	Boeing 737 Passenger	1
FR	1832	London Stansted Apt	Naples Capodichino Apt	3	0630	1015	Boeing 737 Passenger	1
FR	1832	London Stansted Apt	Naples Capodichino Apt	2 4 67	0700	1045	Boeing 737 Passenger	4
FR	1832	London Stansted Apt	Naples Capodichino Apt	1	1755	2140	Boeing 737 Passenger	1
FR	1833	Naples Capodichino Apt	London Stansted Apt	4 6	1120	1320	Boeing 737 Passenger	2
FR	1833	Naples Capodichino Apt	London Stansted Apt	3 5	1055	1255	Boeing 737 Passenger	2
FR	1833	Naples Capodichino Apt	London Stansted Apt	2 7	1110	1310	Boeing 737 Passenger	2
FR	1833	Naples Capodichino Apt	London Stansted Apt	1	2205	0005	Boeing 737 Passenger	1
FR	1834	London Stansted Apt	Clermont-Ferrand	1 5	1340	1625	Boeing 737 Passenger	2
FR	1835	Clermont-Ferrand	London Stansted Apt	1 5	1650	1730	Boeing 737 Passenger	2

FR	1836	London Stansted Apt	Plovdiv	3	1530	2040	Boeing 737 Passenger	1
FR	1836	London Stansted Apt	Plovdiv	1 5	1525	2035	Boeing 737 Passenger	2
FR	1837	Plovdiv	London Stansted Apt	3	2105	2230	Boeing 737 Passenger	1
FR	1837	Plovdiv	London Stansted Apt	1 5	2100	2225	Boeing 737 Passenger	2
FR	1874	London Stansted Apt	Nice	7	1910	2210	Boeing 737 Passenger	1
FR	1874	London Stansted Apt	Nice	4 6	1800	2100	Boeing 737 Passenger	2
FR	1874	London Stansted Apt	Nice	3	1820	2120	Boeing 737 Passenger	1
FR	1874	London Stansted Apt	Nice	2	1400	1700	Boeing 737 Passenger	1
FR	1874	London Stansted Apt	Nice	1 5	1920	2220	Boeing 737 Passenger	2
FR	1875	Nice	London Stansted Apt	7	2245	2345	Boeing 737 Passenger	1
FR	1875	Nice	London Stansted Apt	4 6	2135	2235	Boeing 737 Passenger	2
FR	1875	Nice	London Stansted Apt	3	2155	2255	Boeing 737 Passenger	1
FR	1875	Nice	London Stansted Apt	2	1735	1835	Boeing 737 Passenger	1
FR	1875	Nice	London Stansted Apt	1 5	2255	2355	Boeing 737 Passenger	2
FR	1882	London Stansted Apt	Lisbon	7	1630	1920	Boeing 737 Passenger	1
FR	1882	London Stansted Apt	Lisbon	12345	1740	2030	Boeing 737 Passenger	5
FR	1883	Lisbon	London Stansted Apt	7	1945	2235	Boeing 737 Passenger	1
FR	1883	Lisbon	London Stansted Apt	12345	2055	2345	Boeing 737 Passenger	5
FR	1884	London Stansted Apt	Lisbon	5	0915	1205	Boeing 737 Passenger	1
FR	1884	London Stansted Apt	Lisbon	2	0950	1240	Boeing 737 Passenger	1
FR	1884	London Stansted Apt	Lisbon	1 34 67	0945	1235	Boeing 737 Passenger	5
FR	1885	Lisbon	London Stansted Apt	5	0600	0850	Boeing 737 Passenger	1
FR	1885	Lisbon	London Stansted Apt	1234 67	0630	0920	Boeing 737 Passenger	6
FR	1886	London Stansted Apt	Lisbon	5	1135	1425	Boeing 737 Passenger	1
FR	1886	London Stansted Apt	Lisbon	1234 67	1155	1445	Boeing 737 Passenger	6
FR	1887	Lisbon	London Stansted Apt	5	1450	1740	Boeing 737 Passenger	1
FR	1887	Lisbon	London Stansted Apt	1234 67	1510	1800	Boeing 737 Passenger	6
FR	1905	London Stansted Apt	Bari	6	1655	2035	Boeing 737 Passenger	1
FR	1905	London Stansted Apt	Bari	2345 7	1740	2120	Boeing 737 Passenger	5
FR	1905	London Stansted Apt	Bari	1	0700	1040	Boeing 737 Passenger	1
FR	1906	Bari	London Stansted Apt	6	2100	2255	Boeing 737 Passenger	1
FR	1906	Bari	London Stansted Apt	5	2150	2345	Boeing 737 Passenger	1
FR	1906	Bari	London Stansted Apt	234 7	2145	2340	Boeing 737 Passenger	4
FR	1906	Bari	London Stansted Apt	1	1105	1300	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	7	0635	1020	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	5	0610	0955	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	3	0600	0945	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	2 4 6	0700	1045	Boeing 737 Passenger	3
FR	1924	Nottingham East Midlands Airport	Corvera	1	0645	1030	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	7	1055	1240	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	5	1050	1235	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	3	1020	1205	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	2 4 6	1120	1305	Boeing 737 Passenger	3
FR	1925	Corvera	Nottingham East Midlands Airport	1	1105	1250	Boeing 737 Passenger	1
FR	194	London Stansted Apt	Bologna Guglielmo Marconi	45	0830	1135	Boeing 737 Passenger	2
FR	194	London Stansted Apt	Bologna Guglielmo Marconi	123 67	0845	1150	Boeing 737 Passenger	5
FR	195	Bologna Guglielmo Marconi	London Stansted Apt	1234567	0645	0805	Boeing 737 Passenger	7
FR	1956	Nottingham East Midlands Airport	Faro	7	0600	0855	Boeing 737 Passenger	1
FR	1956	Nottingham East Midlands Airport	Faro	1 3456	0700	0955	Boeing 737 Passenger	5
FR	1957	Faro	Nottingham East Midlands Airport	7	0920	1210	Boeing 737 Passenger	1
FR	1957	Faro	Nottingham East Midlands Airport	1 3456	1020	1310	Boeing 737 Passenger	5
FR	1998	Birmingham Airport	Perpignan	6	1125	1425	Boeing 737 Passenger	1
FR	1998	Birmingham Airport	Perpignan	2	1510	1810	Boeing 737 Passenger	1
FR	1999	Perpignan	Birmingham Airport	6	1450	1600	Boeing 737 Passenger	1
FR	1999	Perpignan	Birmingham Airport	2	1835	1945	Boeing 737 Passenger	1
FR	2013	London Stansted Apt	Prague Ruzyne	3	1305	1600	Boeing 737 Passenger	1
FR	2013	London Stansted Apt	Prague Ruzyne	2 7	1805	2100	Boeing 737 Passenger	2
FR	2013	London Stansted Apt	Prague Ruzyne	1 5	2050	2345	Boeing 737 Passenger	2
FR	2014	Prague Ruzyne	London Stansted Apt	7	1635	1735	Boeing 737 Passenger	1
FR	2014	Prague Ruzyne	London Stansted Apt	3	1140	1240	Boeing 737 Passenger	1
FR	2014	Prague Ruzyne	London Stansted Apt	2	1640	1740	Boeing 737 Passenger	1
FR	2014	Prague Ruzyne	London Stansted Apt	1 5	1925	2025	Boeing 737 Passenger	2
FR	202	Dublin (IE)	London Stansted Apt	1234567	0625	0750	Boeing 737 Passenger	7
FR	203	London Stansted Apt	Dublin (IE)	123456	0630	0755	Boeing 737 Passenger	6
FR	2047	Lanzarote	Leeds Bradford	6	1420	1830	Boeing 737 Passenger	1
FR	2047	Lanzarote	Leeds Bradford	4	1510	1920	Boeing 737 Passenger	1
FR	2047	Lanzarote	Leeds Bradford	2	1500	1910	Boeing 737 Passenger	1
FR	2048	Leeds Bradford	Lanzarote	6	1855	2315	Boeing 737 Passenger	1
FR	2048	Leeds Bradford	Lanzarote	4	1945	0005	Boeing 737 Passenger	1
FR	2048	Leeds Bradford	Lanzarote	2	1935	2355	Boeing 737 Passenger	1

FR	205	London Stansted Apt	Dublin (IE)	1234567	0815	0940	Boeing 737 Passenger	7
FR	206	Dublin (IE)	London Stansted Apt	123456	0820	0940	Boeing 737 Passenger	6
FR	2060	Birmingham Airport	Palma de Mallorca	7	1815	2140	Boeing 737 Passenger	1
FR	2060	Birmingham Airport	Palma de Mallorca	4	1355	1720	Boeing 737 Passenger	1
FR	2060	Birmingham Airport	Palma de Mallorca	3	0850	1215	Boeing 737 Passenger	1
FR	2060	Birmingham Airport	Palma de Mallorca	2	1035	1400	Boeing 737 Passenger	1
FR	2075	Nottingham East Midlands Airport	Menorca	1 5	1800	2130	Boeing 737 Passenger	2
FR	2076	Menorca	Nottingham East Midlands Airport	1 5	2205	2340	Boeing 737 Passenger	2
FR	2082	Madrid Adolfo Suarez-Barajas Apt	Birmingham Airport	5	1445	1615	Boeing 737 Passenger	1
FR	2082	Madrid Adolfo Suarez-Barajas Apt	Birmingham Airport	1 3 7	1305	1435	Boeing 737 Passenger	3
FR	2083	Birmingham Airport	Madrid Adolfo Suarez-Barajas Apt	5	1655	2025	Boeing 737 Passenger	1
FR	2083	Birmingham Airport	Madrid Adolfo Suarez-Barajas Apt	1 3 7	1500	1830	Boeing 737 Passenger	3
FR	2090	Palma de Mallorca	Birmingham Airport	7	1610	1745	Boeing 737 Passenger	1
FR	2090	Palma de Mallorca	Birmingham Airport	4	1135	1310	Boeing 737 Passenger	1
FR	2090	Palma de Mallorca	Birmingham Airport	3	0645	0820	Boeing 737 Passenger	1
FR	2090	Palma de Mallorca	Birmingham Airport	2	0810	0945	Boeing 737 Passenger	1
FR	2107	Manchester (GB)	Kerkyra	4 7	1510	2030	Boeing 737 Passenger	2
FR	2108	Kerkyra	Manchester (GB)	7	2105	2235	Boeing 737 Passenger	1
FR	2108	Kerkyra	Manchester (GB)	4	2055	2225	Boeing 737 Passenger	1
FR	211	Dublin (IE)	London Stansted Apt	1234567	1630	1750	Boeing 737 Passenger	7
FR	212	London Stansted Apt	Dublin (IE)	1234567	1830	1955	Boeing 737 Passenger	7
FR	2131	Manchester (GB)	Lanzarote	7	0640	1100	Boeing 737 Passenger	1
FR	2131	Manchester (GB)	Lanzarote	5	0645	1105	Boeing 737 Passenger	1
FR	2131	Manchester (GB)	Lanzarote	3	0745	1205	Boeing 737 Passenger	1
FR	2131	Manchester (GB)	Lanzarote	12 4	0555	1015	Boeing 737 Passenger	3
FR	2132	Lanzarote	Manchester (GB)	7	1135	1545	Boeing 737 Passenger	1
FR	2132	Lanzarote	Manchester (GB)	5	1140	1550	Boeing 737 Passenger	1
FR	2132	Lanzarote	Manchester (GB)	3	1240	1650	Boeing 737 Passenger	1
FR	2132	Lanzarote	Manchester (GB)	12 4	1050	1500	Boeing 737 Passenger	3
FR	2134	London Stansted Apt	Rzeszow	7	0655	1020	Boeing 737 Passenger	1
FR	2134	London Stansted Apt	Rzeszow	3	1150	1515	Boeing 737 Passenger	1
FR	2135	Rzeszow	London Stansted Apt	7	1045	1220	Boeing 737 Passenger	1
FR	2135	Rzeszow	London Stansted Apt	3	1540	1715	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	7	1800	2125	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	5	1655	2020	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	4	0655	1020	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	3	0720	1045	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	2 6	1145	1510	Boeing 737 Passenger	2
FR	2136	London Stansted Apt	Rzeszow	1	1810	2135	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	7	2155	2330	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	5	2045	2220	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	4	1045	1220	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	3	1110	1245	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	2 6	1535	1710	Boeing 737 Passenger	2
FR	2137	Rzeszow	London Stansted Apt	1	2200	2335	Boeing 737 Passenger	1
FR	2141	Manchester (GB)	Krakow John Paul II - Balice	6	0555	0935	Boeing 737 Passenger	1
FR	2141	Manchester (GB)	Krakow John Paul II - Balice	3	1905	2245	Boeing 737 Passenger	1
FR	2141	Manchester (GB)	Krakow John Paul II - Balice	1 5	1050	1430	Boeing 737 Passenger	2
FR	2142	Krakow John Paul II - Balice	Manchester (GB)	6	1000	1145	Boeing 737 Passenger	1
FR	2142	Krakow John Paul II - Balice	Manchester (GB)	3	2310	0055	Boeing 737 Passenger	1
FR	2142	Krakow John Paul II - Balice	Manchester (GB)	1 5	1455	1640	Boeing 737 Passenger	2
FR	2144	London Luton Apt	Kaunas	1234 67	0855	1335	Boeing 737 Passenger	6
FR	2145	Kaunas	London Luton Apt	1234 67	0730	0815	Boeing 737 Passenger	6
FR	2150	Alicante Airport	Birmingham Airport	7	1610	1750	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	6	1600	1740	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	5	0645	0825	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	4	1505	1645	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	2	1230	1410	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	1	0900	1040	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	7	1815	2155	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	6	1805	2145	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	5	0850	1230	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	4	1710	2050	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	2	0815	1155	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	1	1105	1445	Boeing 737 Passenger	1
FR	2152	Birmingham Airport	Alicante Airport	6	0745	1125	Boeing 737 Passenger	1
FR	2152	Birmingham Airport	Alicante Airport	345 7	1405	1745	Boeing 737 Passenger	4
FR	2152	Birmingham Airport	Alicante Airport	2	1745	2125	Boeing 737 Passenger	1
FR	2152	Birmingham Airport	Alicante Airport	1	1750	2130	Boeing 737 Passenger	1
FR	2153	Alicante Airport	Birmingham Airport	6	1200	1340	Boeing 737 Passenger	1

FR	2153	Alicante Airport	Birmingham Airport	345 7	1820	2000	Boeing 737 Passenger	4
FR	2153	Alicante Airport	Birmingham Airport	2	1540	1720	Boeing 737 Passenger	1
FR	2153	Alicante Airport	Birmingham Airport	1	1545	1725	Boeing 737 Passenger	1
FR	2154	Birmingham Airport	Corvera	6	1705	2050	Boeing 737 Passenger	1
FR	2154	Birmingham Airport	Corvera	2 4	0610	0955	Boeing 737 Passenger	2
FR	2154	Birmingham Airport	Corvera	1	1700	2045	Boeing 737 Passenger	1
FR	2155	Corvera	Birmingham Airport	6	2125	2310	Boeing 737 Passenger	1
FR	2155	Corvera	Birmingham Airport	2 4	1030	1215	Boeing 737 Passenger	2
FR	2155	Corvera	Birmingham Airport	1	2120	2305	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	7	0800	1155	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	6	1405	1800	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	5	1210	1605	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	34	1220	1615	Boeing 737 Passenger	2
FR	2156	Birmingham Airport	Malaga Airport	2	1940	2335	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	1	1950	2345	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	7	1230	1420	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	6	1835	2030	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	5	1640	1835	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	34	1650	1845	Boeing 737 Passenger	2
FR	2157	Malaga Airport	Birmingham Airport	2	1720	1915	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	1	1725	1920	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	7	1700	2025	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	6	1655	2020	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	3	1735	2100	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	12 45	2025	2350	Boeing 737 Passenger	4
FR	2163	Palma de Mallorca	Birmingham Airport	7	1500	1635	Boeing 737 Passenger	1
FR	2163	Palma de Mallorca	Birmingham Airport	6	1425	1600	Boeing 737 Passenger	1
FR	2163	Palma de Mallorca	Birmingham Airport	3	2140	2315	Boeing 737 Passenger	1
FR	2163	Palma de Mallorca	Birmingham Airport	12 45	1820	1955	Boeing 737 Passenger	4
FR	2182	London Southend Apt	Venice Marco Polo Apt	7	1800	2100	Boeing 737 Passenger	1
FR	2182	London Southend Apt	Venice Marco Polo Apt	4	1125	1425	Boeing 737 Passenger	1
FR	2182	London Southend Apt	Venice Marco Polo Apt	3	0745	1045	Boeing 737 Passenger	1
FR	2182	London Southend Apt	Venice Marco Polo Apt	1	1705	2005	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	7	2155	2255	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	4	1500	1600	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	3	1110	1210	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	1	2030	2130	Boeing 737 Passenger	1
FR	2184	London Southend Apt	Alicante Airport	6	1305	1630	Boeing 737 Passenger	1
FR	2184	London Southend Apt	Alicante Airport	5	0640	1005	Boeing 737 Passenger	1
FR	2184	London Southend Apt	Alicante Airport	23 7	0645	1010	Boeing 737 Passenger	3
FR	2185	Alicante Airport	London Southend Apt	6	1705	1830	Boeing 737 Passenger	1
FR	2185	Alicante Airport	London Southend Apt	5	1040	1205	Boeing 737 Passenger	1
FR	2185	Alicante Airport	London Southend Apt	23 7	1045	1210	Boeing 737 Passenger	3
FR	2186	London Southend Apt	Dublin (IE)	6	2005	2120	Boeing 737 Passenger	1
FR	2186	London Southend Apt	Dublin (IE)	3	0710	0825	Boeing 737 Passenger	1
FR	2186	London Southend Apt	Dublin (IE)	2 7	0655	0810	Boeing 737 Passenger	2
FR	2186	London Southend Apt	Dublin (IE)	1 45	0715	0830	Boeing 737 Passenger	3
FR	2187	Dublin (IE)	London Southend Apt	6	2145	2255	Boeing 737 Passenger	1
FR	2187	Dublin (IE)	London Southend Apt	2 7	0835	0945	Boeing 737 Passenger	2
FR	2187	Dublin (IE)	London Southend Apt	1 345	0855	1005	Boeing 737 Passenger	4
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	7	1930	2215	Boeing 737 Passenger	1
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	5	1735	2020	Boeing 737 Passenger	1
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	3	1745	2030	Boeing 737 Passenger	1
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	1	0815	1100	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	7	2245	2330	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	5	2045	2130	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	3	2055	2140	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	1	1125	1210	Boeing 737 Passenger	1
FR	2190	London Southend Apt	Malaga Airport	6	1310	1645	Boeing 737 Passenger	1
FR	2190	London Southend Apt	Malaga Airport	1 3 5 7	1300	1645	Boeing 737 Passenger	4
FR	2191	Malaga Airport	London Southend Apt	6	1730	1915	Boeing 737 Passenger	1
FR	2191	Malaga Airport	London Southend Apt	1 3 5 7	1720	1905	Boeing 737 Passenger	4
FR	2203	Leeds Bradford	Nowy Dwor Mazowiecki	4 7	0845	1210	Boeing 737 Passenger	2
FR	2204	Nowy Dwor Mazowiecki	Leeds Bradford	4 7	0645	0820	Boeing 737 Passenger	2
FR	221	Nottingham East Midlands Airport	Budapest	5	1325	1700	Boeing 737 Passenger	1
FR	221	Nottingham East Midlands Airport	Budapest	3	1715	2050	Boeing 737 Passenger	1
FR	221	Nottingham East Midlands Airport	Budapest	1	0840	1215	Boeing 737 Passenger	1
FR	222	Budapest	Nottingham East Midlands Airport	5	1725	1905	Boeing 737 Passenger	1
FR	222	Budapest	Nottingham East Midlands Airport	3	2115	2255	Boeing 737 Passenger	1
FR	222	Budapest	Nottingham East Midlands Airport	1	0635	0815	Boeing 737 Passenger	1

FR	2224	Tallinn	London Stansted Apt	7	1100	1155	Boeing 737 Passenger	1
FR	2224	Tallinn	London Stansted Apt	5	1150	1245	Boeing 737 Passenger	1
FR	2224	Tallinn	London Stansted Apt	3	1120	1215	Boeing 737 Passenger	1
FR	2224	Tallinn	London Stansted Apt	1	1155	1250	Boeing 737 Passenger	1
FR	2225	London Stansted Apt	Tallinn	5	0645	1125	Boeing 737 Passenger	1
FR	2225	London Stansted Apt	Tallinn	3 7	0555	1035	Boeing 737 Passenger	2
FR	2225	London Stansted Apt	Tallinn	1	0650	1130	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	7	1530	1700	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	5	1325	1455	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	3	1440	1615	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	1	1210	1340	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	7	1140	1505	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	5	0935	1300	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	3	1050	1415	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	1	0820	1145	Boeing 737 Passenger	1
FR	2244	London Stansted Apt	Vilnius	7	1810	2250	Boeing 737 Passenger	1
FR	2244	London Stansted Apt	Vilnius	3	1620	2100	Boeing 737 Passenger	1
FR	2244	London Stansted Apt	Vilnius	2 456	1905	2345	Boeing 737 Passenger	4
FR	2244	London Stansted Apt	Vilnius	1	1910	2350	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	7	2315	2359	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	5	1740	1825	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	3	2125	2210	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	2 4 6	1755	1840	Boeing 737 Passenger	3
FR	2245	Vilnius	London Stansted Apt	1	1800	1845	Boeing 737 Passenger	1
FR	225	London Stansted Apt	Dublin (IE)	1234567	1340	1505	Boeing 737 Passenger	7
FR	2252	Manchester (GB)	Lisbon	1 345 7	2055	2345	Boeing 737 Passenger	5
FR	2253	Lisbon	Manchester (GB)	1 345 7	1740	2030	Boeing 737 Passenger	5
FR	2266	Birmingham Airport	Malaga Airport	3 5 7	1655	2050	Boeing 737 Passenger	3
FR	2266	Birmingham Airport	Malaga Airport	2 4	1010	1405	Boeing 737 Passenger	2
FR	2266	Birmingham Airport	Malaga Airport	1	0800	1155	Boeing 737 Passenger	1
FR	2267	Malaga Airport	Birmingham Airport	3 5 7	2125	2320	Boeing 737 Passenger	3
FR	2267	Malaga Airport	Birmingham Airport	2 4	0750	0945	Boeing 737 Passenger	2
FR	2267	Malaga Airport	Birmingham Airport	1	1230	1425	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	7	2020	2130	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	6	1300	1410	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	4	1605	1715	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	2	1345	1455	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	7	2155	2305	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	6	1125	1235	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	4	1430	1540	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	2	1210	1320	Boeing 737 Passenger	1
FR	2272	Dublin (IE)	London Stansted Apt	1 34567	1155	1315	Boeing 737 Passenger	6
FR	228	London Stansted Apt	Szczytno	4 6	1335	1700	Boeing 737 Passenger	2
FR	228	London Stansted Apt	Szczytno	2	1655	2020	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	6	1225	1540	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	5	1255	1610	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	3	1140	1455	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	2 4 7	1200	1515	Boeing 737 Passenger	3
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	1	1155	1510	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	6	1605	1735	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	5	1100	1230	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	3	1525	1655	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	2 4 7	1540	1710	Boeing 737 Passenger	3
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	1	1535	1705	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	7	1740	2055	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	3	1755	2110	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	3 6	1810	2125	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	2 45	1800	2115	Boeing 737 Passenger	3
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	1	1850	2205	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	7	2120	2250	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	3	2135	2305	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	3 6	2150	2320	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	2 45	2140	2310	Boeing 737 Passenger	3
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	1	2230	2359	Boeing 737 Passenger	1
FR	229	Szczytno	London Stansted Apt	4 6	1725	1850	Boeing 737 Passenger	2
FR	229	Szczytno	London Stansted Apt	2	2045	2210	Boeing 737 Passenger	1
FR	2291	Alicante Airport	Bristol	4	1515	1650	Boeing 737 Passenger	1
FR	2292	Bristol	Alicante Airport	4	1715	2045	Boeing 737 Passenger	1
FR	2295	London Stansted Apt	Duesseldorf Weeze Airport	5	1420	1630	Boeing 737 Passenger	1
FR	2295	London Stansted Apt	Duesseldorf Weeze Airport	3	1455	1705	Boeing 737 Passenger	1

FR	2295	London Stansted Apt	Duesseldorf Weeze Airport	1	1905	2115	Boeing 737 Passenger	1
FR	2296	Duesseldorf Weeze Airport	London Stansted Apt	5	1655	1705	Boeing 737 Passenger	1
FR	2296	Duesseldorf Weeze Airport	London Stansted Apt	3	1730	1740	Boeing 737 Passenger	1
FR	2296	Duesseldorf Weeze Airport	London Stansted Apt	1	2140	2150	Boeing 737 Passenger	1
FR	231	Alghero	London Stansted Apt	6	2155	2330	Boeing 737 Passenger	1
FR	231	Alghero	London Stansted Apt	4	1055	1230	Boeing 737 Passenger	1
FR	231	Alghero	London Stansted Apt	2	1650	1825	Boeing 737 Passenger	1
FR	2314	London Stansted Apt	Bratislava	4	0815	1130	Boeing 737 Passenger	1
FR	2314	London Stansted Apt	Bratislava	23 567	0830	1145	Boeing 737 Passenger	5
FR	2315	Bratislava	London Stansted Apt	4	1155	1315	Boeing 737 Passenger	1
FR	2315	Bratislava	London Stansted Apt	23 567	0630	0750	Boeing 737 Passenger	5
FR	2318	London Stansted Apt	Bratislava	3 5 7	1950	2305	Boeing 737 Passenger	3
FR	2319	Bratislava	London Stansted Apt	3 5 7	1800	1920	Boeing 737 Passenger	3
FR	232	London Stansted Apt	Alghero	6	1800	2130	Boeing 737 Passenger	1
FR	232	London Stansted Apt	Alghero	4	0700	1030	Boeing 737 Passenger	1
FR	232	London Stansted Apt	Alghero	2	1255	1625	Boeing 737 Passenger	1
FR	2320	Edinburgh	Billund	7	1510	1745	Boeing 737 Passenger	1
FR	2320	Edinburgh	Billund	4	1515	1750	Boeing 737 Passenger	1
FR	2321	Billund	Edinburgh	7	1810	1845	Boeing 737 Passenger	1
FR	2321	Billund	Edinburgh	4	1815	1850	Boeing 737 Passenger	1
FR	2322	Leeds Bradford	Corvera	5	1650	2050	Boeing 737 Passenger	1
FR	2322	Leeds Bradford	Corvera	1	1620	2020	Boeing 737 Passenger	1
FR	2323	Corvera	Leeds Bradford	5	2130	2325	Boeing 737 Passenger	1
FR	2323	Corvera	Leeds Bradford	1	2055	2250	Boeing 737 Passenger	1
FR	2324	Girona Costa Brava Apt	Leeds Bradford	5	0640	0800	Boeing 737 Passenger	1
FR	2324	Girona Costa Brava Apt	Leeds Bradford	1	1745	1905	Boeing 737 Passenger	1
FR	2325	Leeds Bradford	Girona Costa Brava Apt	5	0825	1145	Boeing 737 Passenger	1
FR	2325	Leeds Bradford	Girona Costa Brava Apt	1	1930	2250	Boeing 737 Passenger	1
FR	2326	Leeds Bradford	Palma de Mallorca	5	0925	1305	Boeing 737 Passenger	1
FR	2326	Leeds Bradford	Palma de Mallorca	1234 67	0930	1310	Boeing 737 Passenger	6
FR	2327	Palma de Mallorca	Leeds Bradford	5	1340	1530	Boeing 737 Passenger	1
FR	2327	Palma de Mallorca	Leeds Bradford	1234 67	1345	1535	Boeing 737 Passenger	6
FR	2328	Leeds Bradford	Limoges	7	1535	1830	Boeing 737 Passenger	1
FR	2328	Leeds Bradford	Limoges	4	0620	0915	Boeing 737 Passenger	1
FR	2329	Limoges	Leeds Bradford	7	1855	1945	Boeing 737 Passenger	1
FR	2329	Limoges	Leeds Bradford	4	0940	1030	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	7	2025	2355	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	6	1635	2005	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	4	0645	1015	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	2	1545	1915	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	7	1825	2000	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	6	2030	2205	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	4	1040	1215	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	2	1940	2115	Boeing 737 Passenger	1
FR	2336	London Stansted Apt	Poznan Lawica Apt	3	0555	0900	Boeing 737 Passenger	1
FR	2336	London Stansted Apt	Poznan Lawica Apt	2 7	0705	1010	Boeing 737 Passenger	2
FR	2336	London Stansted Apt	Poznan Lawica Apt	1 456	1120	1425	Boeing 737 Passenger	4
FR	2337	Poznan Lawica Apt	London Stansted Apt	3	0925	1030	Boeing 737 Passenger	1
FR	2337	Poznan Lawica Apt	London Stansted Apt	2 7	1035	1140	Boeing 737 Passenger	2
FR	2337	Poznan Lawica Apt	London Stansted Apt	1 456	1450	1555	Boeing 737 Passenger	4
FR	2341	Faro	Newcastle	1 3 5 7	1535	1845	Boeing 737 Passenger	4
FR	2342	Newcastle	Faro	1 3 5 7	1910	2220	Boeing 737 Passenger	4
FR	2344	Girona Costa Brava Apt	Newcastle	6	1800	1930	Boeing 737 Passenger	1
FR	2344	Girona Costa Brava Apt	Newcastle	2	1715	1845	Boeing 737 Passenger	1
FR	2345	Newcastle	Girona Costa Brava Apt	6	1955	2325	Boeing 737 Passenger	1
FR	2345	Newcastle	Girona Costa Brava Apt	2	1910	2240	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	7	1700	1850	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	6	0745	0935	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	5	0615	0805	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	234	0630	0820	Boeing 737 Passenger	3
FR	2346	Palma de Mallorca	Newcastle	1	0635	0825	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	7	1925	2310	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	6	1000	1350	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	5	0830	1215	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	2 4	0845	1235	Boeing 737 Passenger	2
FR	2347	Newcastle	Palma de Mallorca	1 3	0850	1235	Boeing 737 Passenger	2
FR	2352	London Stansted Apt	Cologne/Bonn Apt	5	1420	1645	Boeing 737 Passenger	1
FR	2352	London Stansted Apt	Cologne/Bonn Apt	2 4	1505	1730	Boeing 737 Passenger	2
FR	2352	London Stansted Apt	Cologne/Bonn Apt	1 3	1210	1435	Boeing 737 Passenger	2
FR	2353	Cologne/Bonn Apt	London Stansted Apt	5	1710	1735	Boeing 737 Passenger	1

FR	2353	Cologne/Bonn Apt	London Stansted Apt	2 4	1755	1820	Boeing 737 Passenger	2
FR	2353	Cologne/Bonn Apt	London Stansted Apt	1 3	1500	1525	Boeing 737 Passenger	2
FR	2354	Edinburgh	Luxembourg	5	0925	1215	Boeing 737 Passenger	1
FR	2354	Edinburgh	Luxembourg	3	1350	1640	Boeing 737 Passenger	1
FR	2354	Edinburgh	Luxembourg	1	1710	2000	Boeing 737 Passenger	1
FR	2355	Luxembourg	Edinburgh	5	1250	1340	Boeing 737 Passenger	1
FR	2355	Luxembourg	Edinburgh	3	1715	1805	Boeing 737 Passenger	1
FR	2355	Luxembourg	Edinburgh	1	2035	2125	Boeing 737 Passenger	1
FR	2368	London Stansted Apt	Ostrava	6	1325	1640	Boeing 737 Passenger	1
FR	2368	London Stansted Apt	Ostrava	4	1725	2040	Boeing 737 Passenger	1
FR	2368	London Stansted Apt	Ostrava	2	1350	1705	Boeing 737 Passenger	1
FR	2369	Ostrava	London Stansted Apt	6	1710	1825	Boeing 737 Passenger	1
FR	2369	Ostrava	London Stansted Apt	4	2105	2220	Boeing 737 Passenger	1
FR	2369	Ostrava	London Stansted Apt	2	1730	1845	Boeing 737 Passenger	1
FR	2371	London Stansted Apt	Dublin (IE)	1 34567	1005	1130	Boeing 737 Passenger	6
FR	2372	London Stansted Apt	Gdansk Lech Walesa	7	2005	2315	Boeing 737 Passenger	1
FR	2372	London Stansted Apt	Gdansk Lech Walesa	6	0840	1150	Boeing 737 Passenger	1
FR	2372	London Stansted Apt	Gdansk Lech Walesa	2	2000	2310	Boeing 737 Passenger	1
FR	2372	London Stansted Apt	Gdansk Lech Walesa	1 345	1850	2200	Boeing 737 Passenger	4
FR	2373	Gdansk Lech Walesa	London Stansted Apt	7	1815	1930	Boeing 737 Passenger	1
FR	2373	Gdansk Lech Walesa	London Stansted Apt	6	0700	0815	Boeing 737 Passenger	1
FR	2373	Gdansk Lech Walesa	London Stansted Apt	2	1800	1915	Boeing 737 Passenger	1
FR	2373	Gdansk Lech Walesa	London Stansted Apt	1 345	2225	2340	Boeing 737 Passenger	4
FR	2374	London Stansted Apt	Gdansk Lech Walesa	5	0935	1245	Boeing 737 Passenger	1
FR	2374	London Stansted Apt	Gdansk Lech Walesa	34	1110	1420	Boeing 737 Passenger	2
FR	2374	London Stansted Apt	Gdansk Lech Walesa	2	0945	1255	Boeing 737 Passenger	1
FR	2374	London Stansted Apt	Gdansk Lech Walesa	1	0845	1155	Boeing 737 Passenger	1
FR	2375	Gdansk Lech Walesa	London Stansted Apt	5	0755	0910	Boeing 737 Passenger	1
FR	2375	Gdansk Lech Walesa	London Stansted Apt	34	0930	1045	Boeing 737 Passenger	2
FR	2375	Gdansk Lech Walesa	London Stansted Apt	2	0800	0915	Boeing 737 Passenger	1
FR	2375	Gdansk Lech Walesa	London Stansted Apt	1	0705	0820	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	7	1245	1550	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	5	0600	0905	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	34	0630	0935	Boeing 737 Passenger	2
FR	2376	Edinburgh	Berlin Schoenefeld Apt	2	0645	0950	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	1	1145	1450	Boeing 737 Passenger	1
FR	2377	Berlin Schoenefeld Apt	Edinburgh	7	1105	1210	Boeing 737 Passenger	1
FR	2377	Berlin Schoenefeld Apt	Edinburgh	345	1000	1105	Boeing 737 Passenger	3
FR	2377	Berlin Schoenefeld Apt	Edinburgh	2	1015	1120	Boeing 737 Passenger	1
FR	2377	Berlin Schoenefeld Apt	Edinburgh	1	1515	1620	Boeing 737 Passenger	1
FR	2404	London Stansted Apt	Memmingen	6	1215	1500	Boeing 737 Passenger	1
FR	2404	London Stansted Apt	Memmingen	4	1305	1550	Boeing 737 Passenger	1
FR	2404	London Stansted Apt	Memmingen	23 7	1205	1450	Boeing 737 Passenger	3
FR	2405	Memmingen	London Stansted Apt	6	1525	1605	Boeing 737 Passenger	1
FR	2405	Memmingen	London Stansted Apt	4	1200	1240	Boeing 737 Passenger	1
FR	2405	Memmingen	London Stansted Apt	23 7	1515	1555	Boeing 737 Passenger	3
FR	2411	Nottingham East Midlands Airport	Malta	5	1630	2055	Boeing 737 Passenger	1
FR	2411	Nottingham East Midlands Airport	Malta	3	0620	1045	Boeing 737 Passenger	1
FR	2411	Nottingham East Midlands Airport	Malta	1	1600	2035	Boeing 737 Passenger	1
FR	2418	Frankfurt International Apt	Manchester (GB)	12345	1425	1520	Boeing 737 Passenger	5
FR	2419	Manchester (GB)	Frankfurt International Apt	12345	1545	1835	Boeing 737 Passenger	5
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	7	0850	1215	Boeing 737 Passenger	1
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	5	0715	1040	Boeing 737 Passenger	1
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	2	0855	1220	Boeing 737 Passenger	1
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	1 34 6	0900	1225	Boeing 737 Passenger	4
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	5	1105	1240	Boeing 737 Passenger	1
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	3	0700	0835	Boeing 737 Passenger	1
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	2	0655	0830	Boeing 737 Passenger	1
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	1 4 67	0645	0820	Boeing 737 Passenger	4
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	5	1315	1640	Boeing 737 Passenger	1
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	4	1245	1610	Boeing 737 Passenger	1
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	2	1650	2015	Boeing 737 Passenger	1
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	1 67	1300	1625	Boeing 737 Passenger	3
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	5	1705	1840	Boeing 737 Passenger	1
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	4	1040	1215	Boeing 737 Passenger	1
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	2	1450	1625	Boeing 737 Passenger	1
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	1 67	1650	1825	Boeing 737 Passenger	3
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	6	1835	2200	Boeing 737 Passenger	1
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	4	1830	2155	Boeing 737 Passenger	1
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	3	1740	2105	Boeing 737 Passenger	1

FR	2436	London Stansted Apt	Krakow John Paul II - Balice	2	1700	2025	Boeing 737 Passenger	1
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	1 5 7	1800	2125	Boeing 737 Passenger	3
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	6	2225	2359	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	4	2220	2355	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	3	2130	2305	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	2	2050	2225	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	1 5 7	2150	2325	Boeing 737 Passenger	3
FR	2446	Leeds Bradford	Malaga Airport	7	1650	2035	Boeing 737 Passenger	1
FR	2446	Leeds Bradford	Malaga Airport	4	1630	2015	Boeing 737 Passenger	1
FR	2446	Leeds Bradford	Malaga Airport	3	1705	2100	Boeing 737 Passenger	1
FR	2446	Leeds Bradford	Malaga Airport	2 56	1655	2050	Boeing 737 Passenger	3
FR	2446	Leeds Bradford	Malaga Airport	1	1905	2300	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	7	2110	2310	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	4	2050	2250	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	3	2135	2335	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	2 56	2125	2325	Boeing 737 Passenger	3
FR	2447	Malaga Airport	Leeds Bradford	1	1640	1840	Boeing 737 Passenger	1
FR	2448	Leeds Bradford	Malta	1 5	0945	1420	Boeing 737 Passenger	2
FR	2449	Malta	Leeds Bradford	1 5	0645	0920	Boeing 737 Passenger	2
FR	2453	Edinburgh	Bologna Guglielmo Marconi	5	0655	1040	Boeing 737 Passenger	1
FR	2453	Edinburgh	Bologna Guglielmo Marconi	1	2020	0005	Boeing 737 Passenger	1
FR	2454	Bologna Guglielmo Marconi	Edinburgh	5	1105	1255	Boeing 737 Passenger	1
FR	2454	Bologna Guglielmo Marconi	Edinburgh	1	1805	1955	Boeing 737 Passenger	1
FR	2462	London Stansted Apt	Bydgoszcz	1234567	0645	0955	Boeing 737 Passenger	7
FR	2463	Bydgoszcz	London Stansted Apt	1234567	1020	1130	Boeing 737 Passenger	7
FR	2466	London Stansted Apt	Szczecin	7	1920	2215	Boeing 737 Passenger	1
FR	2466	London Stansted Apt	Szczecin	5	1810	2105	Boeing 737 Passenger	1
FR	2466	London Stansted Apt	Szczecin	34 6	1900	2155	Boeing 737 Passenger	3
FR	2466	London Stansted Apt	Szczecin	2	1850	2145	Boeing 737 Passenger	1
FR	2466	London Stansted Apt	Szczecin	1	1840	2135	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	7	2240	2335	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	5	2130	2225	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	2	2210	2305	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	1 34 6	2220	2315	Boeing 737 Passenger	4
FR	2468	London Stansted Apt	Lodz Wladyslaw Reymont	7	1325	1640	Boeing 737 Passenger	1
FR	2468	London Stansted Apt	Lodz Wladyslaw Reymont	3	0705	1020	Boeing 737 Passenger	1
FR	2468	London Stansted Apt	Lodz Wladyslaw Reymont	12 56	1155	1510	Boeing 737 Passenger	4
FR	2469	Lodz Wladyslaw Reymont	London Stansted Apt	7	1705	1825	Boeing 737 Passenger	1
FR	2469	Lodz Wladyslaw Reymont	London Stansted Apt	3	1045	1205	Boeing 737 Passenger	1
FR	2469	Lodz Wladyslaw Reymont	London Stansted Apt	12 56	1535	1655	Boeing 737 Passenger	4
FR	2472	Malta	Nottingham East Midlands Airport	5	2120	2345	Boeing 737 Passenger	1
FR	2472	Malta	Nottingham East Midlands Airport	3	1110	1335	Boeing 737 Passenger	1
FR	2472	Malta	Nottingham East Midlands Airport	1	2100	2335	Boeing 737 Passenger	1
FR	2476	Leeds Bradford	Chania	2 6	0700	1300	Boeing 737 Passenger	2
FR	2477	Chania	Leeds Bradford	2 6	1325	1540	Boeing 737 Passenger	2
FR	2480	Malaga Airport	Leeds Bradford	2	1115	1315	Boeing 737 Passenger	1
FR	2482	Leeds Bradford	Riga	7	0640	1120	Boeing 737 Passenger	1
FR	2482	Leeds Bradford	Riga	3	1610	2050	Boeing 737 Passenger	1
FR	2483	Riga	Leeds Bradford	7	1145	1245	Boeing 737 Passenger	1
FR	2483	Riga	Leeds Bradford	3	2115	2215	Boeing 737 Passenger	1
FR	2486	Leeds Bradford	Ibiza	7	1405	1755	Boeing 737 Passenger	1
FR	2486	Leeds Bradford	Ibiza	4	1335	1725	Boeing 737 Passenger	1
FR	2487	Ibiza	Leeds Bradford	7	1840	2025	Boeing 737 Passenger	1
FR	2487	Ibiza	Leeds Bradford	4	2155	2340	Boeing 737 Passenger	1
FR	2492	Leeds Bradford	Tenerife Sur Apt	6	1905	2340	Boeing 737 Passenger	1
FR	2492	Leeds Bradford	Tenerife Sur Apt	1 3	0625	1100	Boeing 737 Passenger	2
FR	2493	Tenerife Sur Apt	Leeds Bradford	6	1405	1840	Boeing 737 Passenger	1
FR	2493	Tenerife Sur Apt	Leeds Bradford	1 3	1135	1610	Boeing 737 Passenger	2
FR	2496	Leeds Bradford	Kerkyra	3	0745	1305	Boeing 737 Passenger	1
FR	2497	Kerkyra	Leeds Bradford	3	1330	1505	Boeing 737 Passenger	1
FR	2498	London Stansted Apt	Bratislava	4	1915	2230	Boeing 737 Passenger	1
FR	2498	London Stansted Apt	Bratislava	1	1645	2000	Boeing 737 Passenger	1
FR	2499	Bratislava	London Stansted Apt	4	2255	0020	Boeing 737 Passenger	1
FR	2499	Bratislava	London Stansted Apt	1	2030	2150	Boeing 737 Passenger	1
FR	2501	Leeds Bradford	Pisa	5	1505	1835	Boeing 737 Passenger	1
FR	2501	Leeds Bradford	Pisa	1	1855	2225	Boeing 737 Passenger	1
FR	2502	Pisa	Leeds Bradford	5	1310	1440	Boeing 737 Passenger	1
FR	2502	Pisa	Leeds Bradford	1	1700	1830	Boeing 737 Passenger	1
FR	2503	Leeds Bradford	Faro	6	0615	0915	Boeing 737 Passenger	1
FR	2503	Leeds Bradford	Faro	5	1820	2120	Boeing 737 Passenger	1

FR	2503	Leeds Bradford	Faro	34 7	1950	2250	Boeing 737 Passenger	3
FR	2503	Leeds Bradford	Faro	1	1125	1425	Boeing 737 Passenger	1
FR	2504	Faro	Leeds Bradford	6	0940	1235	Boeing 737 Passenger	1
FR	2504	Faro	Leeds Bradford	5	1500	1755	Boeing 737 Passenger	1
FR	2504	Faro	Leeds Bradford	34 7	1630	1925	Boeing 737 Passenger	3
FR	2504	Faro	Leeds Bradford	1	0805	1100	Boeing 737 Passenger	1
FR	2521	Alicante Airport	Glasgow International Airport	7	1700	1905	Boeing 737 Passenger	1
FR	2521	Alicante Airport	Glasgow International Airport	4	1435	1640	Boeing 737 Passenger	1
FR	2521	Alicante Airport	Glasgow International Airport	2	1500	1705	Boeing 737 Passenger	1
FR	2522	Glasgow International Airport	Alicante Airport	7	1930	2335	Boeing 737 Passenger	1
FR	2522	Glasgow International Airport	Alicante Airport	4	1705	2110	Boeing 737 Passenger	1
FR	2522	Glasgow International Airport	Alicante Airport	2	1730	2135	Boeing 737 Passenger	1
FR	2535	Gran Canaria	Leeds Bradford	7	1405	1825	Boeing 737 Passenger	1
FR	2535	Gran Canaria	Leeds Bradford	4	1345	1805	Boeing 737 Passenger	1
FR	2536	Leeds Bradford	Gran Canaria	7	1850	2320	Boeing 737 Passenger	1
FR	2536	Leeds Bradford	Gran Canaria	4	1830	2300	Boeing 737 Passenger	1
FR	2545	Tenerife Sur Apt	Newcastle	5	1330	1800	Boeing 737 Passenger	1
FR	2545	Tenerife Sur Apt	Newcastle	1	1400	1840	Boeing 737 Passenger	1
FR	2546	Newcastle	Tenerife Sur Apt	5	1825	2310	Boeing 737 Passenger	1
FR	2546	Newcastle	Tenerife Sur Apt	1	1905	2359	Boeing 737 Passenger	1
FR	2558	Brussels S. Charleroi Airport	Glasgow International Airport	2 6	1040	1120	Boeing 737 Passenger	2
FR	2559	Glasgow International Airport	Brussels S. Charleroi Airport	2 6	1145	1425	Boeing 737 Passenger	2
FR	2561	Tenerife Sur Apt	Belfast International Apt	7	1240	1700	Boeing 737 Passenger	1
FR	2561	Tenerife Sur Apt	Belfast International Apt	4	1400	1820	Boeing 737 Passenger	1
FR	2562	Belfast International Apt	Tenerife Sur Apt	7	1725	2155	Boeing 737 Passenger	1
FR	2562	Belfast International Apt	Tenerife Sur Apt	4	1900	2330	Boeing 737 Passenger	1
FR	2595	Lanzarote	Belfast International Apt	1 5	1135	1550	Boeing 737 Passenger	2
FR	2596	Belfast International Apt	Lanzarote	1 5	0645	1100	Boeing 737 Passenger	2
FR	2603	Valencia Airport	Manchester (GB)	5	2015	2155	Boeing 737 Passenger	1
FR	2603	Valencia Airport	Manchester (GB)	1 3	1435	1615	Boeing 737 Passenger	2
FR	2604	Manchester (GB)	Valencia Airport	5	1610	1940	Boeing 737 Passenger	1
FR	2604	Manchester (GB)	Valencia Airport	1 3	1640	2010	Boeing 737 Passenger	2
FR	2608	Malaga Airport	Glasgow International Airport	7	1325	1540	Boeing 737 Passenger	1
FR	2608	Malaga Airport	Glasgow International Airport	4 6	1535	1750	Boeing 737 Passenger	2
FR	2608	Malaga Airport	Glasgow International Airport	2	1515	1730	Boeing 737 Passenger	1
FR	2609	Glasgow International Airport	Malaga Airport	7	1605	2020	Boeing 737 Passenger	1
FR	2609	Glasgow International Airport	Malaga Airport	4 6	1815	2230	Boeing 737 Passenger	2
FR	2609	Glasgow International Airport	Malaga Airport	2	1755	2210	Boeing 737 Passenger	1
FR	2612	London Stansted Apt	Santander	7	1905	2205	Boeing 737 Passenger	1
FR	2612	London Stansted Apt	Santander	4	1835	2135	Boeing 737 Passenger	1
FR	2612	London Stansted Apt	Santander	2 5	1845	2145	Boeing 737 Passenger	2
FR	2612	London Stansted Apt	Santander	1	1315	1615	Boeing 737 Passenger	1
FR	2613	Santander	London Stansted Apt	7	2230	2325	Boeing 737 Passenger	1
FR	2613	Santander	London Stansted Apt	4	2200	2255	Boeing 737 Passenger	1
FR	2613	Santander	London Stansted Apt	2 5	2210	2305	Boeing 737 Passenger	2
FR	2613	Santander	London Stansted Apt	1	1640	1735	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	7	2030	0020	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	6	1005	1355	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	5	1950	2340	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	3	2010	2355	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	12 4	0650	1040	Boeing 737 Passenger	3
FR	2627	Ibiza	Manchester (GB)	7	1830	2005	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	6	1430	1615	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	5	1740	1925	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	3	1755	1945	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	12 4	1115	1300	Boeing 737 Passenger	3
FR	2630	Ponta Delgada	London Stansted Apt	6	1150	1645	Boeing 737 Passenger	1
FR	2631	London Stansted Apt	Ponta Delgada	6	0830	1125	Boeing 737 Passenger	1
FR	2634	London Stansted Apt	Zaragoza Airport	6	0650	1005	Boeing 737 Passenger	1
FR	2634	London Stansted Apt	Zaragoza Airport	4	1400	1715	Boeing 737 Passenger	1
FR	2634	London Stansted Apt	Zaragoza Airport	23 7	1325	1640	Boeing 737 Passenger	3
FR	2635	Zaragoza Airport	London Stansted Apt	6	1035	1150	Boeing 737 Passenger	1
FR	2635	Zaragoza Airport	London Stansted Apt	4	1740	1855	Boeing 737 Passenger	1
FR	2635	Zaragoza Airport	London Stansted Apt	23 7	1705	1820	Boeing 737 Passenger	3
FR	2642	London Stansted Apt	Riga	7	0620	1100	Boeing 737 Passenger	1
FR	2642	London Stansted Apt	Riga	5	0610	1050	Boeing 737 Passenger	1
FR	2642	London Stansted Apt	Riga	4	0635	1115	Boeing 737 Passenger	1
FR	2642	London Stansted Apt	Riga	3 6	0645	1125	Boeing 737 Passenger	2
FR	2642	London Stansted Apt	Riga	12	0625	1105	Boeing 737 Passenger	2
FR	2643	Riga	London Stansted Apt	7	1125	1210	Boeing 737 Passenger	1

FR	2643	Riga	London Stansted Apt	5	1115	1200	Boeing 737 Passenger	1
FR	2643	Riga	London Stansted Apt	4	1140	1225	Boeing 737 Passenger	1
FR	2643	Riga	London Stansted Apt	3 6	1150	1235	Boeing 737 Passenger	2
FR	2643	Riga	London Stansted Apt	12	1130	1215	Boeing 737 Passenger	2
FR	2644	London Stansted Apt	Riga	5	1640	2110	Boeing 737 Passenger	1
FR	2644	London Stansted Apt	Riga	234 67	1700	2130	Boeing 737 Passenger	5
FR	2644	London Stansted Apt	Riga	1	1755	2225	Boeing 737 Passenger	1
FR	2645	Riga	London Stansted Apt	5	2140	2225	Boeing 737 Passenger	1
FR	2645	Riga	London Stansted Apt	234 67	2155	2240	Boeing 737 Passenger	5
FR	2645	Riga	London Stansted Apt	1	2250	2335	Boeing 737 Passenger	1
FR	2665	Nowy Dwor Mazowiecki	Manchester (GB)	5	2250	0035	Boeing 737 Passenger	1
FR	2665	Nowy Dwor Mazowiecki	Manchester (GB)	3	1100	1245	Boeing 737 Passenger	1
FR	2665	Nowy Dwor Mazowiecki	Manchester (GB)	1	2130	2315	Boeing 737 Passenger	1
FR	2666	Manchester (GB)	Nowy Dwor Mazowiecki	5	1850	2215	Boeing 737 Passenger	1
FR	2666	Manchester (GB)	Nowy Dwor Mazowiecki	3	1310	1635	Boeing 737 Passenger	1
FR	2666	Manchester (GB)	Nowy Dwor Mazowiecki	1	1735	2100	Boeing 737 Passenger	1
FR	2669	London Stansted Apt	Nowy Dwor Mazowiecki	5	1945	2300	Boeing 737 Passenger	1
FR	2669	London Stansted Apt	Nowy Dwor Mazowiecki	3 7	1435	1750	Boeing 737 Passenger	2
FR	2669	London Stansted Apt	Nowy Dwor Mazowiecki	1	1420	1735	Boeing 737 Passenger	1
FR	2670	Nowy Dwor Mazowiecki	London Stansted Apt	5	1750	1920	Boeing 737 Passenger	1
FR	2670	Nowy Dwor Mazowiecki	London Stansted Apt	3 7	1815	1945	Boeing 737 Passenger	2
FR	2670	Nowy Dwor Mazowiecki	London Stansted Apt	1	1800	1930	Boeing 737 Passenger	1
FR	2672	London Stansted Apt	Rome Ciampino Apt	1234567	0625	0955	Boeing 737 Passenger	7
FR	2673	Rome Ciampino Apt	London Stansted Apt	1234567	1020	1205	Boeing 737 Passenger	7
FR	2674	Edinburgh	Copenhagen Kastrup Apt	1 3 5 7	1845	2135	Boeing 737 Passenger	4
FR	2675	Copenhagen Kastrup Apt	Edinburgh	1 3 5 7	2200	2250	Boeing 737 Passenger	4
FR	2687	London Stansted Apt	Cagliari	6	0720	1055	Boeing 737 Passenger	1
FR	2687	London Stansted Apt	Cagliari	4	0635	1010	Boeing 737 Passenger	1
FR	2687	London Stansted Apt	Cagliari	2	0610	0945	Boeing 737 Passenger	1
FR	2688	Cagliari	London Stansted Apt	6	1120	1255	Boeing 737 Passenger	1
FR	2688	Cagliari	London Stansted Apt	4	1035	1210	Boeing 737 Passenger	1
FR	2688	Cagliari	London Stansted Apt	2	1010	1145	Boeing 737 Passenger	1
FR	2690	London Southend Apt	Faro	6	1725	2010	Boeing 737 Passenger	1
FR	2690	London Southend Apt	Faro	34	1705	1950	Boeing 737 Passenger	2
FR	2690	London Southend Apt	Faro	1 5	1610	1855	Boeing 737 Passenger	2
FR	2691	Faro	London Southend Apt	6	2035	2315	Boeing 737 Passenger	1
FR	2691	Faro	London Southend Apt	34	2015	2255	Boeing 737 Passenger	2
FR	2691	Faro	London Southend Apt	1 5	1920	2200	Boeing 737 Passenger	2
FR	2698	London Southend Apt	Cluj-Napoca	6	0630	1110	Boeing 737 Passenger	1
FR	2698	London Southend Apt	Cluj-Napoca	4	0700	1140	Boeing 737 Passenger	1
FR	2698	London Southend Apt	Cluj-Napoca	2	1650	2130	Boeing 737 Passenger	1
FR	2699	Cluj-Napoca	London Southend Apt	6	1140	1220	Boeing 737 Passenger	1
FR	2699	Cluj-Napoca	London Southend Apt	4	1210	1250	Boeing 737 Passenger	1
FR	2699	Cluj-Napoca	London Southend Apt	2	2200	2240	Boeing 737 Passenger	1
FR	2700	London Southend Apt	Copenhagen Kastrup Apt	6	1920	2210	Boeing 737 Passenger	1
FR	2700	London Southend Apt	Copenhagen Kastrup Apt	4	1735	2025	Boeing 737 Passenger	1
FR	2700	London Southend Apt	Copenhagen Kastrup Apt	2	1750	2040	Boeing 737 Passenger	1
FR	2701	Copenhagen Kastrup Apt	London Southend Apt	6	2235	2325	Boeing 737 Passenger	1
FR	2701	Copenhagen Kastrup Apt	London Southend Apt	4	2050	2140	Boeing 737 Passenger	1
FR	2701	Copenhagen Kastrup Apt	London Southend Apt	2	2105	2155	Boeing 737 Passenger	1
FR	2709	London Southend Apt	Kerkyra	7	0740	1240	Boeing 737 Passenger	1
FR	2709	London Southend Apt	Kerkyra	2	1325	1825	Boeing 737 Passenger	1
FR	271	London Stansted Apt	Dublin (IE)	1234567	2205	2330	Boeing 737 Passenger	7
FR	2710	Kerkyra	London Southend Apt	7	1305	1400	Boeing 737 Passenger	1
FR	2710	Kerkyra	London Southend Apt	2	1850	1950	Boeing 737 Passenger	1
FR	2711	Birmingham Airport	Ibiza	7	0720	1100	Boeing 737 Passenger	1
FR	2711	Birmingham Airport	Ibiza	4	1450	1830	Boeing 737 Passenger	1
FR	2712	Ibiza	Birmingham Airport	7	1135	1315	Boeing 737 Passenger	1
FR	2712	Ibiza	Birmingham Airport	4	1905	2045	Boeing 737 Passenger	1
FR	2714	Alicante Airport	London Gatwick Apt	5	1520	1700	Boeing 737 Passenger	1
FR	2714	Alicante Airport	London Gatwick Apt	4	0825	1005	Boeing 737 Passenger	1
FR	2714	Alicante Airport	London Gatwick Apt	2 6	0810	0950	Boeing 737 Passenger	2
FR	2714	Alicante Airport	London Gatwick Apt	1 3	1530	1710	Boeing 737 Passenger	2
FR	2715	London Gatwick Apt	Alicante Airport	6	1015	1345	Boeing 737 Passenger	1
FR	2715	London Gatwick Apt	Alicante Airport	4	1100	1430	Boeing 737 Passenger	1
FR	2715	London Gatwick Apt	Alicante Airport	3 5	1735	2105	Boeing 737 Passenger	2
FR	2715	London Gatwick Apt	Alicante Airport	2	1025	1355	Boeing 737 Passenger	1
FR	2715	London Gatwick Apt	Alicante Airport	1	1740	2110	Boeing 737 Passenger	1
FR	2716	London Southend Apt	Bilbao	7	1455	1735	Boeing 737 Passenger	1
FR	2716	London Southend Apt	Bilbao	4	0630	0910	Boeing 737 Passenger	1

FR	2716	London Southend Apt	Bilbao	3	1300	1540	Boeing 737 Passenger	1
FR	2716	London Southend Apt	Bilbao	2	1305	1545	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	7	1805	1845	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	4	0945	1025	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	3	1615	1655	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	2	1620	1700	Boeing 737 Passenger	1
FR	2718	London Southend Apt	Kosice	6	0630	1010	Boeing 737 Passenger	1
FR	2718	London Southend Apt	Kosice	4	1340	1720	Boeing 737 Passenger	1
FR	2718	London Southend Apt	Kosice	2	0650	1030	Boeing 737 Passenger	1
FR	2719	Kosice	London Southend Apt	6	1035	1215	Boeing 737 Passenger	1
FR	2719	Kosice	London Southend Apt	4	1745	1925	Boeing 737 Passenger	1
FR	2719	Kosice	London Southend Apt	2	1055	1235	Boeing 737 Passenger	1
FR	272	Dublin (IE)	London Stansted Apt	1234567	2020	2140	Boeing 737 Passenger	7
FR	2720	London Southend Apt	Dublin (IE)	6	0630	0745	Boeing 737 Passenger	1
FR	2720	London Southend Apt	Dublin (IE)	4	2015	2130	Boeing 737 Passenger	1
FR	2720	London Southend Apt	Dublin (IE)	2	2040	2155	Boeing 737 Passenger	1
FR	2720	London Southend Apt	Dublin (IE)	1 3 5 7	1955	2110	Boeing 737 Passenger	4
FR	2721	Dublin (IE)	London Southend Apt	6	0810	0920	Boeing 737 Passenger	1
FR	2721	Dublin (IE)	London Southend Apt	4	2155	2305	Boeing 737 Passenger	1
FR	2721	Dublin (IE)	London Southend Apt	2	2220	2330	Boeing 737 Passenger	1
FR	2721	Dublin (IE)	London Southend Apt	1 3 5 7	2135	2245	Boeing 737 Passenger	4
FR	2746	London Stansted Apt	Kaunas	3 56	1815	2250	Boeing 737 Passenger	3
FR	2746	London Stansted Apt	Kaunas	2	0700	1135	Boeing 737 Passenger	1
FR	2747	Kaunas	London Stansted Apt	3 56	1710	1750	Boeing 737 Passenger	3
FR	2747	Kaunas	London Stansted Apt	2	1200	1240	Boeing 737 Passenger	1
FR	2752	Pisa	Edinburgh	6	0705	0850	Boeing 737 Passenger	1
FR	2752	Pisa	Edinburgh	4	1800	1945	Boeing 737 Passenger	1
FR	2752	Pisa	Edinburgh	2	1925	2110	Boeing 737 Passenger	1
FR	2753	Edinburgh	Pisa	6	0915	1300	Boeing 737 Passenger	1
FR	2753	Edinburgh	Pisa	4	2010	2355	Boeing 737 Passenger	1
FR	2753	Edinburgh	Pisa	2	1515	1900	Boeing 737 Passenger	1
FR	2772	London Stansted Apt	Fes	3 7	1045	1400	Boeing 737 Passenger	2
FR	2773	Fes	London Stansted Apt	3 7	0705	1020	Boeing 737 Passenger	2
FR	2781	Leeds Bradford	Malaga Airport	2	0645	1040	Boeing 737 Passenger	1
FR	2786	London Stansted Apt	Rodez	7	1125	1405	Boeing 737 Passenger	1
FR	2786	London Stansted Apt	Rodez	4	1420	1700	Boeing 737 Passenger	1
FR	2787	Rodez	London Stansted Apt	7	1430	1510	Boeing 737 Passenger	1
FR	2787	Rodez	London Stansted Apt	4	1725	1805	Boeing 737 Passenger	1
FR	2800	Manchester (GB)	Billund	5	1300	1555	Boeing 737 Passenger	1
FR	2800	Manchester (GB)	Billund	2 6	1335	1630	Boeing 737 Passenger	2
FR	2800	Manchester (GB)	Billund	1	0930	1225	Boeing 737 Passenger	1
FR	2801	Billund	Manchester (GB)	5	1620	1710	Boeing 737 Passenger	1
FR	2801	Billund	Manchester (GB)	2 6	1655	1745	Boeing 737 Passenger	2
FR	2801	Billund	Manchester (GB)	1	1250	1340	Boeing 737 Passenger	1
FR	2803	London Southend Apt	Palma de Mallorca	34	1105	1420	Boeing 737 Passenger	2
FR	2803	London Southend Apt	Palma de Mallorca	2 7	1045	1400	Boeing 737 Passenger	2
FR	2803	London Southend Apt	Palma de Mallorca	1 56	1050	1405	Boeing 737 Passenger	3
FR	2804	Palma de Mallorca	London Southend Apt	2 7	1440	1600	Boeing 737 Passenger	2
FR	2804	Palma de Mallorca	London Southend Apt	1 3456	1455	1615	Boeing 737 Passenger	5
FR	281	London Stansted Apt	Toulouse	7	1850	2150	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	6	1815	2115	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	5	1820	2120	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	4	1810	2110	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	3	1805	2105	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	2	1935	2235	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	1	1830	2130	Boeing 737 Passenger	1
FR	2813	Cologne/Bonn Apt	London Stansted Apt	123456	0645	0710	Boeing 737 Passenger	6
FR	2814	London Stansted Apt	Cologne/Bonn Apt	6	0735	1000	Boeing 737 Passenger	1
FR	2814	London Stansted Apt	Cologne/Bonn Apt	3	0745	1010	Boeing 737 Passenger	1
FR	2814	London Stansted Apt	Cologne/Bonn Apt	12 45	0740	1005	Boeing 737 Passenger	4
FR	2815	Cologne/Bonn Apt	London Stansted Apt	4	2210	2230	Boeing 737 Passenger	1
FR	2815	Cologne/Bonn Apt	London Stansted Apt	123 5 7	2155	2215	Boeing 737 Passenger	5
FR	2816	London Stansted Apt	Cologne/Bonn Apt	4	1920	2145	Boeing 737 Passenger	1
FR	2816	London Stansted Apt	Cologne/Bonn Apt	123 5 7	1905	2130	Boeing 737 Passenger	5
FR	282	Toulouse	London Stansted Apt	7	2215	2310	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	6	2140	2235	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	5	2145	2240	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	4	2135	2230	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	3	2130	2225	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	2	2300	2355	Boeing 737 Passenger	1

FR	282	Toulouse	London Stansted Apt	1	2155	2250	Boeing 737 Passenger	1
FR	2821	Manchester (GB)	Chania	6	0710	1315	Boeing 737 Passenger	1
FR	2821	Manchester (GB)	Chania	4	0810	1415	Boeing 737 Passenger	1
FR	2821	Manchester (GB)	Chania	2	1355	2000	Boeing 737 Passenger	1
FR	2822	Chania	Manchester (GB)	6	1405	1630	Boeing 737 Passenger	1
FR	2822	Chania	Manchester (GB)	4	1445	1710	Boeing 737 Passenger	1
FR	2822	Chania	Manchester (GB)	2	2025	2250	Boeing 737 Passenger	1
FR	2830	London Southend Apt	Reus	1 5	1055	1355	Boeing 737 Passenger	2
FR	2831	Reus	London Southend Apt	1 5	1420	1520	Boeing 737 Passenger	2
FR	2840	London Southend Apt	Brest (FR)	1 5	0705	0920	Boeing 737 Passenger	2
FR	2841	Brest (FR)	London Southend Apt	1 5	0945	1000	Boeing 737 Passenger	2
FR	286	London Stansted Apt	Klaipeda/Palanga	2 6	0610	1025	Boeing 737 Passenger	2
FR	2860	London Stansted Apt	Luxembourg	7	1425	1640	Boeing 737 Passenger	1
FR	2860	London Stansted Apt	Luxembourg	56	1900	2115	Boeing 737 Passenger	2
FR	2860	London Stansted Apt	Luxembourg	1234	1855	2110	Boeing 737 Passenger	4
FR	2861	Luxembourg	London Stansted Apt	7	1715	1730	Boeing 737 Passenger	1
FR	2861	Luxembourg	London Stansted Apt	56	2150	2205	Boeing 737 Passenger	2
FR	2861	Luxembourg	London Stansted Apt	1234	2145	2200	Boeing 737 Passenger	4
FR	287	Klaipeda/Palanga	London Stansted Apt	2 6	1050	1120	Boeing 737 Passenger	2
FR	288	Dublin (IE)	London Stansted Apt	3	1830	1950	Boeing 737 Passenger	1
FR	288	Dublin (IE)	London Stansted Apt	12 4567	1855	2015	Boeing 737 Passenger	6
FR	2885	Kaunas	Edinburgh	6	2225	2315	Boeing 737 Passenger	1
FR	2885	Kaunas	Edinburgh	2	1315	1405	Boeing 737 Passenger	1
FR	2886	Edinburgh	Kaunas	6	1715	2200	Boeing 737 Passenger	1
FR	2886	Edinburgh	Kaunas	2	0805	1250	Boeing 737 Passenger	1
FR	2911	Birmingham Airport	Faro	6	1935	2230	Boeing 737 Passenger	1
FR	2911	Birmingham Airport	Faro	4	1640	1935	Boeing 737 Passenger	1
FR	2912	Faro	Birmingham Airport	6	1620	1910	Boeing 737 Passenger	1
FR	2912	Faro	Birmingham Airport	4	2000	2250	Boeing 737 Passenger	1
FR	293	London Stansted Apt	Dublin (IE)	12345 7	2010	2130	Boeing 737 Passenger	6
FR	294	Dublin (IE)	London Stansted Apt	1234567	1530	1650	Boeing 737 Passenger	7
FR	295	London Stansted Apt	Toulouse	5	0635	0935	Boeing 737 Passenger	1
FR	295	London Stansted Apt	Toulouse	1234 67	0715	1015	Boeing 737 Passenger	6
FR	2953	Newquay	Alicante Airport	7	2005	2320	Boeing 737 Passenger	1
FR	2953	Newquay	Alicante Airport	3	0905	1220	Boeing 737 Passenger	1
FR	2954	Alicante Airport	Newquay	7	1810	1940	Boeing 737 Passenger	1
FR	2954	Alicante Airport	Newquay	3	0710	0840	Boeing 737 Passenger	1
FR	296	Toulouse	London Stansted Apt	5	1000	1055	Boeing 737 Passenger	1
FR	296	Toulouse	London Stansted Apt	1234 67	1040	1135	Boeing 737 Passenger	6
FR	297	London Stansted Apt	Dublin (IE)	3	1640	1805	Boeing 737 Passenger	1
FR	297	London Stansted Apt	Dublin (IE)	12 4567	1705	1830	Boeing 737 Passenger	6
FR	298	Dublin (IE)	London Stansted Apt	12345 7	2155	2315	Boeing 737 Passenger	6
FR	2981	Bristol	Bologna Guglielmo Marconi	7	0705	1015	Boeing 737 Passenger	1
FR	2981	Bristol	Bologna Guglielmo Marconi	3	0645	0955	Boeing 737 Passenger	1
FR	2982	Bologna Guglielmo Marconi	Bristol	7	1040	1200	Boeing 737 Passenger	1
FR	2982	Bologna Guglielmo Marconi	Bristol	3	1020	1140	Boeing 737 Passenger	1
FR	3002	London Stansted Apt	Rome Ciampino Apt	3	0840	1210	Boeing 737 Passenger	1
FR	3002	London Stansted Apt	Rome Ciampino Apt	12 4567	0845	1215	Boeing 737 Passenger	6
FR	3003	Rome Ciampino Apt	London Stansted Apt	23	1710	1855	Boeing 737 Passenger	2
FR	3003	Rome Ciampino Apt	London Stansted Apt	1 4567	1715	1900	Boeing 737 Passenger	5
FR	3004	London Stansted Apt	Rome Ciampino Apt	23	1920	2250	Boeing 737 Passenger	2
FR	3004	London Stansted Apt	Rome Ciampino Apt	1 4567	1925	2255	Boeing 737 Passenger	5
FR	3005	Rome Ciampino Apt	London Stansted Apt	234567	0630	0815	Boeing 737 Passenger	6
FR	3005	Rome Ciampino Apt	London Stansted Apt	1	0625	0810	Boeing 737 Passenger	1
FR	3014	London Stansted Apt	Rome Ciampino Apt	1234567	1610	1940	Boeing 737 Passenger	7
FR	3015	Rome Ciampino Apt	London Stansted Apt	1234567	1400	1545	Boeing 737 Passenger	7
FR	3026	Gdansk Lech Walesa	Belfast International Apt	3 6	0635	0815	Boeing 737 Passenger	2
FR	3027	Belfast International Apt	Gdansk Lech Walesa	3 6	0845	1230	Boeing 737 Passenger	2
FR	3028	Liverpool	Marrakech	5	0625	1015	Boeing 737 Passenger	1
FR	3028	Liverpool	Marrakech	1	0625	1005	Boeing 737 Passenger	1
FR	3029	Marrakech	Liverpool	5	1040	1430	Boeing 737 Passenger	1
FR	3029	Marrakech	Liverpool	1	1030	1410	Boeing 737 Passenger	1
FR	3033	London Stansted Apt	Agadir	6	1555	1945	Boeing 737 Passenger	1
FR	3033	London Stansted Apt	Agadir	2	1610	2000	Boeing 737 Passenger	1
FR	3034	Agadir	London Stansted Apt	6	2010	2359	Boeing 737 Passenger	1
FR	3034	Agadir	London Stansted Apt	2	2025	0015	Boeing 737 Passenger	1
FR	304	London Stansted Apt	Salzburg W A Mozart	3	0715	1010	Boeing 737 Passenger	1
FR	304	London Stansted Apt	Salzburg W A Mozart	1 567	0725	1020	Boeing 737 Passenger	4
FR	305	Salzburg W A Mozart	London Stansted Apt	3	1035	1135	Boeing 737 Passenger	1
FR	305	Salzburg W A Mozart	London Stansted Apt	1 567	1045	1145	Boeing 737 Passenger	4

FR	3071	London Stansted Apt	Comiso	5	1620	2035	Boeing 737 Passenger	1
FR	3071	London Stansted Apt	Comiso	1	0715	1130	Boeing 737 Passenger	1
FR	3072	London Stansted Apt	Rome Ciampino Apt	3	1310	1640	Boeing 737 Passenger	1
FR	3072	London Stansted Apt	Rome Ciampino Apt	12 4567	1325	1655	Boeing 737 Passenger	6
FR	3073	Rome Ciampino Apt	London Stansted Apt	3	1100	1245	Boeing 737 Passenger	1
FR	3073	Rome Ciampino Apt	London Stansted Apt	12 4567	1115	1300	Boeing 737 Passenger	6
FR	3074	Comiso	London Stansted Apt	5	2100	2320	Boeing 737 Passenger	1
FR	3074	Comiso	London Stansted Apt	1	1155	1415	Boeing 737 Passenger	1
FR	3086	Manchester (GB)	Bordeaux Merignac Apt	7	2035	2325	Boeing 737 Passenger	1
FR	3086	Manchester (GB)	Bordeaux Merignac Apt	3	0915	1205	Boeing 737 Passenger	1
FR	3087	Bordeaux Merignac Apt	Manchester (GB)	7	2350	0040	Boeing 737 Passenger	1
FR	3087	Bordeaux Merignac Apt	Manchester (GB)	3	0800	0850	Boeing 737 Passenger	1
FR	3088	Manchester (GB)	Goteborg Landvetter Apt	7	1125	1420	Boeing 737 Passenger	1
FR	3088	Manchester (GB)	Goteborg Landvetter Apt	3	0935	1230	Boeing 737 Passenger	1
FR	3089	Goteborg Landvetter Apt	Manchester (GB)	7	1005	1100	Boeing 737 Passenger	1
FR	3089	Goteborg Landvetter Apt	Manchester (GB)	3	1255	1350	Boeing 737 Passenger	1
FR	3118	Manchester (GB)	Marseille Provence Apt	2 6	1050	1400	Boeing 737 Passenger	2
FR	3119	Marseille Provence Apt	Manchester (GB)	2 6	1425	1535	Boeing 737 Passenger	2
FR	3126	Manchester (GB)	Marrakech	7	1935	2315	Boeing 737 Passenger	1
FR	3126	Manchester (GB)	Marrakech	4	0610	1000	Boeing 737 Passenger	1
FR	3127	Marrakech	Manchester (GB)	7	1530	1910	Boeing 737 Passenger	1
FR	3127	Marrakech	Manchester (GB)	4	1025	1415	Boeing 737 Passenger	1
FR	3128	Manchester (GB)	Thessaloniki	7	0640	1215	Boeing 737 Passenger	1
FR	3128	Manchester (GB)	Thessaloniki	3	1000	1535	Boeing 737 Passenger	1
FR	3129	Thessaloniki	Manchester (GB)	7	1240	1415	Boeing 737 Passenger	1
FR	3129	Thessaloniki	Manchester (GB)	3	1600	1735	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	7	1750	0030	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	6	1855	0125	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	5	1750	0020	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	4	1710	2350	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	3	1700	2330	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	2	0555	1225	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	1	1555	2225	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	7	1415	1725	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	6	1530	1830	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	5	1425	1725	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	4	1335	1645	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	3	1335	1635	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	2	1250	1550	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	1	1230	1530	Boeing 737 Passenger	1
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	7	1415	1850	Boeing 737 Passenger	1
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	6	1400	1835	Boeing 737 Passenger	1
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	2345	1355	1830	Boeing 737 Passenger	4
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	1	1405	1840	Boeing 737 Passenger	1
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	7	1925	2340	Boeing 737 Passenger	1
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	6	1910	2325	Boeing 737 Passenger	1
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	2345	1905	2320	Boeing 737 Passenger	4
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	1	1915	2330	Boeing 737 Passenger	1
FR	3162	Nottingham East Midlands Airport	Gran Canaria	6	2010	0035	Boeing 737 Passenger	1
FR	3162	Nottingham East Midlands Airport	Gran Canaria	3	1850	2325	Boeing 737 Passenger	1
FR	3163	Gran Canaria	Nottingham East Midlands Airport	6	1525	1945	Boeing 737 Passenger	1
FR	3163	Gran Canaria	Nottingham East Midlands Airport	3	1355	1825	Boeing 737 Passenger	1
FR	3168	Liverpool	Paphos	7	1415	2120	Boeing 737 Passenger	1
FR	3168	Liverpool	Paphos	3	0600	1255	Boeing 737 Passenger	1
FR	3169	Paphos	Liverpool	7	2145	0050	Boeing 737 Passenger	1
FR	3169	Paphos	Liverpool	3	1320	1615	Boeing 737 Passenger	1
FR	3170	Edinburgh	Riga	4	1740	2225	Boeing 737 Passenger	1
FR	3171	Riga	Edinburgh	4	2250	2335	Boeing 737 Passenger	1
FR	3172	Nottingham East Midlands Airport	Lanzarote	67	0705	1120	Boeing 737 Passenger	2
FR	3172	Nottingham East Midlands Airport	Lanzarote	2 4	0700	1120	Boeing 737 Passenger	2
FR	3173	Lanzarote	Nottingham East Midlands Airport	2 4 67	1155	1605	Boeing 737 Passenger	4
FR	3178	Edinburgh	Memmingen	6	1040	1355	Boeing 737 Passenger	1
FR	3178	Edinburgh	Memmingen	2	1335	1650	Boeing 737 Passenger	1
FR	3179	Memmingen	Edinburgh	6	1420	1535	Boeing 737 Passenger	1
FR	3179	Memmingen	Edinburgh	2	1715	1830	Boeing 737 Passenger	1
FR	3180	Edinburgh	Stockholm Skavsta Airport	4	0700	1010	Boeing 737 Passenger	1
FR	3180	Edinburgh	Stockholm Skavsta Airport	1	0635	0945	Boeing 737 Passenger	1
FR	3181	Stockholm Skavsta Airport	Edinburgh	4	1035	1145	Boeing 737 Passenger	1
FR	3181	Stockholm Skavsta Airport	Edinburgh	1	1010	1120	Boeing 737 Passenger	1
FR	3182	Edinburgh	Derry	6	0620	0715	Boeing 737 Passenger	1

FR	3182	Edinburgh	Derry	5	0645	0740	Boeing 737 Passenger	1
FR	3182	Edinburgh	Derry	2 4 7	1915	2010	Boeing 737 Passenger	3
FR	3183	Derry	Edinburgh	6	0740	0835	Boeing 737 Passenger	1
FR	3183	Derry	Edinburgh	5	0805	0900	Boeing 737 Passenger	1
FR	3183	Derry	Edinburgh	2 4 7	2035	2130	Boeing 737 Passenger	3
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	7	0700	0840	Boeing 737 Passenger	1
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	3	0655	0840	Boeing 737 Passenger	1
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	2 6	0805	0945	Boeing 737 Passenger	2
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	1 45	0810	0950	Boeing 737 Passenger	3
FR	3187	Manchester (GB)	Madrid Adolfo Suarez-Barajas Apt	3 7	0905	1240	Boeing 737 Passenger	2
FR	3187	Manchester (GB)	Madrid Adolfo Suarez-Barajas Apt	2 6	1010	1345	Boeing 737 Passenger	2
FR	3187	Manchester (GB)	Madrid Adolfo Suarez-Barajas Apt	1 45	1015	1350	Boeing 737 Passenger	3
FR	3188	London Stansted Apt	Rijeka	5	0905	1220	Boeing 737 Passenger	1
FR	3188	London Stansted Apt	Rijeka	1	0855	1210	Boeing 737 Passenger	1
FR	3189	Rijeka	London Stansted Apt	5	1245	1400	Boeing 737 Passenger	1
FR	3189	Rijeka	London Stansted Apt	1	1235	1350	Boeing 737 Passenger	1
FR	32	London Stansted Apt	Oslo Sandefjord-Torp Arpt	5 7	1140	1435	Boeing 737 Passenger	2
FR	32	London Stansted Apt	Oslo Sandefjord-Torp Arpt	3	1635	1930	Boeing 737 Passenger	1
FR	32	London Stansted Apt	Oslo Sandefjord-Torp Arpt	1	1340	1635	Boeing 737 Passenger	1
FR	3202	Manchester (GB)	Rzeszow	7	0555	0940	Boeing 737 Passenger	1
FR	3202	Manchester (GB)	Rzeszow	3	0830	1215	Boeing 737 Passenger	1
FR	3203	Rzeszow	Manchester (GB)	7	1005	1155	Boeing 737 Passenger	1
FR	3203	Rzeszow	Manchester (GB)	3	1240	1430	Boeing 737 Passenger	1
FR	3204	Manchester (GB)	Rome Ciampino Apt	6	0610	0955	Boeing 737 Passenger	1
FR	3204	Manchester (GB)	Rome Ciampino Apt	2345 7	0715	1100	Boeing 737 Passenger	5
FR	3204	Manchester (GB)	Rome Ciampino Apt	1	0930	1315	Boeing 737 Passenger	1
FR	3205	Rome Ciampino Apt	Manchester (GB)	6	1020	1215	Boeing 737 Passenger	1
FR	3205	Rome Ciampino Apt	Manchester (GB)	2345 7	1125	1320	Boeing 737 Passenger	5
FR	3205	Rome Ciampino Apt	Manchester (GB)	1	0655	0850	Boeing 737 Passenger	1
FR	3206	Manchester (GB)	Rome Ciampino Apt	3 5 7	1745	2130	Boeing 737 Passenger	3
FR	3207	Rome Ciampino Apt	Manchester (GB)	3 5 7	2155	2350	Boeing 737 Passenger	3
FR	3208	Manchester (GB)	Malaga Airport	1234567	1955	2355	Boeing 737 Passenger	7
FR	3209	Malaga Airport	Manchester (GB)	1234567	1725	1930	Boeing 737 Passenger	7
FR	3212	Manchester (GB)	Girona Costa Brava Apt	2 4 6	0835	1150	Boeing 737 Passenger	3
FR	3213	Girona Costa Brava Apt	Manchester (GB)	2 4 6	0640	0810	Boeing 737 Passenger	3
FR	3216	Manchester (GB)	Milan Bergamo/orio al Serio Apt	7	0830	1145	Boeing 737 Passenger	1
FR	3216	Manchester (GB)	Milan Bergamo/orio al Serio Apt	4	0825	1140	Boeing 737 Passenger	1
FR	3217	Milan Bergamo/orio al Serio Apt	Manchester (GB)	7	1215	1330	Boeing 737 Passenger	1
FR	3217	Milan Bergamo/orio al Serio Apt	Manchester (GB)	4	1205	1325	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	6	1830	2145	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	45 7	1305	1620	Boeing 737 Passenger	3
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	3	1625	1940	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	2	0745	1100	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	1	1900	2215	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	6	2210	2325	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	45 7	1645	1805	Boeing 737 Passenger	3
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	3	2005	2125	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	2	1125	1245	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	1	2240	2359	Boeing 737 Passenger	1
FR	3222	Manchester (GB)	Brussels S. Charleroi Airport	12345 7	1830	2055	Boeing 737 Passenger	6
FR	3223	Brussels S. Charleroi Airport	Manchester (GB)	12345 7	2120	2145	Boeing 737 Passenger	6
FR	3226	Manchester (GB)	Oslo Sandefjord-Torp Arpt	5	0830	1125	Boeing 737 Passenger	1
FR	3226	Manchester (GB)	Oslo Sandefjord-Torp Arpt	4	1835	2130	Boeing 737 Passenger	1
FR	3226	Manchester (GB)	Oslo Sandefjord-Torp Arpt	1	1345	1640	Boeing 737 Passenger	1
FR	3227	Oslo Sandefjord-Torp Arpt	Manchester (GB)	5	1150	1300	Boeing 737 Passenger	1
FR	3227	Oslo Sandefjord-Torp Arpt	Manchester (GB)	4	2155	2305	Boeing 737 Passenger	1
FR	3227	Oslo Sandefjord-Torp Arpt	Manchester (GB)	1	1705	1805	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	6	1010	1410	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	4	1000	1400	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	3 5 7	1015	1415	Boeing 737 Passenger	3
FR	3232	Manchester (GB)	Malaga Airport	2	1535	1935	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	1	0915	1315	Boeing 737 Passenger	1
FR	3233	Malaga Airport	Manchester (GB)	56	0740	0945	Boeing 737 Passenger	2
FR	3233	Malaga Airport	Manchester (GB)	4	0730	0935	Boeing 737 Passenger	1
FR	3233	Malaga Airport	Manchester (GB)	3 7	0745	0950	Boeing 737 Passenger	2
FR	3233	Malaga Airport	Manchester (GB)	2	2010	2215	Boeing 737 Passenger	1
FR	3233	Malaga Airport	Manchester (GB)	1	1350	1555	Boeing 737 Passenger	1
FR	3234	Manchester (GB)	Eindhoven Airport	7	0730	0945	Boeing 737 Passenger	1
FR	3234	Manchester (GB)	Eindhoven Airport	4	1415	1630	Boeing 737 Passenger	1
FR	3234	Manchester (GB)	Eindhoven Airport	1 5	1350	1605	Boeing 737 Passenger	2

FR	3235	Eindhoven Airport	Manchester (GB)	7	1010	1025	Boeing 737 Passenger	1
FR	3235	Eindhoven Airport	Manchester (GB)	4	1655	1710	Boeing 737 Passenger	1
FR	3235	Eindhoven Airport	Manchester (GB)	1 5	1630	1645	Boeing 737 Passenger	2
FR	3238	Manchester (GB)	Brussels S. Charleroi Airport	6	0715	0940	Boeing 737 Passenger	1
FR	3238	Manchester (GB)	Brussels S. Charleroi Airport	12345	0750	1015	Boeing 737 Passenger	5
FR	3239	Brussels S. Charleroi Airport	Manchester (GB)	6	1005	1030	Boeing 737 Passenger	1
FR	3239	Brussels S. Charleroi Airport	Manchester (GB)	12345	0700	0725	Boeing 737 Passenger	5
FR	3242	Manchester (GB)	Beziers	4	1100	1410	Boeing 737 Passenger	1
FR	3242	Manchester (GB)	Beziers	2 6	1320	1630	Boeing 737 Passenger	2
FR	3243	Beziers	Manchester (GB)	4	1435	1545	Boeing 737 Passenger	1
FR	3243	Beziers	Manchester (GB)	2 6	1655	1805	Boeing 737 Passenger	2
FR	3256	London Luton Apt	Nimes Garons Airport	2 4 6	0635	0930	Boeing 737 Passenger	3
FR	3257	Nimes Garons Airport	London Luton Apt	2 4 6	0955	1050	Boeing 737 Passenger	3
FR	33	Oslo Sandefjord-Torp Arpt	London Stansted Apt	5 7	1500	1600	Boeing 737 Passenger	2
FR	33	Oslo Sandefjord-Torp Arpt	London Stansted Apt	3	1955	2055	Boeing 737 Passenger	1
FR	33	Oslo Sandefjord-Torp Arpt	London Stansted Apt	1	1715	1815	Boeing 737 Passenger	1
FR	331	London Luton Apt	Dublin (IE)	1234567	0630	0750	Boeing 737 Passenger	7
FR	332	Dublin (IE)	London Luton Apt	1234567	0815	0930	Boeing 737 Passenger	7
FR	337	Dublin (IE)	London Luton Apt	123 567	1600	1715	Boeing 737 Passenger	6
FR	338	London Luton Apt	Dublin (IE)	1234567	1415	1535	Boeing 737 Passenger	7
FR	3385	Bristol	Limoges	1 5	1400	1635	Boeing 737 Passenger	2
FR	3386	Limoges	Bristol	1 5	1700	1740	Boeing 737 Passenger	2
FR	339	London Luton Apt	Dublin (IE)	5	1635	1755	Boeing 737 Passenger	1
FR	339	London Luton Apt	Dublin (IE)	1	1750	1910	Boeing 737 Passenger	1
FR	34	Manchester (GB)	Bratislava	7	1840	2210	Boeing 737 Passenger	1
FR	34	Manchester (GB)	Bratislava	5	2035	0005	Boeing 737 Passenger	1
FR	34	Manchester (GB)	Bratislava	3	1405	1735	Boeing 737 Passenger	1
FR	340	Dublin (IE)	London Luton Apt	5	1820	1935	Boeing 737 Passenger	1
FR	340	Dublin (IE)	London Luton Apt	1	1935	2050	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	7	1640	1955	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	6	1625	1940	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	5	1610	1925	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	4	1605	1920	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	3	1730	2045	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	2	1530	1845	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	1	1705	2020	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	7	1455	1615	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	6	1440	1600	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	5	1425	1545	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	4	1415	1535	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	3	1545	1705	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	2	1345	1505	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	1	1520	1640	Boeing 737 Passenger	1
FR	341	London Luton Apt	Dublin (IE)	1234567	2005	2125	Boeing 737 Passenger	7
FR	342	Dublin (IE)	London Luton Apt	123 567	2200	2315	Boeing 737 Passenger	6
FR	3441	Manchester (GB)	Palma de Mallorca	7	0755	1135	Boeing 737 Passenger	1
FR	3441	Manchester (GB)	Palma de Mallorca	6	0655	1035	Boeing 737 Passenger	1
FR	3441	Manchester (GB)	Palma de Mallorca	345	0620	1000	Boeing 737 Passenger	3
FR	3441	Manchester (GB)	Palma de Mallorca	2	0900	1240	Boeing 737 Passenger	1
FR	3441	Manchester (GB)	Palma de Mallorca	1	0715	1055	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	7	1210	1350	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	6	1110	1250	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	345	1035	1215	Boeing 737 Passenger	3
FR	3442	Palma de Mallorca	Manchester (GB)	2	1315	1455	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	1	1130	1310	Boeing 737 Passenger	1
FR	3445	Manchester (GB)	Palma de Mallorca	234 67	1715	2055	Boeing 737 Passenger	5
FR	3445	Manchester (GB)	Palma de Mallorca	1 5	1710	2050	Boeing 737 Passenger	2
FR	3446	Palma de Mallorca	Manchester (GB)	234567	2130	2310	Boeing 737 Passenger	6
FR	3446	Palma de Mallorca	Manchester (GB)	1	2125	2305	Boeing 737 Passenger	1
FR	3452	London Luton Apt	Corvera	6	1545	1930	Boeing 737 Passenger	1
FR	3452	London Luton Apt	Corvera	345 7	1740	2125	Boeing 737 Passenger	4
FR	3452	London Luton Apt	Corvera	2	1655	2040	Boeing 737 Passenger	1
FR	3452	London Luton Apt	Corvera	1	1735	2120	Boeing 737 Passenger	1
FR	3453	Corvera	London Luton Apt	6	2005	2150	Boeing 737 Passenger	1
FR	3453	Corvera	London Luton Apt	345 7	2200	2345	Boeing 737 Passenger	4
FR	3453	Corvera	London Luton Apt	2	2120	2300	Boeing 737 Passenger	1
FR	3453	Corvera	London Luton Apt	1	2155	2340	Boeing 737 Passenger	1
FR	3456	London Luton Apt	Beziers	5	0630	0925	Boeing 737 Passenger	1
FR	3456	London Luton Apt	Beziers	1 3	0625	0920	Boeing 737 Passenger	2
FR	3457	Beziers	London Luton Apt	5	0950	1050	Boeing 737 Passenger	1

FR	3457	Beziers	London Luton Apt	1 3	0945	1045	Boeing 737 Passenger	2
FR	3466	London Luton Apt	Vilnius	4	1750	2230	Boeing 737 Passenger	1
FR	3466	London Luton Apt	Vilnius	3	0715	1155	Boeing 737 Passenger	1
FR	3466	London Luton Apt	Vilnius	2 6	1735	2215	Boeing 737 Passenger	2
FR	3466	London Luton Apt	Vilnius	1	1725	2205	Boeing 737 Passenger	1
FR	3467	Vilnius	London Luton Apt	4	2255	2345	Boeing 737 Passenger	1
FR	3467	Vilnius	London Luton Apt	3	1220	1310	Boeing 737 Passenger	1
FR	3467	Vilnius	London Luton Apt	2 6	2240	2330	Boeing 737 Passenger	2
FR	3467	Vilnius	London Luton Apt	1	2235	2325	Boeing 737 Passenger	1
FR	3472	London Luton Apt	Rzeszow	6	1805	2130	Boeing 737 Passenger	1
FR	3472	London Luton Apt	Rzeszow	4	1800	2125	Boeing 737 Passenger	1
FR	3472	London Luton Apt	Rzeszow	2	1755	2120	Boeing 737 Passenger	1
FR	3473	Rzeszow	London Luton Apt	6	2155	2330	Boeing 737 Passenger	1
FR	3473	Rzeszow	London Luton Apt	4	2150	2325	Boeing 737 Passenger	1
FR	3473	Rzeszow	London Luton Apt	2	2145	2320	Boeing 737 Passenger	1
FR	3491	Lanzarote	Newcastle	7	0710	1135	Boeing 737 Passenger	1
FR	3491	Lanzarote	Newcastle	3	1350	1815	Boeing 737 Passenger	1
FR	3492	Newcastle	Lanzarote	7	1200	1625	Boeing 737 Passenger	1
FR	3492	Newcastle	Lanzarote	3	1840	2305	Boeing 737 Passenger	1
FR	35	Bratislava	Manchester (GB)	7	1645	1815	Boeing 737 Passenger	1
FR	35	Bratislava	Manchester (GB)	5	1840	2010	Boeing 737 Passenger	1
FR	35	Bratislava	Manchester (GB)	3	1210	1340	Boeing 737 Passenger	1
FR	3501	Manchester (GB)	Hamburg Airport	7	1355	1630	Boeing 737 Passenger	1
FR	3501	Manchester (GB)	Hamburg Airport	4	0630	0905	Boeing 737 Passenger	1
FR	3501	Manchester (GB)	Hamburg Airport	123 56	0640	0915	Boeing 737 Passenger	5
FR	3502	Hamburg Airport	Manchester (GB)	7	1655	1740	Boeing 737 Passenger	1
FR	3502	Hamburg Airport	Manchester (GB)	4	0930	1015	Boeing 737 Passenger	1
FR	3502	Hamburg Airport	Manchester (GB)	123 56	0940	1025	Boeing 737 Passenger	5
FR	3506	London Luton Apt	Marrakech	6	0800	1135	Boeing 737 Passenger	1
FR	3506	London Luton Apt	Marrakech	12 4	0645	1020	Boeing 737 Passenger	3
FR	3507	Marrakech	London Luton Apt	6	1200	1535	Boeing 737 Passenger	1
FR	3507	Marrakech	London Luton Apt	12 4	1045	1420	Boeing 737 Passenger	3
FR	3511	London Luton Apt	Lanzarote	3 7	0630	1040	Boeing 737 Passenger	2
FR	3512	Lanzarote	London Luton Apt	3 7	1115	1525	Boeing 737 Passenger	2
FR	3513	London Luton Apt	Tenerife Sur Apt	7	0635	1110	Boeing 737 Passenger	1
FR	3513	London Luton Apt	Tenerife Sur Apt	3	0625	1100	Boeing 737 Passenger	1
FR	3514	Tenerife Sur Apt	London Luton Apt	7	1145	1605	Boeing 737 Passenger	1
FR	3514	Tenerife Sur Apt	London Luton Apt	3	1135	1555	Boeing 737 Passenger	1
FR	3515	London Luton Apt	Gran Canaria	1 5	0630	1100	Boeing 737 Passenger	2
FR	3516	Gran Canaria	London Luton Apt	5	1135	1550	Boeing 737 Passenger	1
FR	3516	Gran Canaria	London Luton Apt	1	1140	1555	Boeing 737 Passenger	1
FR	3523	Malaga Airport	Exeter	7	0700	0835	Boeing 737 Passenger	1
FR	3523	Malaga Airport	Exeter	3	0800	0935	Boeing 737 Passenger	1
FR	3524	Exeter	Malaga Airport	7	0900	1235	Boeing 737 Passenger	1
FR	3524	Exeter	Malaga Airport	3	1000	1335	Boeing 737 Passenger	1
FR	3525	London Luton Apt	Fuerteventura	2 6	0730	1150	Boeing 737 Passenger	2
FR	3526	Fuerteventura	London Luton Apt	2 6	1225	1635	Boeing 737 Passenger	2
FR	3543	Manchester (GB)	Nantes Atlantique Airport	7	1305	1535	Boeing 737 Passenger	1
FR	3543	Manchester (GB)	Nantes Atlantique Airport	3	1345	1615	Boeing 737 Passenger	1
FR	3544	Nantes Atlantique Airport	Manchester (GB)	7	1600	1630	Boeing 737 Passenger	1
FR	3544	Nantes Atlantique Airport	Manchester (GB)	3	1640	1710	Boeing 737 Passenger	1
FR	3545	Naples Capodichino Apt	Exeter	7	0615	0805	Boeing 737 Passenger	1
FR	3545	Naples Capodichino Apt	Exeter	3	1515	1705	Boeing 737 Passenger	1
FR	3546	Exeter	Naples Capodichino Apt	7	0840	1230	Boeing 737 Passenger	1
FR	3546	Exeter	Naples Capodichino Apt	3	1740	2130	Boeing 737 Passenger	1
FR	3556	London Stansted Apt	Marrakech	6	0700	1035	Boeing 737 Passenger	1
Data copy	3556	London Stansted Apt	Marrakech	5	0555	0930	Boeing 737 Passenger	1
FR	3556	London Stansted Apt	Marrakech	2	0715	1050	Boeing 737 Passenger	1
FR	3556	London Stansted Apt	Marrakech	1 34 7	0610	0945	Boeing 737 Passenger	4
FR	3557	Marrakech	London Stansted Apt	6	1100	1440	Boeing 737 Passenger	1
FR	3557	Marrakech	London Stansted Apt	5	0955	1335	Boeing 737 Passenger	1
FR	3557	Marrakech	London Stansted Apt	2	1115	1455	Boeing 737 Passenger	1
FR	3557	Marrakech	London Stansted Apt	1 34 7	1010	1350	Boeing 737 Passenger	4
FR	36	Manchester (GB)	Carcassonne	5	1325	1630	Boeing 737 Passenger	1
FR	36	Manchester (GB)	Carcassonne	1	1400	1705	Boeing 737 Passenger	1
FR	3626	Manchester (GB)	Cagliari	7	1815	2210	Boeing 737 Passenger	1
FR	3626	Manchester (GB)	Cagliari	3	0610	1005	Boeing 737 Passenger	1
FR	3627	Cagliari	Manchester (GB)	7	2240	0030	Boeing 737 Passenger	1
FR	3627	Cagliari	Manchester (GB)	3	1030	1220	Boeing 737 Passenger	1
FR	3636	London Stansted Apt	Pardubice	6	1735	2035	Boeing 737 Passenger	1

FR	3636	London Stansted Apt	Pardubice	4	0900	1200	Boeing 737 Passenger	1
FR	3636	London Stansted Apt	Pardubice	2	1420	1720	Boeing 737 Passenger	1
FR	3637	Pardubice	London Stansted Apt	6	2100	2200	Boeing 737 Passenger	1
FR	3637	Pardubice	London Stansted Apt	4	1225	1325	Boeing 737 Passenger	1
FR	3637	Pardubice	London Stansted Apt	2	1745	1845	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	7	1905	2130	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	6	0930	1155	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	5	1120	1345	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	3	1335	1600	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	12 4	1855	2120	Boeing 737 Passenger	3
FR	3676	Bremen	London Stansted Apt	7	2155	2220	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	6	1220	1245	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	5	1410	1435	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	3	1625	1650	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	12 4	2145	2210	Boeing 737 Passenger	3
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	7	0705	1225	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	6	0900	1420	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	5	0610	1130	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	3	0640	1200	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	1	0830	1350	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	7	1300	1420	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	6	1455	1615	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	5	1205	1325	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	3	1235	1355	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	1	1425	1545	Boeing 737 Passenger	1
FR	37	Carcassonne	Manchester (GB)	5	1655	1800	Boeing 737 Passenger	1
FR	37	Carcassonne	Manchester (GB)	1	1730	1835	Boeing 737 Passenger	1
FR	3701	Nottingham East Midlands Airport	Fuerteventura	3 7	1445	1900	Boeing 737 Passenger	2
FR	3702	Fuerteventura	Nottingham East Midlands Airport	3 7	1935	2340	Boeing 737 Passenger	2
FR	3711	Birmingham Airport	Faro	7	1510	1805	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	6	0710	1005	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	5	1640	1935	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	3	0800	1055	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	2 4	1050	1345	Boeing 737 Passenger	2
FR	3711	Birmingham Airport	Faro	1	1740	2035	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	7	1830	2120	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	6	1030	1320	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	5	2000	2250	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	3	1120	1410	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	2 4	0735	1025	Boeing 737 Passenger	2
FR	3712	Faro	Birmingham Airport	1	2100	2350	Boeing 737 Passenger	1
FR	3717	London Stansted Apt	Budapest	5	0625	0950	Boeing 737 Passenger	1
FR	3717	London Stansted Apt	Budapest	3	1635	2000	Boeing 737 Passenger	1
FR	3717	London Stansted Apt	Budapest	1	1255	1620	Boeing 737 Passenger	1
FR	3718	Budapest	London Stansted Apt	5	1015	1140	Boeing 737 Passenger	1
FR	3718	Budapest	London Stansted Apt	3	2025	2200	Boeing 737 Passenger	1
FR	3718	Budapest	London Stansted Apt	1	1645	1820	Boeing 737 Passenger	1
FR	372	London Stansted Apt	Biarritz	45 7	1355	1655	Boeing 737 Passenger	3
FR	372	London Stansted Apt	Biarritz	3	0640	0940	Boeing 737 Passenger	1
FR	372	London Stansted Apt	Biarritz	2	0835	1135	Boeing 737 Passenger	1
FR	372	London Stansted Apt	Biarritz	1 6	1405	1705	Boeing 737 Passenger	2
FR	373	Biarritz	London Stansted Apt	7	1725	1820	Boeing 737 Passenger	1
FR	373	Biarritz	London Stansted Apt	3	1005	1100	Boeing 737 Passenger	1
FR	373	Biarritz	London Stansted Apt	2	1200	1255	Boeing 737 Passenger	1
FR	373	Biarritz	London Stansted Apt	1 456	1730	1825	Boeing 737 Passenger	4
FR	3741	Birmingham Airport	Fuerteventura	1 5	0640	1100	Boeing 737 Passenger	2
FR	3742	Fuerteventura	Birmingham Airport	1 5	1135	1545	Boeing 737 Passenger	2
FR	3768	London Luton Apt	Girona Costa Brava Apt	5	2100	0005	Boeing 737 Passenger	1
FR	3768	London Luton Apt	Girona Costa Brava Apt	3	1855	2200	Boeing 737 Passenger	1
FR	3768	London Luton Apt	Girona Costa Brava Apt	1	1525	1830	Boeing 737 Passenger	1
FR	3769	Girona Costa Brava Apt	London Luton Apt	5	1915	2030	Boeing 737 Passenger	1
FR	3769	Girona Costa Brava Apt	London Luton Apt	3	1710	1825	Boeing 737 Passenger	1
FR	3769	Girona Costa Brava Apt	London Luton Apt	1	1345	1500	Boeing 737 Passenger	1
FR	3774	Bristol	Malta	2 4 7	1010	1420	Boeing 737 Passenger	3
FR	3775	Malta	Bristol	2 4 7	0720	0945	Boeing 737 Passenger	3
FR	38	Manchester (GB)	Limoges	7	1300	1545	Boeing 737 Passenger	1
FR	38	Manchester (GB)	Limoges	5	1125	1410	Boeing 737 Passenger	1
FR	38	Manchester (GB)	Limoges	2	1220	1505	Boeing 737 Passenger	1
FR	3801	Liverpool	Gran Canaria	7	1845	2320	Boeing 737 Passenger	1
FR	3801	Liverpool	Gran Canaria	3	1805	2235	Boeing 737 Passenger	1

FR	3802	Gran Canaria	Liverpool	7	1355	1815	Boeing 737 Passenger	1
FR	3802	Gran Canaria	Liverpool	3	1320	1740	Boeing 737 Passenger	1
FR	3803	Manchester (GB)	Gran Canaria	6	1810	2240	Boeing 737 Passenger	1
FR	3803	Manchester (GB)	Gran Canaria	4	1900	2330	Boeing 737 Passenger	1
FR	3803	Manchester (GB)	Gran Canaria	2	0610	1040	Boeing 737 Passenger	1
FR	3804	Gran Canaria	Manchester (GB)	6	1320	1745	Boeing 737 Passenger	1
FR	3804	Gran Canaria	Manchester (GB)	4	1405	1830	Boeing 737 Passenger	1
FR	3804	Gran Canaria	Manchester (GB)	2	1115	1540	Boeing 737 Passenger	1
FR	3805	Manchester (GB)	Fuerteventura	2 6	1430	1855	Boeing 737 Passenger	2
FR	3806	Fuerteventura	Manchester (GB)	2 6	1930	2350	Boeing 737 Passenger	2
FR	3811	Liverpool	Lanzarote	7	1840	2255	Boeing 737 Passenger	1
FR	3811	Liverpool	Lanzarote	3	1405	1820	Boeing 737 Passenger	1
FR	3812	Lanzarote	Liverpool	7	1410	1815	Boeing 737 Passenger	1
FR	3812	Lanzarote	Liverpool	3	1855	2300	Boeing 737 Passenger	1
FR	3842	London Stansted Apt	Reus	6	1140	1455	Boeing 737 Passenger	1
FR	3842	London Stansted Apt	Reus	4	0730	1045	Boeing 737 Passenger	1
FR	3842	London Stansted Apt	Reus	2	1145	1500	Boeing 737 Passenger	1
FR	3843	Reus	London Stansted Apt	6	1520	1635	Boeing 737 Passenger	1
FR	3843	Reus	London Stansted Apt	4	1110	1225	Boeing 737 Passenger	1
FR	3843	Reus	London Stansted Apt	2	1525	1640	Boeing 737 Passenger	1
FR	3851	Rhodes	Nottingham East Midlands Airport	7	2145	0010	Boeing 737 Passenger	1
FR	3851	Rhodes	Nottingham East Midlands Airport	4	1355	1620	Boeing 737 Passenger	1
FR	3852	Nottingham East Midlands Airport	Rhodes	7	1510	2120	Boeing 737 Passenger	1
FR	3852	Nottingham East Midlands Airport	Rhodes	4	0720	1330	Boeing 737 Passenger	1
FR	3853	Kerkyra	Nottingham East Midlands Airport	7	1225	1345	Boeing 737 Passenger	1
FR	3853	Kerkyra	Nottingham East Midlands Airport	4	1450	1610	Boeing 737 Passenger	1
FR	3854	Nottingham East Midlands Airport	Kerkyra	7	0645	1200	Boeing 737 Passenger	1
FR	3854	Nottingham East Midlands Airport	Kerkyra	4	0910	1425	Boeing 737 Passenger	1
FR	3855	Chania	Nottingham East Midlands Airport	6	1915	2125	Boeing 737 Passenger	1
FR	3856	Nottingham East Midlands Airport	Chania	6	1250	1850	Boeing 737 Passenger	1
FR	3872	London Stansted Apt	Pula	7	0650	1005	Boeing 737 Passenger	1
FR	3872	London Stansted Apt	Pula	4	1645	2000	Boeing 737 Passenger	1
FR	3872	London Stansted Apt	Pula	3	1720	2035	Boeing 737 Passenger	1
FR	3873	Pula	London Stansted Apt	7	1030	1145	Boeing 737 Passenger	1
FR	3873	Pula	London Stansted Apt	4	2025	2140	Boeing 737 Passenger	1
FR	3873	Pula	London Stansted Apt	3	2100	2215	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	7	0625	1045	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	5	0805	1225	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	4	1835	2255	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	123 6	1935	2355	Boeing 737 Passenger	4
FR	3883	Malta	London Luton Apt	7	1140	1405	Boeing 737 Passenger	1
FR	3883	Malta	London Luton Apt	5	1250	1515	Boeing 737 Passenger	1
FR	3883	Malta	London Luton Apt	4	1545	1810	Boeing 737 Passenger	1
FR	3883	Malta	London Luton Apt	123 6	1645	1910	Boeing 737 Passenger	4
FR	3884	London Luton Apt	Malta	4	0625	1040	Boeing 737 Passenger	1
FR	3885	Malta	London Luton Apt	4	1105	1330	Boeing 737 Passenger	1
FR	39	Limoges	Manchester (GB)	7	1610	1655	Boeing 737 Passenger	1
FR	39	Limoges	Manchester (GB)	5	1435	1520	Boeing 737 Passenger	1
FR	39	Limoges	Manchester (GB)	2	1530	1615	Boeing 737 Passenger	1
FR	3901	Birmingham Airport	Malta	7	1935	2355	Boeing 737 Passenger	1
FR	3901	Birmingham Airport	Malta	4	0625	1055	Boeing 737 Passenger	1
FR	3901	Birmingham Airport	Malta	2	1615	2035	Boeing 737 Passenger	1
FR	3902	Malta	Birmingham Airport	7	1640	1910	Boeing 737 Passenger	1
FR	3902	Malta	Birmingham Airport	4	1120	1400	Boeing 737 Passenger	1
FR	3902	Malta	Birmingham Airport	2	2100	2330	Boeing 737 Passenger	1
FR	3918	London Stansted Apt	Palermo	6	1720	2120	Boeing 737 Passenger	1
FR	3918	London Stansted Apt	Palermo	2	1715	2115	Boeing 737 Passenger	1
FR	3918	London Stansted Apt	Palermo	1 345 7	1710	2110	Boeing 737 Passenger	5
FR	3919	Palermo	London Stansted Apt	6	2145	2355	Boeing 737 Passenger	1
FR	3919	Palermo	London Stansted Apt	2	2140	2350	Boeing 737 Passenger	1
FR	3919	Palermo	London Stansted Apt	1 345 7	2135	2345	Boeing 737 Passenger	5
FR	4000	Nottingham East Midlands Airport	Shannon	5	1930	2045	Boeing 737 Passenger	1
FR	4000	Nottingham East Midlands Airport	Shannon	1	0640	0755	Boeing 737 Passenger	1
FR	4006	Alicante Airport	Manchester (GB)	6	1140	1330	Boeing 737 Passenger	1
FR	4006	Alicante Airport	Manchester (GB)	12345 7	1050	1240	Boeing 737 Passenger	6
FR	4007	Manchester (GB)	Alicante Airport	6	0720	1105	Boeing 737 Passenger	1
FR	4007	Manchester (GB)	Alicante Airport	12345 7	0630	1015	Boeing 737 Passenger	6
FR	4031	Liverpool	Faro	7	1120	1415	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	6	1410	1705	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	45	1715	2010	Boeing 737 Passenger	2

FR	4031	Liverpool	Faro	3	0830	1125	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	2	1935	2230	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	1	1735	2030	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	7	0800	1055	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	6	1730	2025	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	45	2035	2330	Boeing 737 Passenger	2
FR	4032	Faro	Liverpool	3	1150	1445	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	2	1615	1910	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	1	2055	2350	Boeing 737 Passenger	1
FR	4043	Liverpool	Nowy Dwor Mazowiecki	6	1720	2045	Boeing 737 Passenger	1
FR	4043	Liverpool	Nowy Dwor Mazowiecki	4	1630	1955	Boeing 737 Passenger	1
FR	4043	Liverpool	Nowy Dwor Mazowiecki	2	0730	1055	Boeing 737 Passenger	1
FR	4044	Nowy Dwor Mazowiecki	Liverpool	6	2110	2250	Boeing 737 Passenger	1
FR	4044	Nowy Dwor Mazowiecki	Liverpool	4	2020	2155	Boeing 737 Passenger	1
FR	4044	Nowy Dwor Mazowiecki	Liverpool	2	1120	1300	Boeing 737 Passenger	1
FR	4051	Faro	Manchester (GB)	1234567	1705	2005	Boeing 737 Passenger	7
FR	4052	Manchester (GB)	Faro	1234567	2030	2330	Boeing 737 Passenger	7
FR	4053	Nottingham East Midlands Airport	Nowy Dwor Mazowiecki	6	1810	2130	Boeing 737 Passenger	1
FR	4053	Nottingham East Midlands Airport	Nowy Dwor Mazowiecki	2	0625	0945	Boeing 737 Passenger	1
FR	4054	Nowy Dwor Mazowiecki	Nottingham East Midlands Airport	6	2155	2330	Boeing 737 Passenger	1
FR	4054	Nowy Dwor Mazowiecki	Nottingham East Midlands Airport	2	1010	1145	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	7	0855	1055	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	5	0650	0850	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	34 6	0830	1030	Boeing 737 Passenger	3
FR	4079	Alicante Airport	Newcastle	2	1555	1755	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	1	1700	1900	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	7	1120	1520	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	5	0915	1315	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	34 6	1055	1455	Boeing 737 Passenger	3
FR	4080	Newcastle	Alicante Airport	2	1820	2220	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	1	1925	2325	Boeing 737 Passenger	1
FR	4081	Liverpool	Fuerteventura	7	1535	1950	Boeing 737 Passenger	1
FR	4082	Fuerteventura	Liverpool	7	2025	0030	Boeing 737 Passenger	1
FR	4087	Faro	Manchester (GB)	7	0835	1135	Boeing 737 Passenger	1
FR	4087	Faro	Manchester (GB)	2345	0900	1200	Boeing 737 Passenger	3
FR	4087	Faro	Manchester (GB)	1	0855	1155	Boeing 737 Passenger	1
FR	4088	Manchester (GB)	Faro	7	1200	1500	Boeing 737 Passenger	1
FR	4088	Manchester (GB)	Faro	2345	1225	1525	Boeing 737 Passenger	3
FR	4088	Manchester (GB)	Faro	1	1220	1520	Boeing 737 Passenger	1
FR	4094	Manchester (GB)	Gdansk Lech Walesa	5	0555	0910	Boeing 737 Passenger	1
FR	4094	Manchester (GB)	Gdansk Lech Walesa	1	1315	1630	Boeing 737 Passenger	1
FR	4095	Gdansk Lech Walesa	Manchester (GB)	5	0935	1100	Boeing 737 Passenger	1
FR	4095	Gdansk Lech Walesa	Manchester (GB)	1	1125	1250	Boeing 737 Passenger	1
FR	4096	Manchester (GB)	Riga	6	1720	2155	Boeing 737 Passenger	1
FR	4096	Manchester (GB)	Riga	4	0955	1430	Boeing 737 Passenger	1
FR	4096	Manchester (GB)	Riga	2	0620	1055	Boeing 737 Passenger	1
FR	4097	Riga	Manchester (GB)	6	2220	2310	Boeing 737 Passenger	1
FR	4097	Riga	Manchester (GB)	4	1520	1610	Boeing 737 Passenger	1
FR	4097	Riga	Manchester (GB)	2	1120	1210	Boeing 737 Passenger	1
FR	4107	Leeds Bradford	Wroclaw	7	0825	1140	Boeing 737 Passenger	1
FR	4107	Leeds Bradford	Wroclaw	4	1410	1725	Boeing 737 Passenger	1
FR	4108	Wroclaw	Leeds Bradford	7	0645	0800	Boeing 737 Passenger	1
FR	4108	Wroclaw	Leeds Bradford	4	1230	1345	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	7	1530	1920	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	6	1320	1710	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	5	1725	2115	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	4	1355	1745	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	3	1330	1720	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	1	1715	2105	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	7	1955	2145	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	6	1745	1935	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	5	2150	2335	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	4	1820	2010	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	3	1755	1945	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	1	2140	2330	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	6	1410	1740	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	4	1115	1445	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	2	1930	2300	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	1	0840	1210	Boeing 737 Passenger	1
FR	4136	Nowy Dwor Mazowiecki	Bristol	6	1805	1945	Boeing 737 Passenger	1

FR	4136	Nowy Dwor Mazowiecki	Bristol	4	1510	1650	Boeing 737 Passenger	1
FR	4136	Nowy Dwor Mazowiecki	Bristol	2	1725	1905	Boeing 737 Passenger	1
FR	4136	Nowy Dwor Mazowiecki	Bristol	1	0635	0815	Boeing 737 Passenger	1
FR	4191	Milan Bergamo/orio al Serio Apt	London Stansted Apt	1234567	0630	0740	Boeing 737 Passenger	7
FR	4192	London Stansted Apt	Milan Bergamo/orio al Serio Apt	1234567	0805	1105	Boeing 737 Passenger	7
FR	4194	London Stansted Apt	Milan Bergamo/orio al Serio Apt	67	1335	1635	Boeing 737 Passenger	2
FR	4194	London Stansted Apt	Milan Bergamo/orio al Serio Apt	12345	1340	1640	Boeing 737 Passenger	5
FR	4195	Milan Bergamo/orio al Serio Apt	London Stansted Apt	12345 7	1425	1535	Boeing 737 Passenger	6
FR	4196	London Stansted Apt	Milan Bergamo/orio al Serio Apt	1234567	1600	1900	Boeing 737 Passenger	7
FR	4197	Milan Bergamo/orio al Serio Apt	London Stansted Apt	7	1845	1955	Boeing 737 Passenger	1
FR	4197	Milan Bergamo/orio al Serio Apt	London Stansted Apt	12345	1830	1940	Boeing 737 Passenger	5
FR	4198	London Stansted Apt	Milan Bergamo/orio al Serio Apt	7	2020	2320	Boeing 737 Passenger	1
FR	4198	London Stansted Apt	Milan Bergamo/orio al Serio Apt	123456	2005	2305	Boeing 737 Passenger	6
FR	4199	Milan Bergamo/orio al Serio Apt	London Stansted Apt	12345 7	1150	1300	Boeing 737 Passenger	6
FR	4203	Krakow John Paul II - Balice	Glasgow International Airport	7	0700	0850	Boeing 737 Passenger	1
FR	4203	Krakow John Paul II - Balice	Glasgow International Airport	3	1600	1750	Boeing 737 Passenger	1
FR	4204	Glasgow International Airport	Krakow John Paul II - Balice	7	0915	1300	Boeing 737 Passenger	1
FR	4204	Glasgow International Airport	Krakow John Paul II - Balice	3	1815	2200	Boeing 737 Passenger	1
FR	4205	Liverpool	Kerkyra	7	1510	2040	Boeing 737 Passenger	1
FR	4205	Liverpool	Kerkyra	4	0630	1200	Boeing 737 Passenger	1
FR	4206	Kerkyra	Liverpool	7	2105	2235	Boeing 737 Passenger	1
FR	4206	Kerkyra	Liverpool	4	1245	1415	Boeing 737 Passenger	1
FR	4207	Liverpool	Copenhagen Kastrup Apt	5	1650	1945	Boeing 737 Passenger	1
FR	4207	Liverpool	Copenhagen Kastrup Apt	1	1340	1635	Boeing 737 Passenger	1
FR	4208	Copenhagen Kastrup Apt	Liverpool	5	2010	2105	Boeing 737 Passenger	1
FR	4208	Copenhagen Kastrup Apt	Liverpool	1	1700	1755	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	5	2000	2125	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	4	1400	1525	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	2	1115	1240	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	1 3 67	1350	1515	Boeing 737 Passenger	4
FR	424	Cork	London Luton Apt	6	1540	1705	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	5	2150	2315	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	4	1550	1715	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	2	1305	1430	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	1 3 7	1545	1710	Boeing 737 Passenger	3
FR	4331	Tenerife Sur Apt	Manchester (GB)	1234567	1920	2350	Boeing 737 Passenger	7
FR	4332	Manchester (GB)	Tenerife Sur Apt	1234567	1410	1845	Boeing 737 Passenger	7
FR	4346	Liverpool	Tenerife Sur Apt	5	0625	1100	Boeing 737 Passenger	1
FR	4346	Liverpool	Tenerife Sur Apt	3	1910	2345	Boeing 737 Passenger	1
FR	4346	Liverpool	Tenerife Sur Apt	1	1720	2155	Boeing 737 Passenger	1
FR	4347	Tenerife Sur Apt	Liverpool	5	1135	1600	Boeing 737 Passenger	1
FR	4347	Tenerife Sur Apt	Liverpool	3	1420	1845	Boeing 737 Passenger	1
FR	4347	Tenerife Sur Apt	Liverpool	1	1230	1655	Boeing 737 Passenger	1
FR	4370	Manchester (GB)	Sevilla Airport	5	1900	2250	Boeing 737 Passenger	1
FR	4370	Manchester (GB)	Sevilla Airport	3	0655	1045	Boeing 737 Passenger	1
FR	4370	Manchester (GB)	Sevilla Airport	1	1525	1915	Boeing 737 Passenger	1
FR	4371	Sevilla Airport	Manchester (GB)	5	1635	1835	Boeing 737 Passenger	1
FR	4371	Sevilla Airport	Manchester (GB)	3	1115	1315	Boeing 737 Passenger	1
FR	4371	Sevilla Airport	Manchester (GB)	1	1945	2145	Boeing 737 Passenger	1
FR	442	Dublin (IE)	Liverpool	7	0710	0805	Boeing 737 Passenger	1
FR	442	Dublin (IE)	Liverpool	2 456	0705	0800	Boeing 737 Passenger	4
FR	442	Dublin (IE)	Liverpool	1 3	0710	0800	Boeing 737 Passenger	2
FR	443	Liverpool	Dublin (IE)	7	0830	0920	Boeing 737 Passenger	1
FR	443	Liverpool	Dublin (IE)	123456	0825	0920	Boeing 737 Passenger	6
FR	4440	Bristol	Valencia Airport	5	0635	0950	Boeing 737 Passenger	1
FR	4440	Bristol	Valencia Airport	1	2050	0005	Boeing 737 Passenger	1
FR	4441	Valencia Airport	Bristol	5	1020	1150	Boeing 737 Passenger	1
FR	4441	Valencia Airport	Bristol	1	1855	2025	Boeing 737 Passenger	1
FR	4458	Nottingham East Midlands Airport	Malaga Airport	7	1650	2045	Boeing 737 Passenger	1
FR	4458	Nottingham East Midlands Airport	Malaga Airport	56	1700	2055	Boeing 737 Passenger	2
FR	4458	Nottingham East Midlands Airport	Malaga Airport	234	1640	2035	Boeing 737 Passenger	3
FR	4459	Malaga Airport	Nottingham East Midlands Airport	7	2120	2320	Boeing 737 Passenger	1
FR	4459	Malaga Airport	Nottingham East Midlands Airport	56	2130	2330	Boeing 737 Passenger	2
FR	4459	Malaga Airport	Nottingham East Midlands Airport	234	2110	2310	Boeing 737 Passenger	3
FR	446	Dublin (IE)	Liverpool	6	1810	1900	Boeing 737 Passenger	1
FR	446	Dublin (IE)	Liverpool	5	1810	1905	Boeing 737 Passenger	1
FR	446	Dublin (IE)	Liverpool	1234 7	1750	1845	Boeing 737 Passenger	5
FR	4468	Nottingham East Midlands Airport	Malaga Airport	7	0830	1225	Boeing 737 Passenger	1
FR	4468	Nottingham East Midlands Airport	Malaga Airport	5	1815	2210	Boeing 737 Passenger	1
FR	4468	Nottingham East Midlands Airport	Malaga Airport	2	0905	1300	Boeing 737 Passenger	1

FR	4468	Nottingham East Midlands Airport	Malaga Airport	1 34 6	0640	1035	Boeing 737 Passenger	4
FR	4469	Malaga Airport	Nottingham East Midlands Airport	7	1300	1500	Boeing 737 Passenger	1
FR	4469	Malaga Airport	Nottingham East Midlands Airport	5	1550	1750	Boeing 737 Passenger	1
FR	4469	Malaga Airport	Nottingham East Midlands Airport	2	1335	1535	Boeing 737 Passenger	1
FR	4469	Malaga Airport	Nottingham East Midlands Airport	1 34 6	1110	1310	Boeing 737 Passenger	4
FR	447	Liverpool	Dublin (IE)	6	1925	2015	Boeing 737 Passenger	1
FR	447	Liverpool	Dublin (IE)	5	1930	2025	Boeing 737 Passenger	1
FR	447	Liverpool	Dublin (IE)	1234 7	1910	2005	Boeing 737 Passenger	5
FR	448	Dublin (IE)	Liverpool	1 567	2055	2150	Boeing 737 Passenger	4
FR	449	Liverpool	Dublin (IE)	6	2215	2310	Boeing 737 Passenger	1
FR	449	Liverpool	Dublin (IE)	1 5 7	2225	2320	Boeing 737 Passenger	3
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	7	0810	1140	Boeing 737 Passenger	1
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	6	1535	1905	Boeing 737 Passenger	1
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	4	0745	1115	Boeing 737 Passenger	1
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	2	1755	2125	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	7	0600	0745	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	6	1325	1510	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	4	1140	1325	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	2	2150	2335	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	7	1030	1330	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	5	0610	0910	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	3	0905	1205	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	1 4	0645	0945	Boeing 737 Passenger	2
FR	4542	Verona Villafranca Airport	London Stansted Apt	7	1355	1510	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	5	0940	1055	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	4	1025	1140	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	3	1235	1350	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	1	1010	1125	Boeing 737 Passenger	1
FR	4551	Nowy Dwor Mazowiecki	Belfast International Apt	2 6	0700	0850	Boeing 737 Passenger	2
FR	4552	Belfast International Apt	Nowy Dwor Mazowiecki	2 6	0915	1255	Boeing 737 Passenger	2
FR	4571	Faro	Belfast International Apt	6	2040	2350	Boeing 737 Passenger	1
FR	4571	Faro	Belfast International Apt	2	1225	1535	Boeing 737 Passenger	1
FR	4572	Belfast International Apt	Faro	6	1705	2015	Boeing 737 Passenger	1
FR	4572	Belfast International Apt	Faro	2	0850	1200	Boeing 737 Passenger	1
FR	4573	Milan Malpensa Apt	Bristol	7	1350	1510	Boeing 737 Passenger	1
FR	4573	Milan Malpensa Apt	Bristol	3	1340	1500	Boeing 737 Passenger	1
FR	4574	Bristol	Milan Malpensa Apt	7	1535	1845	Boeing 737 Passenger	1
FR	4574	Bristol	Milan Malpensa Apt	3	1525	1835	Boeing 737 Passenger	1
FR	4588	Barcelona Apt	Cardiff	6	0740	0845	Boeing 737 Passenger	1
FR	4588	Barcelona Apt	Cardiff	2	0825	0930	Boeing 737 Passenger	1
FR	4589	Cardiff	Barcelona Apt	6	0910	1215	Boeing 737 Passenger	1
FR	4589	Cardiff	Barcelona Apt	2	0955	1300	Boeing 737 Passenger	1
FR	464	London Stansted Apt	Turin Caselle Airport	7	0655	0950	Boeing 737 Passenger	1
FR	464	London Stansted Apt	Turin Caselle Airport	123456	0645	0940	Boeing 737 Passenger	6
FR	465	Turin Caselle Airport	London Stansted Apt	1234567	1015	1115	Boeing 737 Passenger	7
FR	4741	Glasgow International Airport	Nowy Dwor Mazowiecki	5	1925	2300	Boeing 737 Passenger	1
FR	4741	Glasgow International Airport	Nowy Dwor Mazowiecki	1	2055	0030	Boeing 737 Passenger	1
FR	4742	Nowy Dwor Mazowiecki	Glasgow International Airport	5	1715	1900	Boeing 737 Passenger	1
FR	4742	Nowy Dwor Mazowiecki	Glasgow International Airport	1	1845	2030	Boeing 737 Passenger	1
FR	4753	Bristol	Tenerife Sur Apt	6	0625	1035	Boeing 737 Passenger	1
FR	4753	Bristol	Tenerife Sur Apt	4	0835	1245	Boeing 737 Passenger	1
FR	4753	Bristol	Tenerife Sur Apt	2	0615	1025	Boeing 737 Passenger	1
FR	4754	Tenerife Sur Apt	Bristol	4	1320	1725	Boeing 737 Passenger	1
FR	4754	Tenerife Sur Apt	Bristol	2 6	1110	1515	Boeing 737 Passenger	2
FR	4755	Bristol	Lanzarote	4	0640	1035	Boeing 737 Passenger	1
FR	4755	Bristol	Lanzarote	2 6	0745	1140	Boeing 737 Passenger	2
FR	4756	Lanzarote	Bristol	4	1110	1505	Boeing 737 Passenger	1
FR	4756	Lanzarote	Bristol	2 6	1215	1610	Boeing 737 Passenger	2
FR	4757	Bristol	Gran Canaria	1 5	0625	1040	Boeing 737 Passenger	2
FR	4758	Gran Canaria	Bristol	5	1115	1515	Boeing 737 Passenger	1
FR	4758	Gran Canaria	Bristol	1	1115	1520	Boeing 737 Passenger	1
FR	4760	Cardiff	Tenerife Sur Apt	4	2005	0010	Boeing 737 Passenger	1
FR	4761	Tenerife Sur Apt	Cardiff	4	1545	1940	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	7	2120	2230	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	4	1230	1340	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	3	1505	1615	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	1 5	0845	0955	Boeing 737 Passenger	2
FR	4777	Shannon	Manchester (GB)	7	2255	0005	Boeing 737 Passenger	1
FR	4777	Shannon	Manchester (GB)	4	1055	1205	Boeing 737 Passenger	1
FR	4777	Shannon	Manchester (GB)	3	1650	1800	Boeing 737 Passenger	1

FR	4777	Shannon	Manchester (GB)	1 5	0710	0820	Boeing 737 Passenger	2
FR	4950	Malaga Airport	Cardiff	1 3 5	1740	1920	Boeing 737 Passenger	3
FR	4951	Cardiff	Malaga Airport	1 3 5	1945	2325	Boeing 737 Passenger	3
FR	4952	London Stansted Apt	Perugia	2	0930	1305	Boeing 737 Passenger	1
FR	4952	London Stansted Apt	Perugia	1 345 7	0730	1105	Boeing 737 Passenger	5
FR	4953	Perugia	London Stansted Apt	2	1330	1500	Boeing 737 Passenger	1
FR	4953	Perugia	London Stansted Apt	1 345 7	1130	1300	Boeing 737 Passenger	5
FR	4966	London Stansted Apt	Lamezia Terme	4	0915	1315	Boeing 737 Passenger	1
FR	4966	London Stansted Apt	Lamezia Terme	3	0955	1355	Boeing 737 Passenger	1
FR	4966	London Stansted Apt	Lamezia Terme	2 6	0630	1030	Boeing 737 Passenger	2
FR	4967	Lamezia Terme	London Stansted Apt	4	1340	1550	Boeing 737 Passenger	1
FR	4967	Lamezia Terme	London Stansted Apt	3	0720	0930	Boeing 737 Passenger	1
FR	4967	Lamezia Terme	London Stansted Apt	2 6	1055	1305	Boeing 737 Passenger	2
FR	4976	London Stansted Apt	Brindisi	234 67	0620	1010	Boeing 737 Passenger	5
FR	4977	Brindisi	London Stansted Apt	7	1045	1250	Boeing 737 Passenger	1
FR	4977	Brindisi	London Stansted Apt	234 6	1035	1240	Boeing 737 Passenger	4
FR	4999	Shannon	Nottingham East Midlands Airport	5	2110	2215	Boeing 737 Passenger	1
FR	4999	Shannon	Nottingham East Midlands Airport	1	0820	0925	Boeing 737 Passenger	1
FR	504	Dublin (IE)	Bristol	23456	0635	0740	Boeing 737 Passenger	5
FR	504	Dublin (IE)	Bristol	1	0650	0755	Boeing 737 Passenger	1
FR	5041	Leeds Bradford	Bratislava	5	1630	1955	Boeing 737 Passenger	1
FR	5041	Leeds Bradford	Bratislava	1	1655	2020	Boeing 737 Passenger	1
FR	5042	Bratislava	Leeds Bradford	5	2020	2145	Boeing 737 Passenger	1
FR	5042	Bratislava	Leeds Bradford	1	2045	2210	Boeing 737 Passenger	1
FR	5043	Leeds Bradford	Vilnius	5	0635	1120	Boeing 737 Passenger	1
FR	5043	Leeds Bradford	Vilnius	1	0825	1310	Boeing 737 Passenger	1
FR	5044	Vilnius	Leeds Bradford	5	1145	1230	Boeing 737 Passenger	1
FR	5044	Vilnius	Leeds Bradford	1	0715	0800	Boeing 737 Passenger	1
FR	505	Bristol	Dublin (IE)	23456	0805	0905	Boeing 737 Passenger	5
FR	505	Bristol	Dublin (IE)	1	0820	0920	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	7	1445	1550	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	6	1505	1610	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	2	1345	1450	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	1 345	1455	1600	Boeing 737 Passenger	4
FR	5062	London Stansted Apt	Poznan Lawica Apt	5	0820	1125	Boeing 737 Passenger	1
FR	5062	London Stansted Apt	Poznan Lawica Apt	1	1950	2255	Boeing 737 Passenger	1
FR	5063	Poznan Lawica Apt	London Stansted Apt	5	1150	1255	Boeing 737 Passenger	1
FR	5063	Poznan Lawica Apt	London Stansted Apt	1	1820	1925	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	7	1615	1715	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	6	1635	1735	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	2	1535	1635	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	1 345	1625	1725	Boeing 737 Passenger	4
FR	508	Dublin (IE)	Bristol	1234567	1940	2045	Boeing 737 Passenger	7
FR	509	Bristol	Dublin (IE)	1234567	2110	2210	Boeing 737 Passenger	7
FR	514	London Stansted Apt	Dinard/St-Malo	7	0715	0930	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	6	0935	1150	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	5	1230	1445	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	4	1330	1545	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	3	1500	1715	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	2	0950	1205	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	1	1140	1355	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	7	0955	1005	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	6	1220	1230	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	5	1510	1520	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	4	1610	1620	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	3	1740	1750	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	2	1230	1240	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	1	1420	1430	Boeing 737 Passenger	1
FR	5158	Malaga Airport	Newcastle	4 67	0655	0905	Boeing 737 Passenger	3
FR	5158	Malaga Airport	Newcastle	2	0650	0900	Boeing 737 Passenger	1
FR	5159	Newcastle	Malaga Airport	4 67	0930	1340	Boeing 737 Passenger	3
FR	5159	Newcastle	Malaga Airport	2	0925	1335	Boeing 737 Passenger	1
FR	5160	Edinburgh	Sofia	7	1830	0010	Boeing 737 Passenger	1
FR	5160	Edinburgh	Sofia	4	0715	1255	Boeing 737 Passenger	1
FR	5161	Sofia	Edinburgh	7	1620	1805	Boeing 737 Passenger	1
FR	5161	Sofia	Edinburgh	4	1320	1505	Boeing 737 Passenger	1
FR	5170	Manchester (GB)	Poitiers Biard Airport	7	1910	2145	Boeing 737 Passenger	1
FR	5170	Manchester (GB)	Poitiers Biard Airport	3	1430	1705	Boeing 737 Passenger	1
FR	5171	Poitiers Biard Airport	Manchester (GB)	7	2210	2255	Boeing 737 Passenger	1
FR	5171	Poitiers Biard Airport	Manchester (GB)	3	1730	1815	Boeing 737 Passenger	1

FR	5172	London Stansted Apt	Billund	123456	0720	0955	Boeing 737 Passenger	6
FR	5173	Billund	London Stansted Apt	123456	1020	1055	Boeing 737 Passenger	6
FR	5178	London Stansted Apt	Billund	1234567	1935	2210	Boeing 737 Passenger	7
FR	5179	Billund	London Stansted Apt	3	2245	2320	Boeing 737 Passenger	1
FR	5179	Billund	London Stansted Apt	12 4567	2235	2310	Boeing 737 Passenger	6
FR	52	London Stansted Apt	Stockholm Skavsta Airport	7	0820	1135	Boeing 737 Passenger	1
FR	52	London Stansted Apt	Stockholm Skavsta Airport	5	0840	1155	Boeing 737 Passenger	1
FR	52	London Stansted Apt	Stockholm Skavsta Airport	1234 6	0830	1145	Boeing 737 Passenger	5
FR	5209	Manchester (GB)	Malta	3 5	1920	2340	Boeing 737 Passenger	2
FR	5209	Manchester (GB)	Malta	1	0625	1045	Boeing 737 Passenger	1
FR	5210	Malta	Manchester (GB)	3 5	1615	1855	Boeing 737 Passenger	2
FR	5210	Malta	Manchester (GB)	1	1120	1400	Boeing 737 Passenger	1
FR	522	London Stansted Apt	Lourdes/Tarbes	6	0745	1045	Boeing 737 Passenger	1
FR	522	London Stansted Apt	Lourdes/Tarbes	3 5	1410	1710	Boeing 737 Passenger	2
FR	522	London Stansted Apt	Lourdes/Tarbes	1	1355	1655	Boeing 737 Passenger	1
FR	523	Lourdes/Tarbes	London Stansted Apt	6	1110	1210	Boeing 737 Passenger	1
FR	523	Lourdes/Tarbes	London Stansted Apt	1 3 5	1735	1835	Boeing 737 Passenger	3
FR	53	Stockholm Skavsta Airport	London Stansted Apt	2 5	0645	0805	Boeing 737 Passenger	2
FR	53	Stockholm Skavsta Airport	London Stansted Apt	1 34 67	0635	0755	Boeing 737 Passenger	5
FR	534	Dublin (IE)	Nottingham East Midlands Airport	1234567	0805	0910	Boeing 737 Passenger	7
FR	5341	Bristol	Bucharest Henri Coanda Apt	6	1700	2225	Boeing 737 Passenger	1
FR	5341	Bristol	Bucharest Henri Coanda Apt	2	1600	2125	Boeing 737 Passenger	1
FR	5342	Bucharest Henri Coanda Apt	Bristol	6	1500	1635	Boeing 737 Passenger	1
FR	5342	Bucharest Henri Coanda Apt	Bristol	2	2150	2325	Boeing 737 Passenger	1
FR	535	Nottingham East Midlands Airport	Dublin (IE)	1234567	0630	0740	Boeing 737 Passenger	7
FR	536	Dublin (IE)	Nottingham East Midlands Airport	1 45 7	1940	2045	Boeing 737 Passenger	4
FR	537	Nottingham East Midlands Airport	Dublin (IE)	45 7	2110	2215	Boeing 737 Passenger	3
FR	537	Nottingham East Midlands Airport	Dublin (IE)	1	2125	2230	Boeing 737 Passenger	1
FR	552	Dublin (IE)	Manchester (GB)	1234567	0630	0735	Boeing 737 Passenger	7
FR	5523	Bournemouth	Krakow John Paul II - Balice	5	2040	2359	Boeing 737 Passenger	1
FR	5523	Bournemouth	Krakow John Paul II - Balice	1	1340	1700	Boeing 737 Passenger	1
FR	5524	Krakow John Paul II - Balice	Bournemouth	5	1840	2015	Boeing 737 Passenger	1
FR	5524	Krakow John Paul II - Balice	Bournemouth	1	1140	1315	Boeing 737 Passenger	1
FR	553	Manchester (GB)	Dublin (IE)	1234567	0800	0900	Boeing 737 Passenger	7
FR	554	Dublin (IE)	Manchester (GB)	1234567	1035	1135	Boeing 737 Passenger	7
FR	555	Manchester (GB)	Dublin (IE)	1234567	1200	1300	Boeing 737 Passenger	7
FR	556	Dublin (IE)	Manchester (GB)	1 5	1640	1745	Boeing 737 Passenger	2
FR	557	Manchester (GB)	Dublin (IE)	1 5	1810	1910	Boeing 737 Passenger	2
FR	5578	Alicante Airport	Edinburgh	7	1215	1420	Boeing 737 Passenger	1
FR	5578	Alicante Airport	Edinburgh	12345	2140	2345	Boeing 737 Passenger	5
FR	5579	Edinburgh	Alicante Airport	7	0730	1140	Boeing 737 Passenger	1
FR	5579	Edinburgh	Alicante Airport	12345	1655	2105	Boeing 737 Passenger	5
FR	558	Dublin (IE)	Manchester (GB)	6	2040	2140	Boeing 737 Passenger	1
FR	558	Dublin (IE)	Manchester (GB)	12345 7	2030	2130	Boeing 737 Passenger	6
FR	559	Manchester (GB)	Dublin (IE)	6	2205	2300	Boeing 737 Passenger	1
FR	559	Manchester (GB)	Dublin (IE)	12345 7	2200	2300	Boeing 737 Passenger	6
FR	5592	Shannon	Bristol	6	2150	2305	Boeing 737 Passenger	1
FR	5592	Shannon	Bristol	2	1515	1630	Boeing 737 Passenger	1
FR	5593	Bristol	Shannon	6	2010	2125	Boeing 737 Passenger	1
FR	5593	Bristol	Shannon	2	1335	1450	Boeing 737 Passenger	1
FR	561	Manchester (GB)	Dublin (IE)	1234567	1515	1615	Boeing 737 Passenger	7
FR	562	Dublin (IE)	Manchester (GB)	1234567	1350	1450	Boeing 737 Passenger	7
FR	567	London Stansted Apt	Alicante Airport	5	1615	1955	Boeing 737 Passenger	1
FR	568	Alicante Airport	London Stansted Apt	5	2030	2215	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	7	1615	1820	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	6	1425	1630	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	5	1535	1740	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	4	1305	1510	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	3	1355	1600	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	2	1330	1535	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	1	1555	1800	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	7	1845	1855	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	6	1655	1705	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	5	1805	1815	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	4	1535	1545	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	3	1625	1635	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	2	1600	1610	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	1	1825	1835	Boeing 737 Passenger	1
FR	5771	Glasgow International Airport	Dublin (IE)	5	0845	0945	Boeing 737 Passenger	1
FR	5771	Glasgow International Airport	Dublin (IE)	1234 67	0840	0940	Boeing 737 Passenger	6

FR	5772	Dublin (IE)	Glasgow International Airport	5	0720	0820	Boeing 737 Passenger	1
FR	5772	Dublin (IE)	Glasgow International Airport	1234 67	0715	0815	Boeing 737 Passenger	6
FR	5773	Glasgow International Airport	Dublin (IE)	12345 7	1525	1625	Boeing 737 Passenger	5
FR	5774	Dublin (IE)	Glasgow International Airport	12345 7	1400	1500	Boeing 737 Passenger	6
FR	5775	Glasgow International Airport	Dublin (IE)	1234567	2155	2255	Boeing 737 Passenger	6
FR	5776	Dublin (IE)	Glasgow International Airport	1234567	2030	2130	Boeing 737 Passenger	7
FR	58	London Stansted Apt	Stockholm Skavsta Airport	7	1710	2025	Boeing 737 Passenger	1
FR	58	London Stansted Apt	Stockholm Skavsta Airport	456	1750	2105	Boeing 737 Passenger	3
FR	58	London Stansted Apt	Stockholm Skavsta Airport	1	1740	2055	Boeing 737 Passenger	1
FR	5812	Bournemouth	Paphos	6	0630	1315	Boeing 737 Passenger	1
FR	5812	Bournemouth	Paphos	2	1710	0005	Boeing 737 Passenger	1
FR	5813	Paphos	Bournemouth	6	1340	1625	Boeing 737 Passenger	1
FR	5813	Paphos	Bournemouth	2	1350	1645	Boeing 737 Passenger	1
FR	5833	Milan Bergamo/orio al Serio Apt	Edinburgh	5	1035	1200	Boeing 737 Passenger	1
FR	5833	Milan Bergamo/orio al Serio Apt	Edinburgh	2	1815	1950	Boeing 737 Passenger	1
FR	5833	Milan Bergamo/orio al Serio Apt	Edinburgh	1 3	1750	1925	Boeing 737 Passenger	2
FR	5834	Edinburgh	Milan Bergamo/orio al Serio Apt	5	1225	1550	Boeing 737 Passenger	1
FR	5834	Edinburgh	Milan Bergamo/orio al Serio Apt	2	2015	2340	Boeing 737 Passenger	1
FR	5834	Edinburgh	Milan Bergamo/orio al Serio Apt	1 3	1950	2315	Boeing 737 Passenger	2
FR	584	London Stansted Apt	Pisa	1234567	0850	1205	Boeing 737 Passenger	7
FR	585	Pisa	London Stansted Apt	1234567	0640	0805	Boeing 737 Passenger	7
FR	586	London Stansted Apt	Pisa	7	1315	1630	Boeing 737 Passenger	1
FR	586	London Stansted Apt	Pisa	123456	1445	1800	Boeing 737 Passenger	6
FR	587	Pisa	London Stansted Apt	7	1125	1250	Boeing 737 Passenger	1
FR	587	Pisa	London Stansted Apt	123456	1255	1420	Boeing 737 Passenger	6
FR	588	London Stansted Apt	Pisa	6	1955	2310	Boeing 737 Passenger	1
FR	588	London Stansted Apt	Pisa	4	2015	2330	Boeing 737 Passenger	1
FR	588	London Stansted Apt	Pisa	123 5 7	2005	2320	Boeing 737 Passenger	5
FR	5880	Belfast International Apt	Manchester (GB)	67	1335	1440	Boeing 737 Passenger	2
FR	5880	Belfast International Apt	Manchester (GB)	4	1225	1330	Boeing 737 Passenger	1
FR	5880	Belfast International Apt	Manchester (GB)	3	1220	1325	Boeing 737 Passenger	1
FR	5881	Manchester (GB)	Belfast International Apt	67	1505	1610	Boeing 737 Passenger	2
FR	5881	Manchester (GB)	Belfast International Apt	4	1400	1505	Boeing 737 Passenger	1
FR	5881	Manchester (GB)	Belfast International Apt	3	1350	1455	Boeing 737 Passenger	1
FR	589	Pisa	London Stansted Apt	345 7	1815	1940	Boeing 737 Passenger	4
FR	589	Pisa	London Stansted Apt	12 6	1800	1925	Boeing 737 Passenger	3
FR	59	Stockholm Skavsta Airport	London Stansted Apt	7	2050	2210	Boeing 737 Passenger	1
FR	59	Stockholm Skavsta Airport	London Stansted Apt	456	2130	2250	Boeing 737 Passenger	3
FR	59	Stockholm Skavsta Airport	London Stansted Apt	1	2120	2240	Boeing 737 Passenger	1
FR	5942	Bournemouth	Palma de Mallorca	7	0840	1155	Boeing 737 Passenger	1
FR	5942	Bournemouth	Palma de Mallorca	345	0855	1210	Boeing 737 Passenger	3
FR	5942	Bournemouth	Palma de Mallorca	2 6	1125	1440	Boeing 737 Passenger	2
FR	5942	Bournemouth	Palma de Mallorca	1	0900	1215	Boeing 737 Passenger	1
FR	5943	Palma de Mallorca	Bournemouth	7	0655	0810	Boeing 737 Passenger	1
FR	5943	Palma de Mallorca	Bournemouth	2 6	0940	1100	Boeing 737 Passenger	2
FR	5943	Palma de Mallorca	Bournemouth	1 345	0715	0830	Boeing 737 Passenger	4
FR	5944	Bournemouth	Malaga Airport	56	0845	1220	Boeing 737 Passenger	2
FR	5944	Bournemouth	Malaga Airport	4	1545	1920	Boeing 737 Passenger	1
FR	5944	Bournemouth	Malaga Airport	3 7	0905	1240	Boeing 737 Passenger	2
FR	5944	Bournemouth	Malaga Airport	2	0835	1210	Boeing 737 Passenger	1
FR	5945	Malaga Airport	Bournemouth	56	0640	0820	Boeing 737 Passenger	2
FR	5945	Malaga Airport	Bournemouth	4	1955	2135	Boeing 737 Passenger	1
FR	5945	Malaga Airport	Bournemouth	3 7	0700	0840	Boeing 737 Passenger	2
FR	5945	Malaga Airport	Bournemouth	2	0630	0810	Boeing 737 Passenger	1
FR	5946	Bournemouth	Corvera	2	1655	2025	Boeing 737 Passenger	1
FR	5946	Bournemouth	Corvera	1 3 5	0630	1000	Boeing 737 Passenger	3
FR	5947	Corvera	Bournemouth	2	2130	2255	Boeing 737 Passenger	1
FR	5947	Corvera	Bournemouth	1 3 5	1035	1200	Boeing 737 Passenger	3
FR	5953	Bournemouth	Faro	7	1030	1310	Boeing 737 Passenger	1
FR	5953	Bournemouth	Faro	1 3 5	1705	1945	Boeing 737 Passenger	3
FR	5954	Faro	Bournemouth	7	0730	1005	Boeing 737 Passenger	1
FR	5954	Faro	Bournemouth	1 3 5	1405	1640	Boeing 737 Passenger	3
FR	5991	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	7	1135	1305	Boeing 737 Passenger	1
FR	5991	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	123456	1035	1205	Boeing 737 Passenger	6
FR	5992	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	7	0725	1100	Boeing 737 Passenger	1
FR	5992	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	123456	0625	1000	Boeing 737 Passenger	6
FR	5993	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	234567	0615	0745	Boeing 737 Passenger	6
FR	5993	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	1	0630	0800	Boeing 737 Passenger	1
FR	5994	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	234567	0825	1200	Boeing 737 Passenger	6
FR	5994	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	1	0840	1215	Boeing 737 Passenger	1

FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	7	1335	1505	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	6	1610	1740	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	5	1650	1820	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	4	1540	1710	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	3	1605	1735	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	2	1310	1440	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	1	1710	1840	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	7	1530	1905	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	6	1140	1515	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	5	1240	1615	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	4	1130	1505	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	3	1155	1530	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	2	0900	1235	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	1	1300	1635	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	7	1815	1945	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	56	2210	2340	Boeing 737 Passenger	2
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	4	2230	2359	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	3	2140	2310	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	2	2235	0005	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	1	2055	2225	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	7	2015	2350	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	6	1800	2135	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	5	1755	2130	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	4	1815	2145	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	3	1730	2105	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	2	1810	2145	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	1	1645	2020	Boeing 737 Passenger	1
FR	6022	Bristol	Beziers	3	0930	1225	Boeing 737 Passenger	1
FR	6022	Bristol	Beziers	1 5	1300	1555	Boeing 737 Passenger	2
FR	6023	Beziers	Bristol	3	1250	1350	Boeing 737 Passenger	1
FR	6023	Beziers	Bristol	1 5	1620	1720	Boeing 737 Passenger	2
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	7	0740	1110	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	6	0855	1225	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	45	0700	1030	Boeing 737 Passenger	2
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	3	0920	1250	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	2	0815	1145	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	1	0805	1135	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	7	1145	1325	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	6	1330	1505	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	5	1105	1245	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	4	1105	1240	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	3	1325	1505	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	2	1220	1400	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	1	1210	1345	Boeing 737 Passenger	1
FR	6035	London Stansted Apt	Rimini	6	1715	2025	Boeing 737 Passenger	1
FR	6035	London Stansted Apt	Rimini	2	1005	1315	Boeing 737 Passenger	1
FR	6036	Rimini	London Stansted Apt	6	2050	2200	Boeing 737 Passenger	1
FR	6036	Rimini	London Stansted Apt	2	1340	1450	Boeing 737 Passenger	1
FR	6080	London Stansted Apt	Kalamata	6	1245	1820	Boeing 737 Passenger	1
FR	6081	Kalamata	London Stansted Apt	6	1845	2030	Boeing 737 Passenger	1
FR	6153	Glasgow Prestwick Apt	Lanzarote	6	1900	2335	Boeing 737 Passenger	1
FR	6153	Glasgow Prestwick Apt	Lanzarote	2	0640	1115	Boeing 737 Passenger	1
FR	6154	Lanzarote	Glasgow Prestwick Apt	6	1410	1835	Boeing 737 Passenger	1
FR	6154	Lanzarote	Glasgow Prestwick Apt	2	1150	1615	Boeing 737 Passenger	1
FR	6241	Duesseldorf Weeze Airport	Edinburgh	4	1435	1515	Boeing 737 Passenger	1
FR	6241	Duesseldorf Weeze Airport	Edinburgh	2 6	1545	1625	Boeing 737 Passenger	2
FR	6242	Edinburgh	Duesseldorf Weeze Airport	4	1130	1410	Boeing 737 Passenger	1
FR	6242	Edinburgh	Duesseldorf Weeze Airport	2 6	1240	1520	Boeing 737 Passenger	2
FR	6253	Glasgow Prestwick Apt	Gran Canaria	6	1330	1805	Boeing 737 Passenger	1
FR	6253	Glasgow Prestwick Apt	Gran Canaria	2	0700	1135	Boeing 737 Passenger	1
FR	6254	Gran Canaria	Glasgow Prestwick Apt	6	1845	2315	Boeing 737 Passenger	1
FR	6254	Gran Canaria	Glasgow Prestwick Apt	2	1210	1640	Boeing 737 Passenger	1
FR	6266	Edinburgh	Barcelona Apt	7	0700	1050	Boeing 737 Passenger	1
FR	6266	Edinburgh	Barcelona Apt	123456	0630	1020	Boeing 737 Passenger	6
FR	6267	Barcelona Apt	Edinburgh	7	1125	1325	Boeing 737 Passenger	1
FR	6267	Barcelona Apt	Edinburgh	123456	1055	1255	Boeing 737 Passenger	6
FR	6335	Sofia	Birmingham Airport	2 4 6	1645	1810	Boeing 737 Passenger	3
FR	6336	Birmingham Airport	Sofia	2 4 6	1835	2350	Boeing 737 Passenger	3
FR	6337	Sofia	Liverpool	6	0740	0915	Boeing 737 Passenger	1
FR	6337	Sofia	Liverpool	2	1645	1820	Boeing 737 Passenger	1

FR	6338	Liverpool	Sofia	6	0940	1505	Boeing 737 Passenger	1
FR	6338	Liverpool	Sofia	2	1845	0010	Boeing 737 Passenger	1
FR	6339	Edinburgh	Tallinn	7	0715	1200	Boeing 737 Passenger	1
FR	6339	Edinburgh	Tallinn	3	0730	1215	Boeing 737 Passenger	1
FR	6340	Tallinn	Edinburgh	7	1230	1315	Boeing 737 Passenger	1
FR	6340	Tallinn	Edinburgh	3	1240	1325	Boeing 737 Passenger	1
FR	6432	Ibiza	Liverpool	6	1445	1630	Boeing 737 Passenger	1
FR	6432	Ibiza	Liverpool	3	2130	2315	Boeing 737 Passenger	1
FR	6432	Ibiza	Liverpool	1	2040	2225	Boeing 737 Passenger	1
FR	6433	Liverpool	Ibiza	6	1025	1410	Boeing 737 Passenger	1
FR	6433	Liverpool	Ibiza	3	1710	2055	Boeing 737 Passenger	1
FR	6433	Liverpool	Ibiza	1	1620	2005	Boeing 737 Passenger	1
FR	6460	Lisbon	Edinburgh	6	1740	2050	Boeing 737 Passenger	1
FR	6460	Lisbon	Edinburgh	2	1155	1505	Boeing 737 Passenger	1
FR	6461	Edinburgh	Lisbon	6	1405	1715	Boeing 737 Passenger	1
FR	6461	Edinburgh	Lisbon	2	0745	1055	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	7	0910	1220	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	6	0830	1140	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	3	0820	1130	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	1 5	0720	1030	Boeing 737 Passenger	2
FR	652	Faro	Glasgow Prestwick Apt	7	1300	1605	Boeing 737 Passenger	1
FR	652	Faro	Glasgow Prestwick Apt	6	1205	1510	Boeing 737 Passenger	1
FR	652	Faro	Glasgow Prestwick Apt	3	1155	1500	Boeing 737 Passenger	1
FR	652	Faro	Glasgow Prestwick Apt	1 5	1055	1400	Boeing 737 Passenger	2
FR	653	Glasgow Prestwick Apt	Tenerife Sur Apt	6	1845	2325	Boeing 737 Passenger	1
FR	653	Glasgow Prestwick Apt	Tenerife Sur Apt	1234 7	0610	1050	Boeing 737 Passenger	5
FR	654	Tenerife Sur Apt	Glasgow Prestwick Apt	7	1150	1620	Boeing 737 Passenger	1
FR	654	Tenerife Sur Apt	Glasgow Prestwick Apt	6	1350	1820	Boeing 737 Passenger	1
FR	654	Tenerife Sur Apt	Glasgow Prestwick Apt	1234	1140	1610	Boeing 737 Passenger	4
FR	6541	London Stansted Apt	Marseille Provence Apt	123456	0800	1105	Boeing 737 Passenger	6
FR	6542	Marseille Provence Apt	London Stansted Apt	123456	0630	0735	Boeing 737 Passenger	6
FR	6543	London Stansted Apt	Marseille Provence Apt	7	1740	2045	Boeing 737 Passenger	1
FR	6543	London Stansted Apt	Marseille Provence Apt	45	1930	2235	Boeing 737 Passenger	2
FR	6543	London Stansted Apt	Marseille Provence Apt	2 6	1940	2245	Boeing 737 Passenger	2
FR	6543	London Stansted Apt	Marseille Provence Apt	1	2000	2305	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	7	2110	2215	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	5	1800	1905	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	4	1755	1900	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	12 6	1810	1915	Boeing 737 Passenger	3
FR	655	Glasgow Prestwick Apt	Malaga Airport	6	1600	2010	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	4	0605	1015	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	3	1015	1425	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	2	1750	2200	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	1 5	0700	1110	Boeing 737 Passenger	2
FR	656	Malaga Airport	Glasgow Prestwick Apt	6	2100	2320	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	5	1200	1420	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	4	1050	1310	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	3	0730	0950	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	2	1505	1725	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	1	1145	1405	Boeing 737 Passenger	1
FR	6571	Nottingham East Midlands Airport	Venice Treviso/Sant'Angelo Apt	7	1350	1700	Boeing 737 Passenger	1
FR	6571	Nottingham East Midlands Airport	Venice Treviso/Sant'Angelo Apt	5	1150	1500	Boeing 737 Passenger	1
FR	6571	Nottingham East Midlands Airport	Venice Treviso/Sant'Angelo Apt	1	1245	1555	Boeing 737 Passenger	1
FR	6572	Venice Treviso/Sant'Angelo Apt	Nottingham East Midlands Airport	7	1725	1840	Boeing 737 Passenger	1
FR	6572	Venice Treviso/Sant'Angelo Apt	Nottingham East Midlands Airport	5	1525	1640	Boeing 737 Passenger	1
FR	6572	Venice Treviso/Sant'Angelo Apt	Nottingham East Midlands Airport	1	1620	1735	Boeing 737 Passenger	1
FR	6601	Nottingham East Midlands Airport	Palma de Mallorca	7	1655	2025	Boeing 737 Passenger	1
FR	6601	Nottingham East Midlands Airport	Palma de Mallorca	6	1620	1950	Boeing 737 Passenger	1
FR	6601	Nottingham East Midlands Airport	Palma de Mallorca	12345	1710	2040	Boeing 737 Passenger	5
FR	6602	Palma de Mallorca	Nottingham East Midlands Airport	7	2105	2245	Boeing 737 Passenger	1
FR	6602	Palma de Mallorca	Nottingham East Midlands Airport	6	2025	2205	Boeing 737 Passenger	1
FR	6602	Palma de Mallorca	Nottingham East Midlands Airport	12345	2115	2255	Boeing 737 Passenger	5
FR	6603	Edinburgh	Porto	6	1750	2035	Boeing 737 Passenger	1
FR	6603	Edinburgh	Porto	2	1740	2025	Boeing 737 Passenger	1
FR	6604	Ibiza	Edinburgh	7	1950	2150	Boeing 737 Passenger	1
FR	6604	Ibiza	Edinburgh	3	1535	1735	Boeing 737 Passenger	1
FR	6605	Edinburgh	Ibiza	7	1515	1915	Boeing 737 Passenger	1
FR	6605	Edinburgh	Ibiza	3	1100	1500	Boeing 737 Passenger	1
FR	6606	Porto	Edinburgh	6	2100	2345	Boeing 737 Passenger	1
FR	6606	Porto	Edinburgh	2	2050	2335	Boeing 737 Passenger	1

FR	6610	Kefallinia	London Stansted Apt	5	2040	2205	Boeing 737 Passenger	1
FR	6610	Kefallinia	London Stansted Apt	1	2230	2355	Boeing 737 Passenger	1
FR	6611	London Stansted Apt	Kefallinia	5	1450	2015	Boeing 737 Passenger	1
FR	6611	London Stansted Apt	Kefallinia	1	1640	2205	Boeing 737 Passenger	1
FR	6618	Edinburgh	Poznan Lawica Apt	5	0825	1150	Boeing 737 Passenger	1
FR	6618	Edinburgh	Poznan Lawica Apt	1	1755	2120	Boeing 737 Passenger	1
FR	6619	Poznan Lawica Apt	Edinburgh	5	0635	0800	Boeing 737 Passenger	1
FR	6619	Poznan Lawica Apt	Edinburgh	1	2145	2310	Boeing 737 Passenger	1
FR	662	Dublin (IE)	Birmingham Airport	7	0640	0750	Boeing 737 Passenger	1
FR	662	Dublin (IE)	Birmingham Airport	123456	0625	0735	Boeing 737 Passenger	6
FR	6621	Edinburgh	Tenerife Sur Apt	1 3 56	1345	1830	Boeing 737 Passenger	4
FR	6622	Tenerife Sur Apt	Edinburgh	1 3 56	1905	2340	Boeing 737 Passenger	4
FR	6624	Edinburgh	Krakow John Paul II - Balice	6	1745	2130	Boeing 737 Passenger	1
FR	6624	Edinburgh	Krakow John Paul II - Balice	2 4	1605	1950	Boeing 737 Passenger	2
FR	6624	Edinburgh	Krakow John Paul II - Balice	1	1735	2120	Boeing 737 Passenger	1
FR	6625	Krakow John Paul II - Balice	Edinburgh	6	2155	2340	Boeing 737 Passenger	1
FR	6625	Krakow John Paul II - Balice	Edinburgh	2 4	2015	2200	Boeing 737 Passenger	2
FR	6625	Krakow John Paul II - Balice	Edinburgh	1	2145	2330	Boeing 737 Passenger	1
FR	6626	Edinburgh	Lanzarote	1 5	0610	1045	Boeing 737 Passenger	2
FR	6627	Lanzarote	Edinburgh	1 5	1120	1550	Boeing 737 Passenger	2
FR	663	Birmingham Airport	Dublin (IE)	7	0815	0925	Boeing 737 Passenger	1
FR	663	Birmingham Airport	Dublin (IE)	123456	0800	0910	Boeing 737 Passenger	6
FR	664	Dublin (IE)	Birmingham Airport	6	1135	1240	Boeing 737 Passenger	1
FR	664	Dublin (IE)	Birmingham Airport	5	1040	1145	Boeing 737 Passenger	1
FR	664	Dublin (IE)	Birmingham Airport	3	1035	1140	Boeing 737 Passenger	1
FR	664	Dublin (IE)	Birmingham Airport	12 4 7	1045	1150	Boeing 737 Passenger	4
FR	6642	Edinburgh	Bratislava	7	0640	1020	Boeing 737 Passenger	1
FR	6642	Edinburgh	Bratislava	4	2040	0020	Boeing 737 Passenger	1
FR	6643	Bratislava	Edinburgh	7	1045	1225	Boeing 737 Passenger	1
FR	6643	Bratislava	Edinburgh	4	1835	2015	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	6	1305	1415	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	5	1210	1320	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	3	1205	1315	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	12 4 7	1215	1325	Boeing 737 Passenger	4
FR	6652	Edinburgh	Malaga Airport	1234567	1640	2100	Boeing 737 Passenger	7
FR	6653	Malaga Airport	Edinburgh	1234567	2135	2355	Boeing 737 Passenger	7
FR	6654	Edinburgh	Bordeaux Merignac Apt	4	0850	1210	Boeing 737 Passenger	1
FR	6654	Edinburgh	Bordeaux Merignac Apt	2 6	0715	1035	Boeing 737 Passenger	2
FR	6655	Bordeaux Merignac Apt	Edinburgh	4	0710	0825	Boeing 737 Passenger	1
FR	6655	Bordeaux Merignac Apt	Edinburgh	2 6	1100	1215	Boeing 737 Passenger	2
FR	6656	Edinburgh	Palma de Mallorca	7	0715	1115	Boeing 737 Passenger	1
FR	6656	Edinburgh	Palma de Mallorca	6	0745	1145	Boeing 737 Passenger	1
FR	6656	Edinburgh	Palma de Mallorca	2	1920	2320	Boeing 737 Passenger	1
FR	6656	Edinburgh	Palma de Mallorca	1 345	0735	1135	Boeing 737 Passenger	4
FR	6657	Palma de Mallorca	Edinburgh	7	1150	1400	Boeing 737 Passenger	1
FR	6657	Palma de Mallorca	Edinburgh	6	1300	1510	Boeing 737 Passenger	1
FR	6657	Palma de Mallorca	Edinburgh	2	1645	1855	Boeing 737 Passenger	1
FR	6657	Palma de Mallorca	Edinburgh	1 345	1210	1420	Boeing 737 Passenger	4
FR	666	Dublin (IE)	Birmingham Airport	2 5 7	2035	2140	Boeing 737 Passenger	3
FR	666	Dublin (IE)	Birmingham Airport	1 34	2045	2150	Boeing 737 Passenger	3
FR	667	Birmingham Airport	Dublin (IE)	2 5 7	1900	2010	Boeing 737 Passenger	3
FR	667	Birmingham Airport	Dublin (IE)	1 34	1910	2020	Boeing 737 Passenger	3
FR	6673	Liverpool	Knock	7	1150	1255	Boeing 737 Passenger	1
FR	6673	Liverpool	Knock	56	1410	1515	Boeing 737 Passenger	2
FR	6673	Liverpool	Knock	2	0815	0920	Boeing 737 Passenger	1
FR	6673	Liverpool	Knock	1	1335	1440	Boeing 737 Passenger	1
FR	6674	Knock	Liverpool	7	1320	1425	Boeing 737 Passenger	1
FR	6674	Knock	Liverpool	56	1540	1645	Boeing 737 Passenger	2
FR	6674	Knock	Liverpool	2	0945	1050	Boeing 737 Passenger	1
FR	6674	Knock	Liverpool	1	1505	1610	Boeing 737 Passenger	1
FR	668	Dublin (IE)	Birmingham Airport	2345 7	2155	2300	Boeing 737 Passenger	5
FR	668	Dublin (IE)	Birmingham Airport	1 6	2225	2330	Boeing 737 Passenger	2
FR	6681	Edinburgh	Rome Ciampino Apt	7	0635	1030	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	6	0645	1040	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	5	0915	1310	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	3	0625	1020	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	1	0615	1010	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	7	1055	1310	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	6	1105	1315	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	5	0635	0850	Boeing 737 Passenger	1

FR	6682	Rome Ciampino Apt	Edinburgh	3	1045	1300	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	1	1035	1250	Boeing 737 Passenger	1
FR	6689	Sevilla Airport	Bristol	6	1715	1855	Boeing 737 Passenger	1
FR	6689	Sevilla Airport	Bristol	2	1130	1310	Boeing 737 Passenger	1
FR	669	Birmingham Airport	Dublin (IE)	2345 7	2025	2130	Boeing 737 Passenger	5
FR	669	Birmingham Airport	Dublin (IE)	1 6	2055	2200	Boeing 737 Passenger	2
FR	6690	Bristol	Sevilla Airport	6	1920	2240	Boeing 737 Passenger	1
FR	6690	Bristol	Sevilla Airport	2	0740	1100	Boeing 737 Passenger	1
FR	6695	Edinburgh	Malta	6	1805	2255	Boeing 737 Passenger	1
FR	6695	Edinburgh	Malta	4	0730	1220	Boeing 737 Passenger	1
FR	6695	Edinburgh	Malta	23	0700	1150	Boeing 737 Passenger	2
FR	6696	Malta	Edinburgh	6	1440	1740	Boeing 737 Passenger	1
FR	6696	Malta	Edinburgh	4	1245	1545	Boeing 737 Passenger	1
FR	6696	Malta	Edinburgh	23	1215	1515	Boeing 737 Passenger	2
FR	6698	Edinburgh	Gran Canaria	6	1400	1850	Boeing 737 Passenger	1
FR	6698	Edinburgh	Gran Canaria	2	1900	2350	Boeing 737 Passenger	1
FR	6699	Gran Canaria	Edinburgh	6	1925	2359	Boeing 737 Passenger	1
FR	6699	Gran Canaria	Edinburgh	2	1400	1835	Boeing 737 Passenger	1
FR	670	Dublin (IE)	Birmingham Airport	1234567	1325	1435	Boeing 737 Passenger	7
FR	671	Birmingham Airport	Dublin (IE)	1234567	1500	1610	Boeing 737 Passenger	7
FR	672	Dublin (IE)	Birmingham Airport	7	1550	1700	Boeing 737 Passenger	1
FR	672	Dublin (IE)	Birmingham Airport	1 5	1615	1725	Boeing 737 Passenger	2
FR	673	Birmingham Airport	Dublin (IE)	7	1725	1835	Boeing 737 Passenger	1
FR	673	Birmingham Airport	Dublin (IE)	1 5	1750	1900	Boeing 737 Passenger	2
FR	6760	Edinburgh	Sevilla Airport	6	0910	1325	Boeing 737 Passenger	1
FR	6760	Edinburgh	Sevilla Airport	2	1810	2225	Boeing 737 Passenger	1
FR	6761	Sevilla Airport	Edinburgh	6	1355	1610	Boeing 737 Passenger	1
FR	6761	Sevilla Airport	Edinburgh	2	1530	1745	Boeing 737 Passenger	1
FR	6762	Bournemouth	Tenerife Sur Apt	2	0710	1120	Boeing 737 Passenger	1
FR	6763	Tenerife Sur Apt	Bournemouth	2	1155	1550	Boeing 737 Passenger	1
FR	6764	Bournemouth	Gran Canaria	6	1030	1435	Boeing 737 Passenger	1
FR	6765	Gran Canaria	Bournemouth	6	0600	1005	Boeing 737 Passenger	1
FR	682	London Stansted Apt	Stockholm Vasteras Apt	7	1640	1955	Boeing 737 Passenger	1
FR	682	London Stansted Apt	Stockholm Vasteras Apt	3	1325	1640	Boeing 737 Passenger	1
FR	682	London Stansted Apt	Stockholm Vasteras Apt	1 5	1140	1455	Boeing 737 Passenger	2
FR	6826	Edinburgh	Faro	7	1955	2315	Boeing 737 Passenger	1
FR	6826	Edinburgh	Faro	5	0840	1200	Boeing 737 Passenger	1
FR	6826	Edinburgh	Faro	3	1600	1920	Boeing 737 Passenger	1
FR	6826	Edinburgh	Faro	1	0635	0955	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	7	1610	1930	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	5	1225	1545	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	3	1945	2305	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	1	1020	1340	Boeing 737 Passenger	1
FR	683	Stockholm Vasteras Apt	London Stansted Apt	7	2020	2140	Boeing 737 Passenger	1
FR	683	Stockholm Vasteras Apt	London Stansted Apt	3	1705	1825	Boeing 737 Passenger	1
FR	683	Stockholm Vasteras Apt	London Stansted Apt	1 5	1520	1640	Boeing 737 Passenger	2
FR	6834	Naples Capodichino Apt	Manchester (GB)	6	0600	0805	Boeing 737 Passenger	1
FR	6834	Naples Capodichino Apt	Manchester (GB)	4	0805	1010	Boeing 737 Passenger	1
FR	6834	Naples Capodichino Apt	Manchester (GB)	2	1425	1630	Boeing 737 Passenger	1
FR	6835	Manchester (GB)	Naples Capodichino Apt	6	0830	1225	Boeing 737 Passenger	1
FR	6835	Manchester (GB)	Naples Capodichino Apt	4	1035	1430	Boeing 737 Passenger	1
FR	6835	Manchester (GB)	Naples Capodichino Apt	2	1005	1400	Boeing 737 Passenger	1
FR	691	Glasgow Prestwick Apt	Alicante Airport	5	1520	1920	Boeing 737 Passenger	1
FR	691	Glasgow Prestwick Apt	Alicante Airport	4 7	1655	2055	Boeing 737 Passenger	2
FR	691	Glasgow Prestwick Apt	Alicante Airport	3	1625	2025	Boeing 737 Passenger	1
FR	691	Glasgow Prestwick Apt	Alicante Airport	1	1530	1930	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	7	2130	2340	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	5	1955	2205	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	4	2140	2350	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	3	2100	2310	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	1	2005	2215	Boeing 737 Passenger	1
FR	694	Glasgow Prestwick Apt	Ibiza	3 7	1450	1850	Boeing 737 Passenger	2
FR	695	Ibiza	Glasgow Prestwick Apt	3 7	1925	2130	Boeing 737 Passenger	2
FR	696	Glasgow Prestwick Apt	Palma de Mallorca	6	1500	1850	Boeing 737 Passenger	1
FR	696	Glasgow Prestwick Apt	Palma de Mallorca	345 7	0700	1050	Boeing 737 Passenger	4
FR	696	Glasgow Prestwick Apt	Palma de Mallorca	2	1705	2055	Boeing 737 Passenger	1
FR	697	Palma de Mallorca	Glasgow Prestwick Apt	6	1925	2130	Boeing 737 Passenger	1
FR	697	Palma de Mallorca	Glasgow Prestwick Apt	345 7	1125	1330	Boeing 737 Passenger	4
FR	697	Palma de Mallorca	Glasgow Prestwick Apt	2	2130	2335	Boeing 737 Passenger	1
FR	701	London Stansted Apt	Kerry	3 7	1355	1525	Boeing 737 Passenger	2

FR	701	London Stansted Apt	Kerry	1 45	1410	1540	Boeing 737 Passenger	3
FR	702	Kerry	London Stansted Apt	1 345 7	1605	1735	Boeing 737 Passenger	5
FR	703	Gdansk Lech Walesa	Manchester (GB)	3	1710	1845	Boeing 737 Passenger	1
FR	704	Manchester (GB)	Gdansk Lech Walesa	3	1910	2225	Boeing 737 Passenger	1
FR	7111	Liverpool	Szczecin	7	0645	0950	Boeing 737 Passenger	1
FR	7111	Liverpool	Szczecin	4	0620	0925	Boeing 737 Passenger	1
FR	7112	Szczecin	Liverpool	7	1015	1120	Boeing 737 Passenger	1
FR	7112	Szczecin	Liverpool	4	0950	1055	Boeing 737 Passenger	1
FR	7117	London Stansted Apt	Strasbourg	7	0755	1020	Boeing 737 Passenger	1
FR	7117	London Stansted Apt	Strasbourg	3	1500	1725	Boeing 737 Passenger	1
FR	7118	Strasbourg	London Stansted Apt	7	1045	1110	Boeing 737 Passenger	1
FR	7118	Strasbourg	London Stansted Apt	3	1750	1815	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	7	0840	1120	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	6	1425	1705	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	4	1130	1410	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	23 5	1125	1405	Boeing 737 Passenger	3
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	1	1120	1400	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	7	1150	1230	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	6	1730	1810	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	4	1435	1515	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	23 5	1430	1510	Boeing 737 Passenger	3
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	1	1425	1505	Boeing 737 Passenger	1
FR	72	London Stansted Apt	Carcassonne	7	1455	1755	Boeing 737 Passenger	1
FR	72	London Stansted Apt	Carcassonne	6	1430	1730	Boeing 737 Passenger	1
FR	72	London Stansted Apt	Carcassonne	2345	1410	1710	Boeing 737 Passenger	4
FR	72	London Stansted Apt	Carcassonne	1	1140	1440	Boeing 737 Passenger	1
FR	7226	Bristol	Krakow John Paul II - Balice	5	0930	1255	Boeing 737 Passenger	1
FR	7226	Bristol	Krakow John Paul II - Balice	3	0850	1215	Boeing 737 Passenger	1
FR	7226	Bristol	Krakow John Paul II - Balice	1	0905	1230	Boeing 737 Passenger	1
FR	7227	Krakow John Paul II - Balice	Bristol	5	0725	0905	Boeing 737 Passenger	1
FR	7227	Krakow John Paul II - Balice	Bristol	3	0645	0825	Boeing 737 Passenger	1
FR	7227	Krakow John Paul II - Balice	Bristol	1	0700	0840	Boeing 737 Passenger	1
FR	7275	Belfast International Apt	Manchester (GB)	1234567	0800	0905	Boeing 737 Passenger	7
FR	7276	Manchester (GB)	Belfast International Apt	1234567	0630	0735	Boeing 737 Passenger	7
FR	73	Carcassonne	London Stansted Apt	7	1820	1920	Boeing 737 Passenger	1
FR	73	Carcassonne	London Stansted Apt	6	1755	1855	Boeing 737 Passenger	1
FR	73	Carcassonne	London Stansted Apt	2345	1735	1835	Boeing 737 Passenger	4
FR	73	Carcassonne	London Stansted Apt	1	1505	1605	Boeing 737 Passenger	1
FR	734	Birmingham Airport	Bratislava	4 6	1935	2300	Boeing 737 Passenger	2
FR	734	Birmingham Airport	Bratislava	2	1035	1400	Boeing 737 Passenger	1
FR	7342	Glasgow Prestwick Apt	Rome Ciampino Apt	6	0655	1055	Boeing 737 Passenger	1
FR	7342	Glasgow Prestwick Apt	Rome Ciampino Apt	2	1705	2105	Boeing 737 Passenger	1
FR	7343	Rome Ciampino Apt	Glasgow Prestwick Apt	6	1120	1330	Boeing 737 Passenger	1
FR	7343	Rome Ciampino Apt	Glasgow Prestwick Apt	2	2130	2340	Boeing 737 Passenger	1
FR	735	Bratislava	Birmingham Airport	4 6	1745	1910	Boeing 737 Passenger	2
FR	735	Bratislava	Birmingham Airport	2	0845	1010	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	7	1845	2130	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	5	1130	1415	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	4	1950	2235	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	3	1415	1700	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	1	1340	1625	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	7	2155	2235	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	5	1440	1520	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	4	1845	1925	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	3	1725	1805	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	1	1650	1730	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	6	1710	1810	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	5	1740	1840	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	4	1620	1720	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	3	1720	1820	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	2	1730	1825	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	1 7	1730	1830	Boeing 737 Passenger	2
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	6	1400	1645	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	5	1430	1715	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	4	1310	1555	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	3	1410	1655	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	12 7	1420	1705	Boeing 737 Passenger	3
FR	7383	Copenhagen Kastrup Apt	London Stansted Apt	1234567	0715	0815	Boeing 737 Passenger	7
FR	7384	London Stansted Apt	Copenhagen Kastrup Apt	34567	0900	1145	Boeing 737 Passenger	5
FR	7384	London Stansted Apt	Copenhagen Kastrup Apt	2	0855	1140	Boeing 737 Passenger	1

FR	7384	London Stansted Apt	Copenhagen Kastrup Apt	1	0840	1125	Boeing 737 Passenger	1
FR	7385	Copenhagen Kastrup Apt	London Stansted Apt	2 567	2215	2315	Boeing 737 Passenger	4
FR	7385	Copenhagen Kastrup Apt	London Stansted Apt	1 34	2210	2310	Boeing 737 Passenger	3
FR	7386	London Stansted Apt	Copenhagen Kastrup Apt	567	1905	2150	Boeing 737 Passenger	3
FR	7386	London Stansted Apt	Copenhagen Kastrup Apt	1234	1900	2145	Boeing 737 Passenger	4
FR	7407	Copenhagen Kastrup Apt	London Luton Apt	7	2140	2230	Boeing 737 Passenger	1
FR	7407	Copenhagen Kastrup Apt	London Luton Apt	1 3456	1435	1525	Boeing 737 Passenger	5
FR	7408	London Luton Apt	Copenhagen Kastrup Apt	7	1825	2115	Boeing 737 Passenger	1
FR	7408	London Luton Apt	Copenhagen Kastrup Apt	6	1115	1405	Boeing 737 Passenger	1
FR	7408	London Luton Apt	Copenhagen Kastrup Apt	1 345	1115	1410	Boeing 737 Passenger	4
FR	748	Birmingham Airport	Gdansk Lech Walesa	7	1955	2315	Boeing 737 Passenger	1
FR	748	Birmingham Airport	Gdansk Lech Walesa	3	1700	2020	Boeing 737 Passenger	1
FR	749	Gdansk Lech Walesa	Birmingham Airport	7	1800	1930	Boeing 737 Passenger	1
FR	749	Gdansk Lech Walesa	Birmingham Airport	3	1510	1635	Boeing 737 Passenger	1
FR	7542	Manchester (GB)	Barcelona Apt	1234567	0625	0945	Boeing 737 Passenger	7
FR	7543	Barcelona Apt	Manchester (GB)	1234567	1020	1155	Boeing 737 Passenger	7
FR	7544	Manchester (GB)	Barcelona Apt	1234567	1810	2130	Boeing 737 Passenger	7
FR	7545	Barcelona Apt	Manchester (GB)	6	2205	2340	Boeing 737 Passenger	1
FR	7545	Barcelona Apt	Manchester (GB)	5	1600	1740	Boeing 737 Passenger	1
FR	7545	Barcelona Apt	Manchester (GB)	234 7	2205	2345	Boeing 737 Passenger	4
FR	7545	Barcelona Apt	Manchester (GB)	1	1605	1745	Boeing 737 Passenger	1
FR	7608	London Stansted Apt	Chania	7	1255	1850	Boeing 737 Passenger	1
FR	7608	London Stansted Apt	Chania	5	0715	1310	Boeing 737 Passenger	1
FR	7608	London Stansted Apt	Chania	1	0640	1235	Boeing 737 Passenger	1
FR	7609	Chania	London Stansted Apt	7	1935	2145	Boeing 737 Passenger	1
FR	7609	Chania	London Stansted Apt	5	1335	1545	Boeing 737 Passenger	1
FR	7609	Chania	London Stansted Apt	1	1300	1510	Boeing 737 Passenger	1
FR	7616	Edinburgh	Santander	7	0655	1020	Boeing 737 Passenger	1
FR	7616	Edinburgh	Santander	3	1830	2155	Boeing 737 Passenger	1
FR	7617	Santander	Edinburgh	7	1045	1205	Boeing 737 Passenger	1
FR	7617	Santander	Edinburgh	3	2220	2340	Boeing 737 Passenger	1
FR	7622	Nottingham East Midlands Airport	Rzeszow	4	1410	1750	Boeing 737 Passenger	1
FR	7622	Nottingham East Midlands Airport	Rzeszow	2 6	0610	0950	Boeing 737 Passenger	2
FR	7623	Rzeszow	Nottingham East Midlands Airport	4	1815	2000	Boeing 737 Passenger	1
FR	7623	Rzeszow	Nottingham East Midlands Airport	2 6	1015	1200	Boeing 737 Passenger	2
FR	7624	Glasgow Prestwick Apt	Bydgoszcz	6	0720	1040	Boeing 737 Passenger	1
FR	7624	Glasgow Prestwick Apt	Bydgoszcz	2	1730	2050	Boeing 737 Passenger	1
FR	7625	Bydgoszcz	Glasgow Prestwick Apt	6	1105	1235	Boeing 737 Passenger	1
FR	7625	Bydgoszcz	Glasgow Prestwick Apt	2	2115	2245	Boeing 737 Passenger	1
FR	7672	Glasgow International Airport	Wroclaw	1 5	1305	1630	Boeing 737 Passenger	2
FR	7673	Wroclaw	Glasgow International Airport	1 5	1105	1240	Boeing 737 Passenger	2
FR	7784	London Luton Apt	Malaga Airport	4	0715	1105	Boeing 737 Passenger	1
FR	7784	London Luton Apt	Malaga Airport	3	1650	2045	Boeing 737 Passenger	1
FR	7784	London Luton Apt	Malaga Airport	2	0655	1050	Boeing 737 Passenger	1
FR	7784	London Luton Apt	Malaga Airport	1 567	0650	1045	Boeing 737 Passenger	4
FR	7785	Malaga Airport	London Luton Apt	7	1120	1310	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	5	1140	1330	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	4	1200	1350	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	3	2140	2330	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	2	1210	1400	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	1 6	1125	1315	Boeing 737 Passenger	2
FR	7786	Bristol	Chania	7	0915	1515	Boeing 737 Passenger	1
FR	7786	Bristol	Chania	3	0630	1230	Boeing 737 Passenger	1
FR	7787	Chania	Bristol	7	1540	1800	Boeing 737 Passenger	1
FR	7787	Chania	Bristol	3	1255	1515	Boeing 737 Passenger	1
FR	7805	London Luton Apt	Athens (GR)	7	0805	1355	Boeing 737 Passenger	1
FR	7805	London Luton Apt	Athens (GR)	56	0645	1235	Boeing 737 Passenger	2
FR	7805	London Luton Apt	Athens (GR)	1234	0800	1350	Boeing 737 Passenger	4
FR	7806	Athens (GR)	London Luton Apt	7	1420	1610	Boeing 737 Passenger	1
FR	7806	Athens (GR)	London Luton Apt	6	1300	1450	Boeing 737 Passenger	1
FR	7806	Athens (GR)	London Luton Apt	5	1315	1505	Boeing 737 Passenger	1
FR	7806	Athens (GR)	London Luton Apt	1234	1415	1605	Boeing 737 Passenger	4
FR	7807	London Luton Apt	Barcelona Apt	7	1655	2010	Boeing 737 Passenger	1
FR	7807	London Luton Apt	Barcelona Apt	3 6	1645	2000	Boeing 737 Passenger	2
FR	7807	London Luton Apt	Barcelona Apt	2 45	1600	1915	Boeing 737 Passenger	3
FR	7807	London Luton Apt	Barcelona Apt	1	1550	1905	Boeing 737 Passenger	1
FR	7808	Barcelona Apt	London Luton Apt	7	2045	2200	Boeing 737 Passenger	1
FR	7808	Barcelona Apt	London Luton Apt	3 6	2035	2150	Boeing 737 Passenger	2
FR	7808	Barcelona Apt	London Luton Apt	12 45	1950	2105	Boeing 737 Passenger	4
FR	7823	Glasgow Prestwick Apt	Barcelona Apt	6	1910	2250	Boeing 737 Passenger	1

FR	7823	Glasgow Prestwick Apt	Barcelona Apt	3 7	1730	2110	Boeing 737 Passenger	2
FR	7823	Glasgow Prestwick Apt	Barcelona Apt	1 45	1735	2115	Boeing 737 Passenger	3
FR	7824	Barcelona Apt	Glasgow Prestwick Apt	6	1650	1845	Boeing 737 Passenger	1
FR	7824	Barcelona Apt	Glasgow Prestwick Apt	1 345 7	2150	2345	Boeing 737 Passenger	5
FR	7834	Edinburgh	Beziers	7	1255	1625	Boeing 737 Passenger	1
FR	7834	Edinburgh	Beziers	3	1135	1505	Boeing 737 Passenger	1
FR	7835	Beziers	Edinburgh	7	1650	1820	Boeing 737 Passenger	1
FR	7835	Beziers	Edinburgh	3	1530	1700	Boeing 737 Passenger	1
FR	7842	Glasgow Prestwick Apt	Corvera	5	1505	1905	Boeing 737 Passenger	1
FR	7842	Glasgow Prestwick Apt	Corvera	1	1510	1910	Boeing 737 Passenger	1
FR	7843	Corvera	Glasgow Prestwick Apt	5	1940	2145	Boeing 737 Passenger	1
FR	7843	Corvera	Glasgow Prestwick Apt	1	1945	2150	Boeing 737 Passenger	1
FR	7844	Edinburgh	Kerkyra	6	0745	1325	Boeing 737 Passenger	1
FR	7844	Edinburgh	Kerkyra	4	1600	2140	Boeing 737 Passenger	1
FR	7845	Kerkyra	Edinburgh	6	1350	1535	Boeing 737 Passenger	1
FR	7845	Kerkyra	Edinburgh	4	2205	2350	Boeing 737 Passenger	1
FR	7846	Glasgow Prestwick Apt	Pisa	7	0840	1220	Boeing 737 Passenger	1
FR	7846	Glasgow Prestwick Apt	Pisa	3	1240	1620	Boeing 737 Passenger	1
FR	7847	Pisa	Glasgow Prestwick Apt	7	0630	0815	Boeing 737 Passenger	1
FR	7847	Pisa	Glasgow Prestwick Apt	3	1030	1215	Boeing 737 Passenger	1
FR	7892	Edinburgh	Goteborg Landvetter Apt	1 5	1250	1540	Boeing 737 Passenger	2
FR	7893	Goteborg Landvetter Apt	Edinburgh	1 5	1130	1225	Boeing 737 Passenger	2
FR	792	London Stansted Apt	Venice Marco Polo Apt	1234567	0620	0920	Boeing 737 Passenger	7
FR	7921	Edinburgh	Gdansk Lech Walesa	6	1930	2250	Boeing 737 Passenger	1
FR	7921	Edinburgh	Gdansk Lech Walesa	4	1850	2210	Boeing 737 Passenger	1
FR	7921	Edinburgh	Gdansk Lech Walesa	2	1945	2305	Boeing 737 Passenger	1
FR	7922	Gdansk Lech Walesa	Edinburgh	6	1740	1905	Boeing 737 Passenger	1
FR	7922	Gdansk Lech Walesa	Edinburgh	4	1700	1825	Boeing 737 Passenger	1
FR	7922	Gdansk Lech Walesa	Edinburgh	2	1755	1920	Boeing 737 Passenger	1
FR	793	Venice Marco Polo Apt	London Stansted Apt	1234567	0945	1055	Boeing 737 Passenger	7
FR	794	London Stansted Apt	Venice Marco Polo Apt	7	1410	1710	Boeing 737 Passenger	1
FR	794	London Stansted Apt	Venice Marco Polo Apt	456	1310	1610	Boeing 737 Passenger	3
FR	794	London Stansted Apt	Venice Marco Polo Apt	3	1230	1530	Boeing 737 Passenger	1
FR	794	London Stansted Apt	Venice Marco Polo Apt	2	1040	1340	Boeing 737 Passenger	1
FR	794	London Stansted Apt	Venice Marco Polo Apt	1	1245	1545	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	7	1735	1845	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	3	1555	1705	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	2	1405	1515	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	1	1610	1720	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	1 456	1635	1745	Boeing 737 Passenger	3
FR	7961	London Stansted Apt	Podgorica	7	0645	1035	Boeing 737 Passenger	1
FR	7961	London Stansted Apt	Podgorica	3	0715	1105	Boeing 737 Passenger	1
FR	7962	Podgorica	London Stansted Apt	7	1100	1255	Boeing 737 Passenger	1
FR	7962	Podgorica	London Stansted Apt	3	1130	1325	Boeing 737 Passenger	1
FR	7963	London Stansted Apt	Brive-La-Gaillarde	6	0730	1010	Boeing 737 Passenger	1
FR	7963	London Stansted Apt	Brive-La-Gaillarde	3	0930	1210	Boeing 737 Passenger	1
FR	7964	Brive-La-Gaillarde	London Stansted Apt	6	1035	1120	Boeing 737 Passenger	1
FR	7964	Brive-La-Gaillarde	London Stansted Apt	3	1235	1320	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	7	1615	1835	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	6	1610	1830	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	5	1320	1540	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	3	1540	1800	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	1	1650	1910	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	7	1320	1550	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	6	1315	1545	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	5	1035	1255	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	3	1250	1510	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	1	1400	1620	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	7	1755	2055	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	6	1830	2130	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	5	1805	2105	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	3	1815	2115	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	2	1800	2100	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	7	2120	2230	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	6	2155	2305	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	5	2130	2240	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	2	2125	2235	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	23	2140	2250	Boeing 737 Passenger	1
FR	8005	Alicante Airport	Aberdeen (GB)	4 7	0745	1010	Boeing 737 Passenger	2
FR	8006	Aberdeen (GB)	Alicante Airport	4 7	1035	1450	Boeing 737 Passenger	2

FR	8007	Malaga Airport	Aberdeen (GB)	7	0805	1030	Boeing 737 Passenger	1
FR	8007	Malaga Airport	Aberdeen (GB)	4	0625	0850	Boeing 737 Passenger	1
FR	8008	Aberdeen (GB)	Malaga Airport	7	1055	1525	Boeing 737 Passenger	1
FR	8008	Aberdeen (GB)	Malaga Airport	4	0915	1345	Boeing 737 Passenger	1
FR	8025	Corvera	London Stansted Apt	3	1120	1305	Boeing 737 Passenger	1
FR	8025	Corvera	London Stansted Apt	1 5	1145	1330	Boeing 737 Passenger	2
FR	8026	London Stansted Apt	Corvera	3	0700	1045	Boeing 737 Passenger	1
FR	8026	London Stansted Apt	Corvera	1 5	0725	1110	Boeing 737 Passenger	2
FR	8027	Corvera	London Stansted Apt	5	2120	2305	Boeing 737 Passenger	1
FR	8027	Corvera	London Stansted Apt	2 4	2115	2300	Boeing 737 Passenger	2
FR	8027	Corvera	London Stansted Apt	1 3 67	2110	2255	Boeing 737 Passenger	4
FR	8028	London Stansted Apt	Corvera	5	1700	2045	Boeing 737 Passenger	1
FR	8028	London Stansted Apt	Corvera	4	1655	2040	Boeing 737 Passenger	1
FR	8028	London Stansted Apt	Corvera	123 67	1650	2035	Boeing 737 Passenger	5
FR	8044	Birmingham Airport	Chania	6	1445	2040	Boeing 737 Passenger	1
FR	8044	Birmingham Airport	Chania	2	1530	2125	Boeing 737 Passenger	1
FR	8045	Chania	Birmingham Airport	6	2105	2315	Boeing 737 Passenger	1
FR	8045	Chania	Birmingham Airport	2	2150	2359	Boeing 737 Passenger	1
FR	8046	Birmingham Airport	Girona Costa Brava Apt	5	1950	2300	Boeing 737 Passenger	1
FR	8046	Birmingham Airport	Girona Costa Brava Apt	3	0625	0935	Boeing 737 Passenger	1
FR	8046	Birmingham Airport	Girona Costa Brava Apt	1	0630	0940	Boeing 737 Passenger	1
FR	8047	Girona Costa Brava Apt	Birmingham Airport	5	1815	1925	Boeing 737 Passenger	1
FR	8047	Girona Costa Brava Apt	Birmingham Airport	3	1015	1125	Boeing 737 Passenger	1
FR	8047	Girona Costa Brava Apt	Birmingham Airport	1	1005	1115	Boeing 737 Passenger	1
FR	805	London Stansted Apt	Knock	6	0805	0935	Boeing 737 Passenger	1
FR	805	London Stansted Apt	Knock	34	0800	0930	Boeing 737 Passenger	2
FR	805	London Stansted Apt	Knock	12 5 7	0755	0925	Boeing 737 Passenger	4
FR	806	Knock	London Stansted Apt	6	1000	1130	Boeing 737 Passenger	1
FR	806	Knock	London Stansted Apt	34	0955	1125	Boeing 737 Passenger	2
FR	806	Knock	London Stansted Apt	12 5 7	0950	1120	Boeing 737 Passenger	4
FR	8061	Kerkyra	Birmingham Airport	6	1540	1705	Boeing 737 Passenger	1
FR	8061	Kerkyra	Birmingham Airport	2	1300	1425	Boeing 737 Passenger	1
FR	8062	Birmingham Airport	Kerkyra	6	0925	1440	Boeing 737 Passenger	1
FR	8062	Birmingham Airport	Kerkyra	2	0710	1225	Boeing 737 Passenger	1
FR	807	London Stansted Apt	Knock	5 7	1510	1640	Boeing 737 Passenger	2
FR	807	London Stansted Apt	Knock	1	1515	1645	Boeing 737 Passenger	1
FR	808	Knock	London Stansted Apt	5 7	1705	1835	Boeing 737 Passenger	2
FR	808	Knock	London Stansted Apt	1	1710	1840	Boeing 737 Passenger	1
FR	8083	Birmingham Airport	Nowy Dwor Mazowiecki	7	1925	2255	Boeing 737 Passenger	1
FR	8083	Birmingham Airport	Nowy Dwor Mazowiecki	4	1955	2325	Boeing 737 Passenger	1
FR	8083	Birmingham Airport	Nowy Dwor Mazowiecki	2	0950	1320	Boeing 737 Passenger	1
FR	8084	Nowy Dwor Mazowiecki	Birmingham Airport	7	1720	1900	Boeing 737 Passenger	1
FR	8084	Nowy Dwor Mazowiecki	Birmingham Airport	4	1750	1930	Boeing 737 Passenger	1
FR	8084	Nowy Dwor Mazowiecki	Birmingham Airport	2	0745	0925	Boeing 737 Passenger	1
FR	8087	Birmingham Airport	Reus	7	1350	1700	Boeing 737 Passenger	1
FR	8087	Birmingham Airport	Reus	3	1155	1505	Boeing 737 Passenger	1
FR	8088	Reus	Birmingham Airport	7	1725	1835	Boeing 737 Passenger	1
FR	8088	Reus	Birmingham Airport	3	1530	1640	Boeing 737 Passenger	1
FR	8108	Malaga Airport	Bristol	7	0855	1040	Boeing 737 Passenger	1
FR	8109	Bristol	Malaga Airport	7	1105	1445	Boeing 737 Passenger	1
FR	8116	Nuremberg, Nuremberg	London Stansted Apt	7	2250	2340	Boeing 737 Passenger	1
FR	8116	Nuremberg, Nuremberg	London Stansted Apt	6	2140	2230	Boeing 737 Passenger	1
FR	8116	Nuremberg, Nuremberg	London Stansted Apt	12345	2235	2325	Boeing 737 Passenger	5
FR	8117	London Stansted Apt	Nuremberg, Nuremberg	7	1945	2225	Boeing 737 Passenger	1
FR	8117	London Stansted Apt	Nuremberg, Nuremberg	6	1835	2115	Boeing 737 Passenger	1
FR	8117	London Stansted Apt	Nuremberg, Nuremberg	12345	1930	2210	Boeing 737 Passenger	5
FR	8119	London Stansted Apt	Nuremberg, Nuremberg	12345	0735	1015	Boeing 737 Passenger	5
FR	812	Dublin (IE)	Edinburgh	2 5	0640	0750	Boeing 737 Passenger	2
FR	812	Dublin (IE)	Edinburgh	1 34 67	0625	0735	Boeing 737 Passenger	5
FR	8120	Nuremberg, Nuremberg	London Stansted Apt	12345	0630	0710	Boeing 737 Passenger	5
FR	8121	Bristol	Malaga Airport	6	2010	2350	Boeing 737 Passenger	1
FR	8121	Bristol	Malaga Airport	5	1735	2115	Boeing 737 Passenger	1
FR	8121	Bristol	Malaga Airport	1234 7	1730	2110	Boeing 737 Passenger	5
FR	8122	Malaga Airport	Bristol	6	1800	1945	Boeing 737 Passenger	1
FR	8122	Malaga Airport	Bristol	5	1530	1710	Boeing 737 Passenger	1
FR	8122	Malaga Airport	Bristol	1234 7	2145	2325	Boeing 737 Passenger	5
FR	813	Edinburgh	Dublin (IE)	2 5	0815	0920	Boeing 737 Passenger	2
FR	813	Edinburgh	Dublin (IE)	1 34 67	0800	0905	Boeing 737 Passenger	5
FR	8132	London Stansted Apt	Gran Canaria	4	0610	1045	Boeing 737 Passenger	1
FR	8132	London Stansted Apt	Gran Canaria	23 67	0705	1140	Boeing 737 Passenger	4

FR	8133	Gran Canaria	London Stansted Apt	4	1120	1545	Boeing 737 Passenger	1
FR	8133	Gran Canaria	London Stansted Apt	23 67	1215	1640	Boeing 737 Passenger	4
FR	814	Dublin (IE)	Edinburgh	1 5	1710	1820	Boeing 737 Passenger	2
FR	8142	London Luton Apt	Knock	1234567	1000	1125	Boeing 737 Passenger	7
FR	8143	Knock	London Luton Apt	2 4	1200	1315	Boeing 737 Passenger	2
FR	8143	Knock	London Luton Apt	1 3 567	1150	1305	Boeing 737 Passenger	5
FR	8144	London Luton Apt	Knock	7	1455	1620	Boeing 737 Passenger	1
FR	8144	London Luton Apt	Knock	5	1355	1520	Boeing 737 Passenger	1
FR	8145	Knock	London Luton Apt	7	1645	1800	Boeing 737 Passenger	1
FR	8145	Knock	London Luton Apt	5	1545	1700	Boeing 737 Passenger	1
FR	815	Edinburgh	Dublin (IE)	5	1540	1645	Boeing 737 Passenger	1
FR	815	Edinburgh	Dublin (IE)	1	1530	1635	Boeing 737 Passenger	1
FR	8156	London Stansted Apt	Tenerife Sur Apt	7	1355	1830	Boeing 737 Passenger	1
FR	8157	Tenerife Sur Apt	London Stansted Apt	7	1905	2330	Boeing 737 Passenger	1
FR	816	Dublin (IE)	Edinburgh	1234567	1235	1345	Boeing 737 Passenger	7
FR	8162	London Stansted Apt	Malaga Airport	5	0730	1120	Boeing 737 Passenger	1
FR	8162	London Stansted Apt	Malaga Airport	1234 67	0725	1120	Boeing 737 Passenger	6
FR	8163	Malaga Airport	London Stansted Apt	1234567	1155	1355	Boeing 737 Passenger	7
FR	8164	London Stansted Apt	Malaga Airport	1234567	1725	2120	Boeing 737 Passenger	7
FR	8165	Malaga Airport	London Stansted Apt	1234567	2155	2359	Boeing 737 Passenger	7
FR	8166	London Stansted Apt	Tenerife Sur Apt	5	0555	1030	Boeing 737 Passenger	1
FR	8166	London Stansted Apt	Tenerife Sur Apt	1234 67	0615	1050	Boeing 737 Passenger	6
FR	8167	Tenerife Sur Apt	London Stansted Apt	5	1105	1525	Boeing 737 Passenger	1
FR	8167	Tenerife Sur Apt	London Stansted Apt	1234 67	1125	1545	Boeing 737 Passenger	6
FR	817	Edinburgh	Dublin (IE)	1234567	1410	1515	Boeing 737 Passenger	7
FR	818	Dublin (IE)	Edinburgh	7	2110	2220	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	5	2055	2205	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	4 6	1935	2045	Boeing 737 Passenger	2
FR	818	Dublin (IE)	Edinburgh	3	2035	2145	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	2	2025	2135	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	1	2010	2120	Boeing 737 Passenger	1
FR	8182	London Stansted Apt	Fuerteventura	2 4 67	0610	1035	Boeing 737 Passenger	4
FR	8183	Fuerteventura	London Stansted Apt	2 4 67	1110	1525	Boeing 737 Passenger	4
FR	819	Edinburgh	Dublin (IE)	7	2245	2350	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	5	2230	2335	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	4 6	2110	2215	Boeing 737 Passenger	2
FR	819	Edinburgh	Dublin (IE)	3	2210	2315	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	2	2205	2310	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	1	2145	2250	Boeing 737 Passenger	1
FR	8202	Bristol	Knock	7	1410	1525	Boeing 737 Passenger	1
FR	8202	Bristol	Knock	5	1215	1330	Boeing 737 Passenger	1
FR	8202	Bristol	Knock	3	1415	1530	Boeing 737 Passenger	1
FR	8203	Knock	Bristol	7	1550	1705	Boeing 737 Passenger	1
FR	8203	Knock	Bristol	5	1355	1510	Boeing 737 Passenger	1
FR	8203	Knock	Bristol	3	1555	1710	Boeing 737 Passenger	1
FR	8206	Bristol	Budapest	2 4 6	1950	2330	Boeing 737 Passenger	3
FR	8207	Budapest	Bristol	2 4 6	1740	1925	Boeing 737 Passenger	3
FR	8208	Prague Ruzyne	Bournemouth	7	1455	1555	Boeing 737 Passenger	1
FR	8208	Prague Ruzyne	Bournemouth	4	0730	0830	Boeing 737 Passenger	1
FR	8209	Bournemouth	Prague Ruzyne	7	1620	1920	Boeing 737 Passenger	1
FR	8209	Bournemouth	Prague Ruzyne	4	0855	1155	Boeing 737 Passenger	1
FR	8212	Bristol	Wroclaw	7	1535	1855	Boeing 737 Passenger	1
FR	8212	Bristol	Wroclaw	3	0910	1230	Boeing 737 Passenger	1
FR	8213	Wroclaw	Bristol	7	1350	1510	Boeing 737 Passenger	1
FR	8213	Wroclaw	Bristol	3	0725	0845	Boeing 737 Passenger	1
FR	8216	Bristol	Poznan Lawica Apt	3 7	0645	1000	Boeing 737 Passenger	2
FR	8217	Poznan Lawica Apt	Bristol	3 7	1025	1145	Boeing 737 Passenger	2
FR	8224	Bristol	Rzeszow	5	1600	1945	Boeing 737 Passenger	1
FR	8224	Bristol	Rzeszow	1	0630	1015	Boeing 737 Passenger	1
FR	8225	Rzeszow	Bristol	5	2010	2200	Boeing 737 Passenger	1
FR	8225	Rzeszow	Bristol	1	1040	1230	Boeing 737 Passenger	1
FR	8234	Bristol	Palma de Mallorca	4	0820	1145	Boeing 737 Passenger	1
FR	8234	Bristol	Palma de Mallorca	2 6	0845	1210	Boeing 737 Passenger	2
FR	8235	Palma de Mallorca	Bristol	4	0625	0755	Boeing 737 Passenger	1
FR	8235	Palma de Mallorca	Bristol	2 6	0650	0820	Boeing 737 Passenger	2
FR	8240	Bristol	Venice Marco Polo Apt	7	1850	2205	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	6	0655	1010	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	5	1700	2015	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	4	0700	1015	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	2	1805	2120	Boeing 737 Passenger	1

FR	8241	Venice Marco Polo Apt	Bristol	7	2230	2350	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	6	1035	1155	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	5	2040	2200	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	4	1040	1200	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	2	2145	2305	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	7	0755	1120	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	6	1800	2125	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	4	1755	2120	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	3	0845	1210	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	2	1145	1510	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	1 5	1745	2110	Boeing 737 Passenger	2
FR	8245	Palma de Mallorca	Bristol	7	1155	1325	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	6	2200	2335	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	4	2155	2325	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	3	0650	0820	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	2	1545	1715	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	1 5	2145	2320	Boeing 737 Passenger	2
FR	8248	Bristol	Faro	6	1805	2045	Boeing 737 Passenger	1
FR	8248	Bristol	Faro	5	1035	1315	Boeing 737 Passenger	1
FR	8248	Bristol	Faro	234 7	1755	2035	Boeing 737 Passenger	4
FR	8248	Bristol	Faro	1	1730	2010	Boeing 737 Passenger	1
FR	8249	Faro	Bristol	6	2110	2350	Boeing 737 Passenger	1
FR	8249	Faro	Bristol	5	0730	1010	Boeing 737 Passenger	1
FR	8249	Faro	Bristol	234 7	2100	2340	Boeing 737 Passenger	4
FR	8249	Faro	Bristol	1	2035	2315	Boeing 737 Passenger	1
FR	8254	Bristol	Gdansk Lech Walesa	5	0755	1115	Boeing 737 Passenger	1
FR	8254	Bristol	Gdansk Lech Walesa	1	0635	0955	Boeing 737 Passenger	1
FR	8255	Gdansk Lech Walesa	Bristol	5	1140	1305	Boeing 737 Passenger	1
FR	8255	Gdansk Lech Walesa	Bristol	1	1020	1145	Boeing 737 Passenger	1
FR	8262	Bristol	Milan Bergamo/orio al Serio Apt	6	1220	1530	Boeing 737 Passenger	1
FR	8262	Bristol	Milan Bergamo/orio al Serio Apt	4	1225	1535	Boeing 737 Passenger	1
FR	8262	Bristol	Milan Bergamo/orio al Serio Apt	2	2050	2359	Boeing 737 Passenger	1
FR	8263	Milan Bergamo/orio al Serio Apt	Bristol	6	1555	1705	Boeing 737 Passenger	1
FR	8263	Milan Bergamo/orio al Serio Apt	Bristol	4	1600	1710	Boeing 737 Passenger	1
FR	8263	Milan Bergamo/orio al Serio Apt	Bristol	2	1915	2025	Boeing 737 Passenger	1
FR	8264	Bristol	Ibiza	3	1610	1940	Boeing 737 Passenger	1
FR	8264	Bristol	Ibiza	1 5	0630	1000	Boeing 737 Passenger	2
FR	8265	Ibiza	Bristol	3	2015	2145	Boeing 737 Passenger	1
FR	8265	Ibiza	Bristol	1 5	1035	1205	Boeing 737 Passenger	2
FR	8266	London Stansted Apt	Katowice	7	1210	1525	Boeing 737 Passenger	1
FR	8266	London Stansted Apt	Katowice	6	1730	2045	Boeing 737 Passenger	1
FR	8266	London Stansted Apt	Katowice	3 5	1120	1435	Boeing 737 Passenger	2
FR	8266	London Stansted Apt	Katowice	2	0750	1105	Boeing 737 Passenger	1
FR	8266	London Stansted Apt	Katowice	1 4	1810	2125	Boeing 737 Passenger	2
FR	8267	Katowice	London Stansted Apt	7	1550	1710	Boeing 737 Passenger	1
FR	8267	Katowice	London Stansted Apt	6	2110	2230	Boeing 737 Passenger	1
FR	8267	Katowice	London Stansted Apt	3 5	1500	1620	Boeing 737 Passenger	2
FR	8267	Katowice	London Stansted Apt	2	1130	1250	Boeing 737 Passenger	1
FR	8267	Katowice	London Stansted Apt	1 4	2150	2310	Boeing 737 Passenger	2
FR	8270	Malta	Exeter	6	1655	1915	Boeing 737 Passenger	1
FR	8270	Malta	Exeter	2	0630	0850	Boeing 737 Passenger	1
FR	8271	Exeter	Malta	6	1940	2359	Boeing 737 Passenger	1
FR	8271	Exeter	Malta	2	0915	1335	Boeing 737 Passenger	1
FR	828	Palma de Mallorca	Bournemouth	4	1700	1815	Boeing 737 Passenger	1
FR	8286	Bristol	Alicante Airport	7	0840	1210	Boeing 737 Passenger	1
FR	8286	Bristol	Alicante Airport	5	1110	1440	Boeing 737 Passenger	1
FR	8286	Bristol	Alicante Airport	3	0900	1230	Boeing 737 Passenger	1
FR	8287	Alicante Airport	Bristol	7	0640	0815	Boeing 737 Passenger	1
FR	8287	Alicante Airport	Bristol	5	0910	1045	Boeing 737 Passenger	1
FR	8287	Alicante Airport	Bristol	3	0700	0835	Boeing 737 Passenger	1
FR	8288	London Stansted Apt	Lanzarote	345 7	0705	1125	Boeing 737 Passenger	4
FR	8288	London Stansted Apt	Lanzarote	2	1330	1750	Boeing 737 Passenger	1
FR	8288	London Stansted Apt	Lanzarote	1	0750	1210	Boeing 737 Passenger	1
FR	8289	Lanzarote	London Stansted Apt	345 7	1200	1610	Boeing 737 Passenger	4
FR	8289	Lanzarote	London Stansted Apt	2	1825	2235	Boeing 737 Passenger	1
FR	8289	Lanzarote	London Stansted Apt	1	1245	1655	Boeing 737 Passenger	1
FR	829	Bournemouth	Palma de Mallorca	4	1840	2155	Boeing 737 Passenger	1
FR	8296	Bristol	Alicante Airport	4	1815	2145	Boeing 737 Passenger	1
FR	8296	Bristol	Alicante Airport	2	1110	1440	Boeing 737 Passenger	1
FR	8296	Bristol	Alicante Airport	1 3 567	1805	2135	Boeing 737 Passenger	5

FR	8297	Alicante Airport	Bristol	4	2220	2355	Boeing 737 Passenger	1
FR	8297	Alicante Airport	Bristol	2	0905	1040	Boeing 737 Passenger	1
FR	8297	Alicante Airport	Bristol	1 3 567	2210	2345	Boeing 737 Passenger	5
FR	8307	Wroclaw	Manchester (GB)	3 5	1335	1500	Boeing 737 Passenger	2
FR	8307	Wroclaw	Manchester (GB)	1	1920	2045	Boeing 737 Passenger	1
FR	8308	Manchester (GB)	Wroclaw	3 5	1525	1840	Boeing 737 Passenger	2
FR	8308	Manchester (GB)	Wroclaw	1	2110	0025	Boeing 737 Passenger	1
FR	8309	Wroclaw	Newcastle	7	1410	1525	Boeing 737 Passenger	1
FR	8309	Wroclaw	Newcastle	4	1750	1905	Boeing 737 Passenger	1
FR	8310	Newcastle	Wroclaw	7	1550	1905	Boeing 737 Passenger	1
FR	8310	Newcastle	Wroclaw	4	1930	2245	Boeing 737 Passenger	1
FR	8313	Gdansk Lech Walesa	Newcastle	5	1820	1935	Boeing 737 Passenger	1
FR	8313	Gdansk Lech Walesa	Newcastle	1	1720	1835	Boeing 737 Passenger	1
FR	8314	Newcastle	Gdansk Lech Walesa	5	2000	2315	Boeing 737 Passenger	1
FR	8314	Newcastle	Gdansk Lech Walesa	1	1900	2215	Boeing 737 Passenger	1
FR	8321	London Stansted Apt	Valencia Airport	2 567	0710	1040	Boeing 737 Passenger	4
FR	8321	London Stansted Apt	Valencia Airport	1 34	0715	1045	Boeing 737 Passenger	3
FR	8322	Valencia Airport	London Stansted Apt	2 567	1110	1240	Boeing 737 Passenger	4
FR	8322	Valencia Airport	London Stansted Apt	1 34	1115	1245	Boeing 737 Passenger	3
FR	8323	London Stansted Apt	Valencia Airport	6	1655	2025	Boeing 737 Passenger	1
FR	8323	London Stansted Apt	Valencia Airport	3	1400	1730	Boeing 737 Passenger	1
FR	8323	London Stansted Apt	Valencia Airport	2	1745	2115	Boeing 737 Passenger	1
FR	8324	Valencia Airport	London Stansted Apt	6	2055	2225	Boeing 737 Passenger	1
FR	8324	Valencia Airport	London Stansted Apt	3	1820	1950	Boeing 737 Passenger	1
FR	8324	Valencia Airport	London Stansted Apt	2	2145	2315	Boeing 737 Passenger	1
FR	8343	London Stansted Apt	Porto	1234567	0925	1150	Boeing 737 Passenger	7
FR	8344	Porto	London Stansted Apt	1234567	0635	0900	Boeing 737 Passenger	7
FR	8347	London Stansted Apt	Porto	5	2120	2345	Boeing 737 Passenger	1
FR	8347	London Stansted Apt	Porto	2	1720	1945	Boeing 737 Passenger	1
FR	8347	London Stansted Apt	Porto	1 34 67	2055	2320	Boeing 737 Passenger	5
FR	8348	Porto	London Stansted Apt	5	1830	2055	Boeing 737 Passenger	1
FR	8348	Porto	London Stansted Apt	2	2010	2235	Boeing 737 Passenger	1
FR	8348	Porto	London Stansted Apt	1 34 67	1805	2030	Boeing 737 Passenger	5
FR	8351	London Stansted Apt	Almeria	1 5	0650	1050	Boeing 737 Passenger	2
FR	8352	Almeria	London Stansted Apt	1 5	1115	1310	Boeing 737 Passenger	2
FR	8353	London Stansted Apt	Budapest	1234567	0830	1155	Boeing 737 Passenger	7
FR	8354	Budapest	London Stansted Apt	1234567	0630	0805	Boeing 737 Passenger	7
FR	8357	Budapest	Manchester (GB)	4	0645	0835	Boeing 737 Passenger	1
FR	8357	Budapest	Manchester (GB)	2 67	0625	0815	Boeing 737 Passenger	3
FR	8358	Manchester (GB)	Budapest	67	0845	1225	Boeing 737 Passenger	2
FR	8358	Manchester (GB)	Budapest	4	0900	1240	Boeing 737 Passenger	1
FR	8358	Manchester (GB)	Budapest	2	0840	1220	Boeing 737 Passenger	1
FR	8361	London Stansted Apt	Sevilla Airport	7	0555	0945	Boeing 737 Passenger	1
FR	8361	London Stansted Apt	Sevilla Airport	4	0730	1120	Boeing 737 Passenger	1
FR	8362	Sevilla Airport	London Stansted Apt	7	1015	1205	Boeing 737 Passenger	1
FR	8362	Sevilla Airport	London Stansted Apt	4	1200	1350	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	7	0935	1325	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	6	1315	1705	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	5	0940	1330	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	234	1225	1615	Boeing 737 Passenger	3
FR	8363	London Stansted Apt	Sevilla Airport	1	0555	0945	Boeing 737 Passenger	1
FR	8364	Sevilla Airport	London Stansted Apt	6	1735	1925	Boeing 737 Passenger	1
FR	8364	Sevilla Airport	London Stansted Apt	5 7	1400	1550	Boeing 737 Passenger	2
FR	8364	Sevilla Airport	London Stansted Apt	234	1645	1835	Boeing 737 Passenger	3
FR	8364	Sevilla Airport	London Stansted Apt	1	1015	1200	Boeing 737 Passenger	1
FR	8369	Budapest	London Stansted Apt	3	2155	2330	Boeing 737 Passenger	1
FR	8369	Budapest	London Stansted Apt	2	1820	1955	Boeing 737 Passenger	1
FR	8369	Budapest	London Stansted Apt	1 4567	2150	2325	Boeing 737 Passenger	5
FR	8371	London Stansted Apt	Budapest	3	1805	2130	Boeing 737 Passenger	1
FR	8371	London Stansted Apt	Budapest	2	2020	2345	Boeing 737 Passenger	1
FR	8371	London Stansted Apt	Budapest	1 4567	1800	2125	Boeing 737 Passenger	5
FR	8378	London Stansted Apt	Santiago de Compostela	7	1445	1755	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	6	1920	2230	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	4	1340	1650	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	3	1215	1525	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	12 5	1210	1520	Boeing 737 Passenger	3
FR	8379	Santiago de Compostela	London Stansted Apt	7	1310	1420	Boeing 737 Passenger	1
FR	8379	Santiago de Compostela	London Stansted Apt	6	2255	0005	Boeing 737 Passenger	1
FR	8379	Santiago de Compostela	London Stansted Apt	4	1715	1825	Boeing 737 Passenger	1
FR	8379	Santiago de Compostela	London Stansted Apt	123 5	1035	1145	Boeing 737 Passenger	4

FR	8380	London Stansted Apt	Santiago de Compostela	6	1125	1435	Boeing 737 Passenger	1
FR	8380	London Stansted Apt	Santiago de Compostela	2	0800	1110	Boeing 737 Passenger	1
FR	8381	Santiago de Compostela	London Stansted Apt	6	1520	1630	Boeing 737 Passenger	1
FR	8381	Santiago de Compostela	London Stansted Apt	2	1135	1245	Boeing 737 Passenger	1
FR	8382	London Stansted Apt	Alicante Airport	7	0715	1055	Boeing 737 Passenger	1
FR	8382	London Stansted Apt	Alicante Airport	6	0610	0950	Boeing 737 Passenger	1
FR	8382	London Stansted Apt	Alicante Airport	12345	0635	1015	Boeing 737 Passenger	5
FR	8383	Alicante Airport	London Stansted Apt	7	1130	1315	Boeing 737 Passenger	1
FR	8383	Alicante Airport	London Stansted Apt	6	1030	1215	Boeing 737 Passenger	1
FR	8383	Alicante Airport	London Stansted Apt	12345	1050	1235	Boeing 737 Passenger	5
FR	8386	London Stansted Apt	Palma de Mallorca	1234567	1335	1700	Boeing 737 Passenger	7
FR	8387	Palma de Mallorca	London Stansted Apt	1234567	1735	1910	Boeing 737 Passenger	7
FR	8388	London Stansted Apt	Zadar	6	0705	1030	Boeing 737 Passenger	1
FR	8388	London Stansted Apt	Zadar	4	1220	1545	Boeing 737 Passenger	1
FR	8388	London Stansted Apt	Zadar	2	1125	1450	Boeing 737 Passenger	1
FR	8388	London Stansted Apt	Zadar	1	1720	2045	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	6	1055	1220	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	4	1610	1735	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	2	1515	1640	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	1	2110	2235	Boeing 737 Passenger	1
FR	8396	London Stansted Apt	Jerez	5	0640	1035	Boeing 737 Passenger	1
FR	8396	London Stansted Apt	Jerez	3	0645	1040	Boeing 737 Passenger	1
FR	8396	London Stansted Apt	Jerez	1 7	0655	1050	Boeing 737 Passenger	2
FR	8397	Jerez	London Stansted Apt	5	1135	1330	Boeing 737 Passenger	1
FR	8397	Jerez	London Stansted Apt	3	1105	1300	Boeing 737 Passenger	1
FR	8397	Jerez	London Stansted Apt	1 7	1115	1310	Boeing 737 Passenger	2
FR	8403	London Stansted Apt	Brno	2 4567	1350	1700	Boeing 737 Passenger	5
FR	8403	London Stansted Apt	Brno	1 3	1355	1705	Boeing 737 Passenger	2
FR	8404	Brno	London Stansted Apt	4	1725	1835	Boeing 737 Passenger	1
FR	8404	Brno	London Stansted Apt	123 567	1730	1840	Boeing 737 Passenger	6
FR	8405	London Stansted Apt	Wroclaw	5	0900	1155	Boeing 737 Passenger	1
FR	8405	London Stansted Apt	Wroclaw	2	1930	2225	Boeing 737 Passenger	1
FR	8405	London Stansted Apt	Wroclaw	1 34 67	0835	1130	Boeing 737 Passenger	5
FR	8406	Wroclaw	London Stansted Apt	2	2250	2359	Boeing 737 Passenger	1
FR	8406	Wroclaw	London Stansted Apt	1 34567	0700	0810	Boeing 737 Passenger	6
FR	8407	London Stansted Apt	Wroclaw	7	1925	2220	Boeing 737 Passenger	1
FR	8407	London Stansted Apt	Wroclaw	1 3 56	2040	2335	Boeing 737 Passenger	4
FR	8408	Wroclaw	London Stansted Apt	7	2245	2355	Boeing 737 Passenger	1
FR	8408	Wroclaw	London Stansted Apt	1 3 56	1905	2015	Boeing 737 Passenger	4
FR	842	London Luton Apt	Kerry	1234567	1615	1745	Boeing 737 Passenger	7
FR	8421	Edinburgh	Fuerteventura	7	1350	1830	Boeing 737 Passenger	1
FR	8421	Edinburgh	Fuerteventura	4	0700	1140	Boeing 737 Passenger	1
FR	8422	Fuerteventura	Edinburgh	7	1905	2340	Boeing 737 Passenger	1
FR	8422	Fuerteventura	Edinburgh	4	1215	1650	Boeing 737 Passenger	1
FR	8425	London Luton Apt	Alicante Airport	6	1725	2105	Boeing 737 Passenger	1
FR	8425	London Luton Apt	Alicante Airport	3 7	1655	2035	Boeing 737 Passenger	2
FR	8425	London Luton Apt	Alicante Airport	2 45	1640	2020	Boeing 737 Passenger	3
FR	8425	London Luton Apt	Alicante Airport	1	1645	2025	Boeing 737 Passenger	1
FR	8426	Alicante Airport	London Luton Apt	6	2140	2325	Boeing 737 Passenger	1
FR	8426	Alicante Airport	London Luton Apt	5	2055	2240	Boeing 737 Passenger	1
FR	8426	Alicante Airport	London Luton Apt	1234 7	2110	2255	Boeing 737 Passenger	5
FR	843	Kerry	London Luton Apt	1234567	1810	1940	Boeing 737 Passenger	7
FR	8445	London Stansted Apt	Budapest	2	1515	1840	Boeing 737 Passenger	1
FR	8445	London Stansted Apt	Budapest	1 34567	1145	1510	Boeing 737 Passenger	6
FR	8446	Budapest	London Stansted Apt	2	1315	1450	Boeing 737 Passenger	1
FR	8446	Budapest	London Stansted Apt	1 34567	1535	1710	Boeing 737 Passenger	6
FR	8474	London Stansted Apt	Poitiers Biard Airport	3	1230	1500	Boeing 737 Passenger	1
FR	8474	London Stansted Apt	Poitiers Biard Airport	1 5 7	1405	1635	Boeing 737 Passenger	3
FR	8475	Poitiers Biard Airport	London Stansted Apt	3	1525	1600	Boeing 737 Passenger	1
FR	8475	Poitiers Biard Airport	London Stansted Apt	1 5 7	1700	1735	Boeing 737 Passenger	3
FR	8503	London Stansted Apt	Nantes Atlantique Airport	5 7	1305	1525	Boeing 737 Passenger	2
FR	8503	London Stansted Apt	Nantes Atlantique Airport	3	1310	1530	Boeing 737 Passenger	1
FR	8503	London Stansted Apt	Nantes Atlantique Airport	1	1330	1550	Boeing 737 Passenger	1
FR	8504	Nantes Atlantique Airport	London Stansted Apt	5 7	1550	1610	Boeing 737 Passenger	2
FR	8504	Nantes Atlantique Airport	London Stansted Apt	3	1555	1615	Boeing 737 Passenger	1
FR	8504	Nantes Atlantique Airport	London Stansted Apt	1	1615	1635	Boeing 737 Passenger	1
FR	8513	Porto	Birmingham Airport	7	1720	1940	Boeing 737 Passenger	1
FR	8513	Porto	Birmingham Airport	3	1030	1250	Boeing 737 Passenger	1
FR	8514	Birmingham Airport	Porto	7	2005	2225	Boeing 737 Passenger	1
FR	8514	Birmingham Airport	Porto	3	0745	1005	Boeing 737 Passenger	1

FR	8520	Malta	Cardiff	7	0700	0935	Boeing 737 Passenger	1
FR	8520	Malta	Cardiff	3	0700	0925	Boeing 737 Passenger	1
FR	8521	Cardiff	Malta	7	1000	1435	Boeing 737 Passenger	1
FR	8521	Cardiff	Malta	3	0950	1415	Boeing 737 Passenger	1
FR	8542	London Stansted Apt	Berlin Schoenefeld Apt	3 5	0630	0930	Boeing 737 Passenger	2
FR	8542	London Stansted Apt	Berlin Schoenefeld Apt	12 4 67	0635	0935	Boeing 737 Passenger	5
FR	8543	Berlin Schoenefeld Apt	London Stansted Apt	3	0955	1055	Boeing 737 Passenger	1
FR	8543	Berlin Schoenefeld Apt	London Stansted Apt	12 4567	1000	1100	Boeing 737 Passenger	6
FR	8544	London Stansted Apt	Berlin Schoenefeld Apt	123456	1900	2200	Boeing 737 Passenger	6
FR	8545	Berlin Schoenefeld Apt	London Stansted Apt	123456	2225	2325	Boeing 737 Passenger	6
FR	8554	Castellon de la Plana	London Stansted Apt	6	2225	2350	Boeing 737 Passenger	1
FR	8554	Castellon de la Plana	London Stansted Apt	2 4	1820	1945	Boeing 737 Passenger	2
FR	8555	London Stansted Apt	Castellon de la Plana	6	1830	2155	Boeing 737 Passenger	1
FR	8555	London Stansted Apt	Castellon de la Plana	2 4	1415	1740	Boeing 737 Passenger	2
FR	8561	Liverpool	Prague Ruzyne	3	1825	2130	Boeing 737 Passenger	1
FR	8561	Liverpool	Prague Ruzyne	1 5	1550	1900	Boeing 737 Passenger	2
FR	8562	Prague Ruzyne	Liverpool	3	1650	1800	Boeing 737 Passenger	1
FR	8562	Prague Ruzyne	Liverpool	1 5	1415	1525	Boeing 737 Passenger	2
FR	8582	London Stansted Apt	Thessaloniki	2 7	1700	2210	Boeing 737 Passenger	2
FR	8582	London Stansted Apt	Thessaloniki	1 3456	1655	2205	Boeing 737 Passenger	5
FR	8583	Thessaloniki	London Stansted Apt	1234567	2235	2359	Boeing 737 Passenger	7
FR	8584	London Stansted Apt	Rhodes	2 6	0635	1235	Boeing 737 Passenger	2
FR	8585	Rhodes	London Stansted Apt	2 6	1300	1510	Boeing 737 Passenger	2
FR	8592	London Stansted Apt	Bergerac	5	0715	1000	Boeing 737 Passenger	1
FR	8592	London Stansted Apt	Bergerac	234 67	1215	1500	Boeing 737 Passenger	5
FR	8592	London Stansted Apt	Bergerac	1	0825	1110	Boeing 737 Passenger	1
FR	8593	Bergerac	London Stansted Apt	5	1025	1110	Boeing 737 Passenger	1
FR	8593	Bergerac	London Stansted Apt	234 67	1525	1610	Boeing 737 Passenger	5
FR	8593	Bergerac	London Stansted Apt	1	1135	1220	Boeing 737 Passenger	1
FR	8681	Bristol	Kaunas	6	0700	1150	Boeing 737 Passenger	1
FR	8681	Bristol	Kaunas	2	1715	2205	Boeing 737 Passenger	1
FR	8682	Kaunas	Bristol	6	1215	1310	Boeing 737 Passenger	1
FR	8682	Kaunas	Bristol	2	1555	1650	Boeing 737 Passenger	1
FR	8728	Milan Malpensa Apt	London Stansted Apt	1234567	0710	0815	Boeing 737 Passenger	7
FR	8729	London Stansted Apt	Milan Malpensa Apt	1234567	0845	1140	Boeing 737 Passenger	7
FR	8736	London Stansted Apt	Milan Malpensa Apt	6	1750	2050	Boeing 737 Passenger	1
FR	8736	London Stansted Apt	Milan Malpensa Apt	345 7	1825	2125	Boeing 737 Passenger	4
FR	8736	London Stansted Apt	Milan Malpensa Apt	2	1925	2225	Boeing 737 Passenger	1
FR	8736	London Stansted Apt	Milan Malpensa Apt	1	1820	2120	Boeing 737 Passenger	1
FR	8737	Milan Malpensa Apt	London Stansted Apt	6	2115	2220	Boeing 737 Passenger	1
FR	8737	Milan Malpensa Apt	London Stansted Apt	345 7	2150	2255	Boeing 737 Passenger	4
FR	8737	Milan Malpensa Apt	London Stansted Apt	2	2255	2359	Boeing 737 Passenger	1
FR	8737	Milan Malpensa Apt	London Stansted Apt	1	2145	2250	Boeing 737 Passenger	1
FR	8742	Malta	Bournemouth	7	1110	1335	Boeing 737 Passenger	1
FR	8742	Malta	Bournemouth	4	1140	1405	Boeing 737 Passenger	1
FR	8743	Bournemouth	Malta	7	0630	1045	Boeing 737 Passenger	1
FR	8743	Bournemouth	Malta	4	0700	1115	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	7	1400	1635	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	6	1435	1710	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	4	1230	1505	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	2	1405	1640	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	1	1520	1755	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	7	1700	1730	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	6	1735	1805	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	4	1530	1600	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	2	1705	1735	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	1	1820	1850	Boeing 737 Passenger	1
FR	876	London Stansted Apt	Beziers	7	1420	1710	Boeing 737 Passenger	1
FR	876	London Stansted Apt	Beziers	5	1205	1455	Boeing 737 Passenger	1
FR	876	London Stansted Apt	Beziers	3	1125	1415	Boeing 737 Passenger	1
FR	877	Beziers	London Stansted Apt	7	1735	1835	Boeing 737 Passenger	1
FR	877	Beziers	London Stansted Apt	5	1520	1620	Boeing 737 Passenger	1
FR	877	Beziers	London Stansted Apt	3	1440	1540	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	7	1410	1650	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	5	1500	1740	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	4	1450	1730	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	2	0950	1230	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	1 3 6	1205	1445	Boeing 737 Passenger	3
FR	8777	Limoges	London Stansted Apt	7	1715	1755	Boeing 737 Passenger	1
FR	8777	Limoges	London Stansted Apt	5	1805	1845	Boeing 737 Passenger	1

FR	8777	Limoges	London Stansted Apt	4	1800	1840	Boeing 737 Passenger	1
FR	8777	Limoges	London Stansted Apt	2	1255	1335	Boeing 737 Passenger	1
FR	8777	Limoges	London Stansted Apt	1 3 6	1510	1550	Boeing 737 Passenger	3
FR	8816	London Stansted Apt	Nimes Garons Airport	7	1200	1455	Boeing 737 Passenger	1
FR	8816	London Stansted Apt	Nimes Garons Airport	5	1305	1600	Boeing 737 Passenger	1
FR	8816	London Stansted Apt	Nimes Garons Airport	3	0730	1025	Boeing 737 Passenger	1
FR	8816	London Stansted Apt	Nimes Garons Airport	1	0900	1155	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	7	1520	1615	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	5	1625	1720	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	3	1050	1145	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	1	1220	1315	Boeing 737 Passenger	1
FR	8823	London Stansted Apt	Edinburgh	45 7	2125	2245	Boeing 737 Passenger	3
FR	8824	Edinburgh	London Stansted Apt	45 7	1935	2100	Boeing 737 Passenger	3
FR	8852	Malta	London Stansted Apt	7	2145	0015	Boeing 737 Passenger	1
FR	8852	Malta	London Stansted Apt	12 456	2125	2355	Boeing 737 Passenger	5
FR	8853	London Stansted Apt	Malta	7	1710	2120	Boeing 737 Passenger	1
FR	8853	London Stansted Apt	Malta	12 456	1650	2100	Boeing 737 Passenger	5
FR	8868	London Stansted Apt	Poitiers Biard Airport	4	1440	1700	Boeing 737 Passenger	1
FR	8868	London Stansted Apt	Poitiers Biard Airport	2	1355	1615	Boeing 737 Passenger	1
FR	8868	London Stansted Apt	Poitiers Biard Airport	1	0805	1025	Boeing 737 Passenger	1
FR	8868	London Stansted Apt	Tours Val de Loire Airport	6	0730	0950	Boeing 737 Passenger	1
FR	8869	Poitiers Biard Airport	London Stansted Apt	4	1725	1750	Boeing 737 Passenger	1
FR	8869	Poitiers Biard Airport	London Stansted Apt	2	1640	1705	Boeing 737 Passenger	1
FR	8869	Poitiers Biard Airport	London Stansted Apt	1	1050	1115	Boeing 737 Passenger	1
FR	8869	Tours Val de Loire Airport	London Stansted Apt	6	1015	1040	Boeing 737 Passenger	1
FR	8881	London Stansted Apt	Edinburgh	6	0855	1015	Boeing 737 Passenger	1
FR	8882	Edinburgh	London Stansted Apt	6	0650	0825	Boeing 737 Passenger	1
FR	8894	Manchester (GB)	Brindisi	5	1635	2045	Boeing 737 Passenger	1
FR	8894	Manchester (GB)	Brindisi	1	1610	2020	Boeing 737 Passenger	1
FR	8895	Brindisi	Manchester (GB)	5	2110	2325	Boeing 737 Passenger	1
FR	8895	Brindisi	Manchester (GB)	1	2045	2300	Boeing 737 Passenger	1
FR	8928	Liverpool	Malta	5	1530	1950	Boeing 737 Passenger	1
FR	8928	Liverpool	Malta	2	0955	1425	Boeing 737 Passenger	1
FR	8929	Malta	Liverpool	5	2015	2250	Boeing 737 Passenger	1
FR	8929	Malta	Liverpool	2	0645	0930	Boeing 737 Passenger	1
FR	8944	Malaga Airport	London Stansted Apt	7	1550	1745	Boeing 737 Passenger	1
FR	8944	Malaga Airport	London Stansted Apt	4	1445	1640	Boeing 737 Passenger	1
FR	8945	London Stansted Apt	Malaga Airport	7	1810	2210	Boeing 737 Passenger	1
FR	8945	London Stansted Apt	Malaga Airport	4	1705	2105	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	6	2115	2300	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	3	1545	1730	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	2	2100	2245	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	1 45 7	1540	1725	Boeing 737 Passenger	4
FR	8976	London Stansted Apt	Alicante Airport	6	1700	2040	Boeing 737 Passenger	1
FR	8976	London Stansted Apt	Alicante Airport	3	1755	2135	Boeing 737 Passenger	1
FR	8976	London Stansted Apt	Alicante Airport	2	1645	2025	Boeing 737 Passenger	1
FR	8976	London Stansted Apt	Alicante Airport	1 45 7	1750	2130	Boeing 737 Passenger	4
FR	901	London Stansted Apt	Cork	7	0815	0940	Boeing 737 Passenger	1
FR	901	London Stansted Apt	Cork	123456	0820	0945	Boeing 737 Passenger	6
FR	9014	London Stansted Apt	Barcelona Apt	5	1555	1910	Boeing 737 Passenger	1
FR	9014	London Stansted Apt	Barcelona Apt	234 67	1610	1925	Boeing 737 Passenger	5
FR	9014	London Stansted Apt	Barcelona Apt	1	1615	1930	Boeing 737 Passenger	1
FR	9015	Barcelona Apt	London Stansted Apt	5	1400	1530	Boeing 737 Passenger	1
FR	9015	Barcelona Apt	London Stansted Apt	234 7	1405	1535	Boeing 737 Passenger	4
FR	9015	Barcelona Apt	London Stansted Apt	1	1420	1550	Boeing 737 Passenger	1
FR	902	Cork	London Stansted Apt	7	0615	0745	Boeing 737 Passenger	1
FR	902	Cork	London Stansted Apt	123456	0625	0755	Boeing 737 Passenger	6
FR	9032	Manchester (GB)	Ponta Delgada	5	0745	1040	Boeing 737 Passenger	1
FR	9033	Ponta Delgada	Manchester (GB)	5	1105	1555	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	7	1000	1340	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	6	1110	1450	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	4	1800	2140	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	2	1625	2005	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	7	1415	1555	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	6	1530	1710	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	4	2220	2359	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	2	2040	2220	Boeing 737 Passenger	1
FR	9044	London Stansted Apt	Barcelona Apt	1234567	1245	1600	Boeing 737 Passenger	7
FR	9045	Barcelona Apt	London Stansted Apt	12345 7	1050	1220	Boeing 737 Passenger	6
FR	9046	Manchester (GB)	Palermo	5	1625	2035	Boeing 737 Passenger	1

FR	9046	Manchester (GB)	Palermo	1	0815	1225	Boeing 737 Passenger	1
FR	9047	Palermo	Manchester (GB)	5	2100	2325	Boeing 737 Passenger	1
FR	9047	Palermo	Manchester (GB)	1	1255	1520	Boeing 737 Passenger	1
FR	905	London Stansted Apt	Cork	1234567	2035	2200	Boeing 737 Passenger	7
FR	9058	Manchester (GB)	Almeria	7	0715	1115	Boeing 737 Passenger	1
FR	9058	Manchester (GB)	Almeria	4	1655	2055	Boeing 737 Passenger	1
FR	9059	Almeria	Manchester (GB)	7	1140	1340	Boeing 737 Passenger	1
FR	9059	Almeria	Manchester (GB)	4	2120	2320	Boeing 737 Passenger	1
FR	906	Cork	London Stansted Apt	1234567	1840	2010	Boeing 737 Passenger	7
FR	9060	Manchester (GB)	Lisbon	6	1800	2050	Boeing 737 Passenger	1
FR	9063	Lisbon	Manchester (GB)	6	2120	0010	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	6	2235	0025	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	4	2140	2330	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	2	1710	1900	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	1 3 5 7	1720	1910	Boeing 737 Passenger	4
FR	9073	Manchester (GB)	Alicante Airport	6	1815	2200	Boeing 737 Passenger	1
FR	9073	Manchester (GB)	Alicante Airport	4	1710	2055	Boeing 737 Passenger	1
FR	9073	Manchester (GB)	Alicante Airport	2	1925	2310	Boeing 737 Passenger	1
FR	9073	Manchester (GB)	Alicante Airport	1 3 5 7	1935	2320	Boeing 737 Passenger	4
FR	9074	Manchester (GB)	Naples Capodichino Apt	7	1430	1825	Boeing 737 Passenger	1
FR	9075	Naples Capodichino Apt	Manchester (GB)	7	1850	2055	Boeing 737 Passenger	1
FR	9076	Manchester (GB)	Rhodes	1 5	1430	2055	Boeing 737 Passenger	2
FR	9077	Rhodes	Manchester (GB)	1 5	2120	2355	Boeing 737 Passenger	2
FR	9078	Alicante Airport	Leeds Bradford	7	1200	1355	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	6	1750	1940	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	5	1600	1755	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	3	0655	0850	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	12 4	2135	2330	Boeing 737 Passenger	3
FR	9079	Leeds Bradford	Alicante Airport	7	0735	1125	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	6	1325	1715	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	5	1820	2210	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	3	0915	1305	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	12 4	1710	2100	Boeing 737 Passenger	3
FR	908	London Stansted Apt	Cork	6	1210	1335	Boeing 737 Passenger	1
FR	908	London Stansted Apt	Cork	12345 7	1650	1815	Boeing 737 Passenger	6
FR	9082	Alicante Airport	Bournemouth	7	1830	1955	Boeing 737 Passenger	1
FR	9082	Alicante Airport	Bournemouth	1 3 5	2140	2305	Boeing 737 Passenger	3
FR	9083	Bournemouth	Alicante Airport	7	1425	1755	Boeing 737 Passenger	1
FR	9083	Bournemouth	Alicante Airport	1 3 5	1735	2105	Boeing 737 Passenger	3
FR	9084	Alicante Airport	Nottingham East Midlands Airport	7	1235	1415	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	6	1245	1430	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	5	1015	1155	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	4	1045	1225	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	3	1130	1310	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	2	1245	1425	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	1	1115	1255	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	7	0820	1200	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	5	0600	0935	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	4	0630	1010	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	2 6	0830	1210	Boeing 737 Passenger	2
FR	9085	Nottingham East Midlands Airport	Alicante Airport	1 3	0700	1040	Boeing 737 Passenger	2
FR	909	Cork	London Stansted Apt	6	1015	1145	Boeing 737 Passenger	1
FR	909	Cork	London Stansted Apt	12345 7	1455	1625	Boeing 737 Passenger	6
FR	9094	Manchester (GB)	Alicante Airport	7	1515	1900	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	6	1555	1940	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	5	0825	1210	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	3	1615	2000	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	1	1025	1410	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	7	1300	1450	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	6	2015	2205	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	5	1245	1435	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	3	2035	2225	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	1	0810	1000	Boeing 737 Passenger	1
FR	9122	Manchester (GB)	Faro	7	0950	1250	Boeing 737 Passenger	1
FR	9122	Manchester (GB)	Faro	3	0945	1245	Boeing 737 Passenger	1
FR	9122	Manchester (GB)	Faro	1	1610	1910	Boeing 737 Passenger	1
FR	9125	Faro	Manchester (GB)	7	1315	1615	Boeing 737 Passenger	1
FR	9125	Faro	Manchester (GB)	3	1310	1610	Boeing 737 Passenger	1
FR	9125	Faro	Manchester (GB)	1	1935	2235	Boeing 737 Passenger	1
FR	9126	Manchester (GB)	Fuerteventura	4	1430	1925	Boeing 737 Passenger	1

FR	9127	Fuerteventura	Manchester (GB)	4	2000	0020	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	7	0715	1010	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	6	0735	1030	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	2	0655	0950	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	1 345	0710	1005	Boeing 737 Passenger	4
FR	9143	Faro	London Stansted Apt	7	1035	1325	Boeing 737 Passenger	1
FR	9143	Faro	London Stansted Apt	6	1055	1345	Boeing 737 Passenger	1
FR	9143	Faro	London Stansted Apt	2	1015	1305	Boeing 737 Passenger	1
FR	9143	Faro	London Stansted Apt	1 345	1030	1320	Boeing 737 Passenger	4
FR	9145	Barcelona Apt	Liverpool	6	1120	1300	Boeing 737 Passenger	1
FR	9145	Barcelona Apt	Liverpool	4	0630	0810	Boeing 737 Passenger	1
FR	9145	Barcelona Apt	Liverpool	3 5	2030	2210	Boeing 737 Passenger	2
FR	9145	Barcelona Apt	Liverpool	2	1840	2020	Boeing 737 Passenger	1
FR	9145	Barcelona Apt	Liverpool	1	0830	1010	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	6	0725	1045	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	4	0835	1155	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	3 5	1635	1955	Boeing 737 Passenger	2
FR	9146	Liverpool	Barcelona Apt	2	1445	1805	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	1	1035	1355	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	6	2145	2315	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	4	1240	1410	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	3	1405	1535	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	12 5 7	1350	1520	Boeing 737 Passenger	4
FR	9163	Birmingham Airport	Barcelona Apt	6	1755	2110	Boeing 737 Passenger	1
FR	9163	Birmingham Airport	Barcelona Apt	4	1435	1745	Boeing 737 Passenger	1
FR	9163	Birmingham Airport	Barcelona Apt	3	1600	1910	Boeing 737 Passenger	1
FR	9163	Birmingham Airport	Barcelona Apt	12 5 7	1545	1855	Boeing 737 Passenger	4
FR	9184	Alicante Airport	Nottingham East Midlands Airport	6	1525	1710	Boeing 737 Passenger	1
FR	9184	Alicante Airport	Nottingham East Midlands Airport	4	2230	0015	Boeing 737 Passenger	1
FR	9184	Alicante Airport	Nottingham East Midlands Airport	2	2155	2340	Boeing 737 Passenger	1
FR	9184	Alicante Airport	Nottingham East Midlands Airport	1 3 5 7	2200	2345	Boeing 737 Passenger	4
FR	9185	Nottingham East Midlands Airport	Alicante Airport	4	1815	2155	Boeing 737 Passenger	1
FR	9185	Nottingham East Midlands Airport	Alicante Airport	2 6	1740	2120	Boeing 737 Passenger	2
FR	9185	Nottingham East Midlands Airport	Alicante Airport	1 3 5 7	1745	2125	Boeing 737 Passenger	4
FR	9188	Palma de Mallorca	Edinburgh	6	0615	0825	Boeing 737 Passenger	1
FR	9188	Palma de Mallorca	Edinburgh	5	2155	0005	Boeing 737 Passenger	1
FR	9189	Edinburgh	Palma de Mallorca	6	0915	1315	Boeing 737 Passenger	1
FR	9189	Edinburgh	Palma de Mallorca	5	1720	2120	Boeing 737 Passenger	1
FR	9190	Palma de Mallorca	London Stansted Apt	3	0825	1000	Boeing 737 Passenger	1
FR	9190	Palma de Mallorca	London Stansted Apt	1	1500	1635	Boeing 737 Passenger	1
FR	9191	London Stansted Apt	Palma de Mallorca	3	1100	1425	Boeing 737 Passenger	1
FR	9191	London Stansted Apt	Palma de Mallorca	1	1700	2025	Boeing 737 Passenger	1
FR	9202	Liverpool	Porto	5	1215	1440	Boeing 737 Passenger	1
FR	9202	Liverpool	Porto	1	1820	2045	Boeing 737 Passenger	1
FR	9203	Porto	Liverpool	5	0930	1150	Boeing 737 Passenger	1
FR	9203	Porto	Liverpool	1	2115	2335	Boeing 737 Passenger	1
FR	9206	London Luton Apt	Faro	3	1735	2030	Boeing 737 Passenger	1
FR	9206	London Luton Apt	Faro	2 56	1930	2225	Boeing 737 Passenger	3
FR	9206	London Luton Apt	Faro	1	1820	2115	Boeing 737 Passenger	1
FR	9207	Faro	London Luton Apt	3	1420	1710	Boeing 737 Passenger	1
FR	9207	Faro	London Luton Apt	2 56	1615	1905	Boeing 737 Passenger	3
FR	9207	Faro	London Luton Apt	1	1505	1755	Boeing 737 Passenger	1
FR	9221	Faro	Aberdeen (GB)	2 6	0800	1130	Boeing 737 Passenger	2
FR	9222	Aberdeen (GB)	Faro	2 6	1155	1525	Boeing 737 Passenger	2
FR	9223	Faro	Cardiff	5	1620	1900	Boeing 737 Passenger	1
FR	9223	Faro	Cardiff	1	0845	1125	Boeing 737 Passenger	1
FR	9224	Cardiff	Faro	5	1925	2205	Boeing 737 Passenger	1
FR	9224	Cardiff	Faro	1	1150	1430	Boeing 737 Passenger	1
FR	9225	Faro	Newquay	2 6	1755	2025	Boeing 737 Passenger	2
FR	9226	Newquay	Faro	2 6	2050	2320	Boeing 737 Passenger	2
FR	9227	Manchester (GB)	Kiev Borispol Intl Apt	5	0605	1135	Boeing 737 Passenger	1
FR	9227	Manchester (GB)	Kiev Borispol Intl Apt	1	0735	1305	Boeing 737 Passenger	1
FR	9228	Kiev Borispol Intl Apt	Manchester (GB)	5	1210	1340	Boeing 737 Passenger	1
FR	9228	Kiev Borispol Intl Apt	Manchester (GB)	1	1340	1510	Boeing 737 Passenger	1
FR	9251	London Stansted Apt	Ibiza	1234567	1725	2105	Boeing 737 Passenger	7
FR	9252	Ibiza	London Stansted Apt	1234567	2140	2320	Boeing 737 Passenger	7
FR	9253	London Stansted Apt	Ibiza	7	0745	1125	Boeing 737 Passenger	1
FR	9253	London Stansted Apt	Ibiza	6	0715	1055	Boeing 737 Passenger	1
FR	9253	London Stansted Apt	Ibiza	2 4	0700	1040	Boeing 737 Passenger	2
FR	9253	London Stansted Apt	Ibiza	1	1520	1900	Boeing 737 Passenger	1

FR	9254	Ibiza	London Stansted Apt	7	1200	1340	Boeing 737 Passenger	1
FR	9254	Ibiza	London Stansted Apt	6	1130	1310	Boeing 737 Passenger	1
FR	9254	Ibiza	London Stansted Apt	2 4	1115	1255	Boeing 737 Passenger	2
FR	9254	Ibiza	London Stansted Apt	1	1935	2115	Boeing 737 Passenger	1
FR	9271	London Stansted Apt	Eindhoven Airport	5 7	0630	0835	Boeing 737 Passenger	2
FR	9271	London Stansted Apt	Eindhoven Airport	4 6	0620	0825	Boeing 737 Passenger	2
FR	9271	London Stansted Apt	Eindhoven Airport	3	0625	0830	Boeing 737 Passenger	1
FR	9271	London Stansted Apt	Eindhoven Airport	2	0645	0850	Boeing 737 Passenger	1
FR	9271	London Stansted Apt	Eindhoven Airport	1	0615	0820	Boeing 737 Passenger	1
FR	9272	Eindhoven Airport	London Stansted Apt	5 7	0900	0910	Boeing 737 Passenger	2
FR	9272	Eindhoven Airport	London Stansted Apt	4 6	0850	0900	Boeing 737 Passenger	2
FR	9272	Eindhoven Airport	London Stansted Apt	3	0855	0905	Boeing 737 Passenger	1
FR	9272	Eindhoven Airport	London Stansted Apt	2	0915	0925	Boeing 737 Passenger	1
FR	9272	Eindhoven Airport	London Stansted Apt	1	0845	0855	Boeing 737 Passenger	1
FR	9273	London Stansted Apt	Eindhoven Airport	6	1855	2100	Boeing 737 Passenger	1
FR	9273	London Stansted Apt	Eindhoven Airport	3	1805	2010	Boeing 737 Passenger	1
FR	9273	London Stansted Apt	Eindhoven Airport	2 7	1845	2050	Boeing 737 Passenger	2
FR	9273	London Stansted Apt	Eindhoven Airport	1 45	1825	2030	Boeing 737 Passenger	3
FR	9274	Eindhoven Airport	London Stansted Apt	6	2125	2135	Boeing 737 Passenger	1
FR	9274	Eindhoven Airport	London Stansted Apt	5	2105	2115	Boeing 737 Passenger	1
FR	9274	Eindhoven Airport	London Stansted Apt	3	2035	2045	Boeing 737 Passenger	1
FR	9274	Eindhoven Airport	London Stansted Apt	2 7	2115	2125	Boeing 737 Passenger	2
FR	9274	Eindhoven Airport	London Stansted Apt	1 4	2100	2110	Boeing 737 Passenger	2
FR	9282	London Stansted Apt	Faro	7	1050	1345	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	5	1715	2010	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	4 6	1915	2210	Boeing 737 Passenger	2
FR	9282	London Stansted Apt	Faro	3	1500	1755	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	2	1600	1855	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	1	1505	1800	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	7	0710	1000	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	5	2050	2340	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	4 6	1535	1825	Boeing 737 Passenger	2
FR	9283	Faro	London Stansted Apt	3	1845	2135	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	2	1935	2225	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	1	1850	2140	Boeing 737 Passenger	1
FR	9284	Alicante Airport	Nottingham East Midlands Airport	3 5	1830	2015	Boeing 737 Passenger	2
FR	9284	Alicante Airport	Nottingham East Midlands Airport	1	0825	1010	Boeing 737 Passenger	1
FR	9285	Nottingham East Midlands Airport	Alicante Airport	3 5	1415	1755	Boeing 737 Passenger	2
FR	9285	Nottingham East Midlands Airport	Alicante Airport	1	1035	1415	Boeing 737 Passenger	1
FR	9301	Belfast International Apt	Girona Costa Brava Apt	4	1925	2300	Boeing 737 Passenger	1
FR	9301	Belfast International Apt	Girona Costa Brava Apt	1	1325	1700	Boeing 737 Passenger	1
FR	9302	Girona Costa Brava Apt	Belfast International Apt	4	1725	1900	Boeing 737 Passenger	1
FR	9302	Girona Costa Brava Apt	Belfast International Apt	1	1125	1300	Boeing 737 Passenger	1
FR	9303	Girona Costa Brava Apt	Edinburgh	7	1755	1935	Boeing 737 Passenger	1
FR	9303	Girona Costa Brava Apt	Edinburgh	4	0650	0830	Boeing 737 Passenger	1
FR	9304	Edinburgh	Girona Costa Brava Apt	7	2000	2340	Boeing 737 Passenger	1
FR	9304	Edinburgh	Girona Costa Brava Apt	4	0855	1235	Boeing 737 Passenger	1
FR	9305	Girona Costa Brava Apt	Liverpool	7	1100	1215	Boeing 737 Passenger	1
FR	9305	Girona Costa Brava Apt	Liverpool	3	1715	1830	Boeing 737 Passenger	1
FR	9306	Liverpool	Girona Costa Brava Apt	7	1240	1555	Boeing 737 Passenger	1
FR	9306	Liverpool	Girona Costa Brava Apt	3	1855	2210	Boeing 737 Passenger	1
FR	9307	Girona Costa Brava Apt	Glasgow Prestwick Apt	6	1815	2000	Boeing 737 Passenger	1
FR	9307	Girona Costa Brava Apt	Glasgow Prestwick Apt	3	0630	0815	Boeing 737 Passenger	1
FR	9308	Glasgow Prestwick Apt	Girona Costa Brava Apt	6	2025	2350	Boeing 737 Passenger	1
FR	9308	Glasgow Prestwick Apt	Girona Costa Brava Apt	3	0840	1205	Boeing 737 Passenger	1
FR	9335	Girona Costa Brava Apt	Bristol	7	1550	1700	Boeing 737 Passenger	1
FR	9335	Girona Costa Brava Apt	Bristol	45	1105	1215	Boeing 737 Passenger	2
FR	9335	Girona Costa Brava Apt	Bristol	3	1555	1705	Boeing 737 Passenger	1
FR	9335	Girona Costa Brava Apt	Bristol	1	1815	1925	Boeing 737 Passenger	1
FR	9336	Bristol	Girona Costa Brava Apt	7	1225	1525	Boeing 737 Passenger	1
FR	9336	Bristol	Girona Costa Brava Apt	45	1240	1540	Boeing 737 Passenger	2
FR	9336	Bristol	Girona Costa Brava Apt	3	1205	1505	Boeing 737 Passenger	1
FR	9336	Bristol	Girona Costa Brava Apt	1	1950	2250	Boeing 737 Passenger	1
FR	934	London Stansted Apt	Perpignan	3	0610	0915	Boeing 737 Passenger	1
FR	935	Perpignan	London Stansted Apt	3	0940	1050	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	7	1155	1500	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	6	0640	0945	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	4	0635	0940	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	2	0755	1100	Boeing 737 Passenger	1
FR	937	Perpignan	London Stansted Apt	7	1525	1635	Boeing 737 Passenger	1

FR	937	Perpignan	London Stansted Apt	6	1025	1135	Boeing 737 Passenger	1
FR	937	Perpignan	London Stansted Apt	4	1005	1115	Boeing 737 Passenger	1
FR	937	Perpignan	London Stansted Apt	2	1125	1235	Boeing 737 Passenger	1
FR	9387	Barcelona Apt	Nottingham East Midlands Airport	1234567	1325	1450	Boeing 737 Passenger	7
FR	9388	Nottingham East Midlands Airport	Barcelona Apt	1234567	0935	1250	Boeing 737 Passenger	7
FR	9406	Ibiza	Nottingham East Midlands Airport	6	2040	2220	Boeing 737 Passenger	1
FR	9406	Ibiza	Nottingham East Midlands Airport	2	2140	2320	Boeing 737 Passenger	1
FR	9407	Nottingham East Midlands Airport	Ibiza	6	1625	2005	Boeing 737 Passenger	1
FR	9407	Nottingham East Midlands Airport	Ibiza	2	1725	2105	Boeing 737 Passenger	1
FR	9417	Glasgow Prestwick Apt	Palma de Mallorca	4	1615	2005	Boeing 737 Passenger	1
FR	9418	Palma de Mallorca	Glasgow Prestwick Apt	4	2040	2245	Boeing 737 Passenger	1
FR	9501	Manchester (GB)	Zadar	2 6	1740	2125	Boeing 737 Passenger	2
FR	9502	Zadar	Manchester (GB)	2 6	2150	2330	Boeing 737 Passenger	2
FR	9509	London Stansted Apt	Bremen	7	0625	0850	Boeing 737 Passenger	1
FR	9509	London Stansted Apt	Bremen	4	0750	1015	Boeing 737 Passenger	1
FR	9509	London Stansted Apt	Bremen	3 5	0800	1025	Boeing 737 Passenger	2
FR	9509	London Stansted Apt	Bremen	1	0755	1020	Boeing 737 Passenger	1
FR	9510	Bremen	London Stansted Apt	7	0915	0940	Boeing 737 Passenger	1
FR	9510	Bremen	London Stansted Apt	4	1040	1105	Boeing 737 Passenger	1
FR	9510	Bremen	London Stansted Apt	3 5	1050	1115	Boeing 737 Passenger	2
FR	9510	Bremen	London Stansted Apt	1	1045	1110	Boeing 737 Passenger	1
FR	9542	London Stansted Apt	Faro	6	1105	1400	Boeing 737 Passenger	1
FR	9542	London Stansted Apt	Faro	23	1800	2055	Boeing 737 Passenger	1
FR	9543	Faro	London Stansted Apt	6	1425	1715	Boeing 737 Passenger	1
FR	9543	Faro	London Stansted Apt	23	1445	1735	Boeing 737 Passenger	1
FR	9552	Barcelona Apt	Birmingham Airport	2 6	0800	0925	Boeing 737 Passenger	2
FR	9553	Birmingham Airport	Barcelona Apt	2 6	0950	1305	Boeing 737 Passenger	2
FR	9592	Liverpool	Palma de Mallorca	7	1750	2125	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	6	1900	2235	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	4	1510	1845	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	3	2045	0020	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	2	1615	1950	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	1 5	2010	2345	Boeing 737 Passenger	2
FR	9593	Palma de Mallorca	Liverpool	7	2220	0005	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	6	1355	1540	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	4	1245	1430	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	3	1835	2020	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	2	2025	2210	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	1 5	1800	1945	Boeing 737 Passenger	2
FR	9621	Vilnius	Liverpool	4	1205	1305	Boeing 737 Passenger	1
FR	9621	Vilnius	Liverpool	1	1150	1250	Boeing 737 Passenger	1
FR	9622	Liverpool	Vilnius	4	0645	1140	Boeing 737 Passenger	1
FR	9622	Liverpool	Vilnius	1	0630	1125	Boeing 737 Passenger	1
FR	9626	Liverpool	Pisa	5	1350	1715	Boeing 737 Passenger	1
FR	9626	Liverpool	Pisa	1	1240	1605	Boeing 737 Passenger	1
FR	9627	Pisa	Liverpool	5	1150	1325	Boeing 737 Passenger	1
FR	9627	Pisa	Liverpool	1	1040	1215	Boeing 737 Passenger	1
FR	9628	Liverpool	Poznan Lawica Apt	2 6	1830	2150	Boeing 737 Passenger	2
FR	9629	Poznan Lawica Apt	Liverpool	2 6	2215	2335	Boeing 737 Passenger	2
FR	964	London Stansted Apt	Goteborg Landvetter Apt	7	1805	2100	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	4	1755	2050	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	3	1845	2140	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	2	1715	2010	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	1 56	2015	2310	Boeing 737 Passenger	3
FR	9646	Liverpool	Krakow John Paul II - Balice	5	2010	2335	Boeing 737 Passenger	1
FR	9646	Liverpool	Krakow John Paul II - Balice	3	2020	2345	Boeing 737 Passenger	1
FR	9646	Liverpool	Krakow John Paul II - Balice	1	1810	2135	Boeing 737 Passenger	1
FR	9647	Krakow John Paul II - Balice	Liverpool	5	1800	1945	Boeing 737 Passenger	1
FR	9647	Krakow John Paul II - Balice	Liverpool	3	1810	1955	Boeing 737 Passenger	1
FR	9647	Krakow John Paul II - Balice	Liverpool	1	2210	2355	Boeing 737 Passenger	1
FR	9648	Liverpool	Wroclaw	7	0620	0935	Boeing 737 Passenger	1
FR	9648	Liverpool	Wroclaw	4	1130	1445	Boeing 737 Passenger	1
FR	9649	Wroclaw	Liverpool	7	1000	1125	Boeing 737 Passenger	1
FR	9649	Wroclaw	Liverpool	4	0940	1105	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	7	2125	2230	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	4	2115	2220	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	3	2205	2310	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	2	2035	2140	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	1 56	1845	1950	Boeing 737 Passenger	3
FR	9651	Rome Ciampino Apt	Nottingham East Midlands Airport	7	1955	2135	Boeing 737 Passenger	1

FR	9651	Rome Ciampino Apt	Nottingham East Midlands Airport	4	2105	2245	Boeing 737 Passenger	1
FR	9652	Nottingham East Midlands Airport	Rome Ciampino Apt	7	1550	1930	Boeing 737 Passenger	1
FR	9652	Nottingham East Midlands Airport	Rome Ciampino Apt	4	1700	2040	Boeing 737 Passenger	1
FR	966	London Stansted Apt	Goteborg Landvetter Apt	1 5	0815	1105	Boeing 737 Passenger	2
FR	967	Goteborg Landvetter Apt	London Stansted Apt	1 5	0655	0750	Boeing 737 Passenger	2
FR	972	London Stansted Apt	Genoa	123456	1210	1520	Boeing 737 Passenger	6
FR	973	Genoa	London Stansted Apt	123456	1545	1650	Boeing 737 Passenger	6
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	6	1300	1535	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	5	1425	1650	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	4	1345	1610	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	2	1350	1615	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	1 3 7	1410	1635	Boeing 737 Passenger	3
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	6	1600	1630	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	5	1330	1400	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	4	1250	1320	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	2	1640	1710	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	1 3 7	1310	1340	Boeing 737 Passenger	3
FR	9802	London Stansted Apt	Girona Costa Brava Apt	6	0915	1220	Boeing 737 Passenger	1
FR	9802	London Stansted Apt	Girona Costa Brava Apt	4	0910	1215	Boeing 737 Passenger	1
FR	9802	London Stansted Apt	Girona Costa Brava Apt	1 3 5 7	1445	1750	Boeing 737 Passenger	4
FR	9803	Girona Costa Brava Apt	London Stansted Apt	6	0725	0840	Boeing 737 Passenger	1
FR	9803	Girona Costa Brava Apt	London Stansted Apt	4	1240	1355	Boeing 737 Passenger	1
FR	9803	Girona Costa Brava Apt	London Stansted Apt	1 3 5 7	1305	1420	Boeing 737 Passenger	4
FR	9810	London Stansted Apt	Barcelona Apt	1234567	0815	1130	Boeing 737 Passenger	7
FR	9811	Barcelona Apt	London Stansted Apt	1234567	0620	0750	Boeing 737 Passenger	7
FR	9812	Liverpool	Derry	6	1610	1710	Boeing 737 Passenger	1
FR	9812	Liverpool	Derry	4	1120	1220	Boeing 737 Passenger	1
FR	9812	Liverpool	Derry	2	1115	1215	Boeing 737 Passenger	1
FR	9813	Derry	Liverpool	6	1735	1835	Boeing 737 Passenger	1
FR	9813	Derry	Liverpool	4	1245	1345	Boeing 737 Passenger	1
FR	9813	Derry	Liverpool	2	1240	1340	Boeing 737 Passenger	1
FR	9814	London Stansted Apt	Barcelona Apt	1234567	2035	2350	Boeing 737 Passenger	7
FR	9815	Barcelona Apt	London Stansted Apt	12345 7	1840	2010	Boeing 737 Passenger	6
FR	982	London Stansted Apt	Pescara	7	1350	1725	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	6	1810	2145	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	4	0710	1045	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	3	0830	1205	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	1	1330	1705	Boeing 737 Passenger	1
FR	9824	Liverpool	Reus	7	1145	1505	Boeing 737 Passenger	1
FR	9824	Liverpool	Reus	4	1540	1900	Boeing 737 Passenger	1
FR	9825	Reus	Liverpool	7	1530	1655	Boeing 737 Passenger	1
FR	9825	Reus	Liverpool	4	1925	2050	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	7	1750	1925	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	6	2210	2345	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	4	1110	1245	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	3	1230	1405	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	1	1730	1905	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	7	1005	1125	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	6	1405	1530	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	5	1030	1155	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	2	1025	1150	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	1 34	1010	1135	Boeing 737 Passenger	3
FR	9853	London Gatwick Apt	Cork	6	1555	1720	Boeing 737 Passenger	1
FR	9853	London Gatwick Apt	Cork	34	1240	1405	Boeing 737 Passenger	2
FR	9853	London Gatwick Apt	Cork	2 5	1225	1350	Boeing 737 Passenger	2
FR	9853	London Gatwick Apt	Cork	1 7	1215	1340	Boeing 737 Passenger	2
FR	9862	Liverpool	Malaga Airport	7	0810	1210	Boeing 737 Passenger	1
FR	9862	Liverpool	Malaga Airport	4	1825	2220	Boeing 737 Passenger	1
FR	9862	Liverpool	Malaga Airport	123 56	0640	1035	Boeing 737 Passenger	5
FR	9863	Malaga Airport	Liverpool	7	1245	1445	Boeing 737 Passenger	1
FR	9863	Malaga Airport	Liverpool	4	1600	1800	Boeing 737 Passenger	1
FR	9863	Malaga Airport	Liverpool	123 56	1110	1310	Boeing 737 Passenger	5
FR	9884	Liverpool	Bari	6	0635	1040	Boeing 737 Passenger	1
FR	9884	Liverpool	Bari	2	0800	1205	Boeing 737 Passenger	1
FR	9885	Bari	Liverpool	6	1105	1320	Boeing 737 Passenger	1
FR	9885	Bari	Liverpool	2	1230	1445	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	7	0715	1100	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	6	1725	2110	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	4	0945	1330	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	3 5	0655	1040	Boeing 737 Passenger	2

FR	9886	Liverpool	Alicante Airport	2	1635	2020	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	1	0625	1010	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	7	1135	1325	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	6	2145	2335	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	4	0730	0920	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	3 5	1115	1305	Boeing 737 Passenger	2
FR	9887	Alicante Airport	Liverpool	2	2055	2245	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	1	1045	1235	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	6	0900	1255	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	5	0930	1325	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	4	0815	1210	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	3	1655	2050	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	2	1840	2235	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	6	0635	0835	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	5	0705	0905	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	4	1245	1445	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	3	2125	2325	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	2	1615	1815	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	7	0805	0915	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	6	0710	0820	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	4	1435	1545	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	1	1500	1610	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	7	0630	0740	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	6	0845	0955	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	4	1610	1720	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	1	1635	1745	Boeing 737 Passenger	1
FR	9898	Liverpool	Alicante Airport	7	1805	2145	Boeing 737 Passenger	1
FR	9898	Liverpool	Alicante Airport	4	1745	2125	Boeing 737 Passenger	1
FR	9898	Liverpool	Alicante Airport	2	1820	2200	Boeing 737 Passenger	1
FR	9899	Alicante Airport	Liverpool	7	1550	1740	Boeing 737 Passenger	1
FR	9899	Alicante Airport	Liverpool	4	2200	2350	Boeing 737 Passenger	1
FR	9899	Alicante Airport	Liverpool	2	1605	1755	Boeing 737 Passenger	1
FR	9911	Girona Costa Brava Apt	Bournemouth	6	2040	2140	Boeing 737 Passenger	1
FR	9911	Girona Costa Brava Apt	Bournemouth	1 3 5	1550	1650	Boeing 737 Passenger	3
FR	9912	Bournemouth	Girona Costa Brava Apt	6	1715	2015	Boeing 737 Passenger	1
FR	9912	Bournemouth	Girona Costa Brava Apt	1 3 5	1225	1525	Boeing 737 Passenger	3
FR	9918	Liverpool	Bergerac	2 6	1400	1650	Boeing 737 Passenger	2
FR	9919	Bergerac	Liverpool	2 6	1715	1805	Boeing 737 Passenger	2
FR	9961	London Stansted Apt	Sofia	6	0610	1120	Boeing 737 Passenger	1
FR	9961	London Stansted Apt	Sofia	12345 7	0630	1140	Boeing 737 Passenger	6
FR	9962	Sofia	London Stansted Apt	6	1145	1300	Boeing 737 Passenger	1
FR	9962	Sofia	London Stansted Apt	12345 7	1205	1320	Boeing 737 Passenger	6
FR	9967	London Stansted Apt	Sofia	5	1610	2120	Boeing 737 Passenger	1
FR	9967	London Stansted Apt	Sofia	3	1630	2140	Boeing 737 Passenger	1
FR	9967	London Stansted Apt	Sofia	12 4 67	1620	2130	Boeing 737 Passenger	5
FR	9968	Sofia	London Stansted Apt	5	2145	2255	Boeing 737 Passenger	1
FR	9968	Sofia	London Stansted Apt	3	2205	2315	Boeing 737 Passenger	1
FR	9968	Sofia	London Stansted Apt	12 4 67	2155	2305	Boeing 737 Passenger	5

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Row Labels	Sum of Frequency	
Aberdeen (GB)	**8**	
0915	1	6
1035	2	
1055	1	
1155	2	
1835	1	
1845	1	
Belfast International Apt	**45**	
0630	2	
0645	2	
0655	2	
0800	7	
0840	1	
0845	2	
0850	1	
0905	2	9
0910	1	
0915	3	
0950	1	
1015	1	
1030	1	
1220	1	
1225	1	
1325	2	
1335	2	
1635	2	
1640	3	
1645	2	
1705	1	
1725	1	
1845	1	
1900	1	
1925	1	
2205	1	
Bournemouth	**44**	
0630	5	
0700	1	
0710	1	
0835	1	
0840	1	
0845	2	
0855	4	
0900	1	7
0905	2	

1030	2	
1125	2	
1225	3	
1300	1	
1340	1	
1345	1	
1425	1	
1545	1	
1605	1	
1620	1	
1655	1	
1705	3	
1710	1	
1715	1	
1735	3	
1840	1	
2020	1	
2040	1	
Cardiff	**10**	
0910	1	5
0950	1	
0955	1	
1000	1	
1150	1	
1925	1	
1945	3	
2005	1	
Exeter	**6**	
0840	1	
0900	1	3
0915	1	
1000	1	
1740	1	
1940	1	
Glasgow International Airport	**33**	
0840	6	
0845	1	
0915	1	3
1145	2	
1305	2	
1525	5	
1605	1	
1705	1	
1730	1	
1755	1	
1815	3	
1925	1	

1930	1	
2055	1	
2155	6	
Glasgow Prestwick Apt	**51**	
0605	1	
0610	5	
0640	1	
0655	1	
0700	7	
0720	3	
0820	1	
0830	1	
0840	2	
0910	1	2
1015	1	
1240	1	
1330	1	
1450	2	
1500	1	
1505	1	
1510	1	
1520	1	
1530	1	
1600	1	
1615	1	
1625	1	
1655	2	
1705	2	
1730	3	
1735	3	
1750	1	
1845	1	
1900	1	
1910	1	
2025	1	
Leeds Bradford	**85**	
0615	1	
0620	1	
0625	4	
0630	4	
0635	4	
0640	1	
0645	2	
0700	2	
0735	1	
0745	1	
0825	3	

0845	2	
0915	1	12
0925	1	
0930	6	
0945	2	
1105	1	
1125	1	
1325	1	
1335	1	
1345	1	
1405	1	
1410	1	
1505	1	
1535	1	
1545	1	
1610	1	
1620	1	
1630	2	
1635	1	
1650	2	
1655	4	
1705	1	
1710	6	
1720	1	
1725	1	
1735	1	
1820	2	
1830	1	
1850	1	
1855	3	
1905	2	
1930	1	
1935	1	
1945	1	
1950	3	
2005	1	
2010	1	
2025	1	
London Gatwick Apt	**62**	
0850	7	
0940	6	9
1015	1	
1025	1	
1100	1	
1215	2	
1225	2	
1240	2	

1310	5	
1315	1	
1450	3	
1455	1	
1535	1	
1555	1	
1735	8	
1740	1	
1900	6	
1955	3	
2010	2	
2020	1	
2025	1	
2135	6	
London Southend Apt	**63**	
0630	4	
0640	1	
0645	3	
0650	1	
0655	2	
0700	1	
0705	2	
0710	1	
0715	3	
0740	1	
0745	1	
0815	1	
1045	2	10
1050	3	
1055	2	
1105	2	
1125	1	
1300	5	
1305	2	
1310	1	
1325	1	
1340	1	
1455	1	
1610	2	
1650	1	
1705	3	
1725	1	
1735	2	
1745	1	
1750	1	
1800	1	
1920	1	

1930	1		
1955	4		
2005	1		
2015	1		
2040	1		
Newcastle	**43**		
0830	1		
0845	2		
0850	2		
0910	1	18	
0915	1		
0925	1		
0930	3		
1000	1		
1055	3		
1120	7		
1200	1		
1550	1		
1820	1		
1825	1		
1840	1		
1900	1		
1905	1		
1910	5		
1925	2		
1930	1		
1955	1		
2000	1		
2110	1		
2140	1		
2230	2		
Newquay	**4**		
0905	1	1	
2005	1		
2050	2		
Grand Total	**454**	85	19%

Appendix C KLM UK Flight Timetable week beginning 24th June 2019

Carrier Code	Flight No	Dep Airport Name	Arr Airport Name	Local Days Of Op	Local Dep Time	Local Arr Time	General Aircraft Name	Frequency
KL	0922	Inverness	Amsterdam	7	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	6	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	5	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	4	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	3	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	2	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	1	0625	0900	Embraer 170/195	1
KL	0923	Amsterdam	Inverness	7	0930	1010	Embraer 170/195	1
KL	0924	Inverness	Amsterdam	7	1055	1330	Embraer 170/195	1
KL	0925	Amsterdam	Inverness	6	1430	1510	Embraer 170/195	1
KL	0926	Inverness	Amsterdam	6	1550	1825	Embraer 170/195	1
KL	0927	Amsterdam	Inverness	23456	1200	1240	Embraer 170/195	1
KL	0927	Amsterdam	Inverness	12345	1200	1240	Embraer 170/195	5
KL	0928	Inverness	Amsterdam	6	1320	1555	Embraer 170/195	1
KL	0928	Inverness	Amsterdam	3	1325	1600	Embraer 170/195	1
KL	0928	Inverness	Amsterdam	12 45	1325	1600	Embraer 170/195	4
KL	0931	Amsterdam	Inverness	1234567	2135	2215	Embraer 170/195	7
KL	0947	Amsterdam	Belfast George Best City Apt	1234567	1610	1645	Embraer 170/195	7
KL	0948	Belfast George Best City Apt	Amsterdam	7	1715	1950	Embraer 170/195	1
KL	0948	Belfast George Best City Apt	Amsterdam	6	1715	1950	Embraer 170/195	1
KL	0948	Belfast George Best City Apt	Amsterdam	2 4	1715	1950	Embraer 170/195	2
KL	0948	Belfast George Best City Apt	Amsterdam	1 3 5	1715	1950	Embraer 170/195	3
KL	0952	Newcastle	Amsterdam	67	0600	0825	Boeing 737 Passenger	2
KL	0952	Newcastle	Amsterdam	1	0600	0825	Boeing 737 Passenger	1
KL	0952	Newcastle	Amsterdam	12345	0600	0825	Boeing 737 Passenger	4
KL	0953	Amsterdam	Newcastle	6	0835	0845	Boeing 737 Passenger	1
KL	0953	Amsterdam	Newcastle	12345 7	0835	0845	Boeing 737 Passenger	6
KL	0954	Newcastle	Amsterdam	6	0930	1150	Boeing 737 Passenger	1
KL	0954	Newcastle	Amsterdam	12345 7	0930	1150	Boeing 737 Passenger	6
KL	0959	Amsterdam	Newcastle	67	1230	1245	Embraer 170/195	2
KL	0959	Amsterdam	Newcastle	12345	1230	1245	Embraer 170/195	5
KL	0960	Newcastle	Amsterdam	7	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	6	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	4	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	2	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	1 3 5	1315	1535	Embraer 170/195	3
KL	0963	Amsterdam	Newcastle	6	1620	1640	Embraer 170/195	1
KL	0963	Amsterdam	Newcastle	3 567	1620	1640	Boeing 737 Passenger	1
KL	0963	Amsterdam	Newcastle	12345	1620	1640	Boeing 737 Passenger	5
KL	0964	Newcastle	Amsterdam	6	1730	1955	Embraer 170/195	1
KL	0964	Newcastle	Amsterdam	3 567	1730	1955	Boeing 737 Passenger	1
KL	0964	Newcastle	Amsterdam	12345	1730	1955	Boeing 737 Passenger	5
KL	0965	Amsterdam	Newcastle	1234567	2215	2230	Boeing 737 Passenger	7
KL	0969	Amsterdam	London City Apt	12345 7	2005	2015	Embraer 170/195	6
KL	0970	London City Apt	Amsterdam	12345 7	2045	2300	Embraer 170/195	6
KL	0971	Amsterdam	London City Apt	7	1305	1315	Embraer 170/195	1
KL	0972	London City Apt	Amsterdam	7	1345	1600	Embraer 170/195	1
KL	0981	Amsterdam	London City Apt	12345	0705	0715	Embraer 170/195	5
KL	0982	London City Apt	Amsterdam	12345	0745	1000	Embraer 170/195	5
KL	0983	Amsterdam	London City Apt	123456	0800	0810	Embraer 170/195	6
KL	0984	London City Apt	Amsterdam	123456	0840	1100	Embraer 170/195	6
KL	0985	Amsterdam	London City Apt	12345	0845	0850	Embraer 170/195	5
KL	0986	London City Apt	Amsterdam	3	0925	1130	Embraer 170/195	1
KL	0986	London City Apt	Amsterdam	12 45	0925	1130	Embraer 170/195	4
KL	0987	Amsterdam	London City Apt	123456	0925	0930	Embraer 170/195	6
KL	0988	London City Apt	Amsterdam	123456	1000	1210	Embraer 170/195	6
KL	0989	Amsterdam	London City Apt	12345	1635	1640	Embraer 170/195	5
KL	0990	London City Apt	Amsterdam	12345	1710	1920	Embraer 170/195	5

KL	0991	Amsterdam	London City Apt	12345 7	1715	1720	Embraer 170/195	6
KL	0992	London City Apt	Amsterdam	12345 7	1750	2005	Embraer 170/195	6
KL	0993	Amsterdam	London City Apt	12345 7	1825	1835	Embraer 170/195	6
KL	0994	London City Apt	Amsterdam	7	1905	2120	Embraer 170/195	1
KL	0994	London City Apt	Amsterdam	12345	1905	2115	Embraer 170/195	5
KL	0995	Amsterdam	London City Apt	6	1130	1140	Embraer 170/195	1
KL	0996	London City Apt	Amsterdam	6	1210	1415	Embraer 170/195	1
KL	0997	Amsterdam	London City Apt	12345 7	1925	1935	Embraer 170/195	6
KL	0998	London City Apt	Amsterdam	7	2005	2220	Embraer 170/195	1
KL	0998	London City Apt	Amsterdam	12345	2005	2215	Embraer 170/195	5
KL	1000	London Heathrow Apt	Amsterdam	3	0630	0900	Boeing 737 Passenger	1
KL	1000	London Heathrow Apt	Amsterdam	1	0630	0900	Boeing 737 Passenger	1
KL	1000	London Heathrow Apt	Amsterdam	12 4567	0630	0900	Boeing 737 Passenger	5
KL	1001	Amsterdam	London Heathrow Apt	2 45 7	0720	0740	Boeing 737 Passenger	4
KL	1001	Amsterdam	London Heathrow Apt	1 3 6	0720	0740	Boeing 737 Passenger	3
KL	1002	London Heathrow Apt	Amsterdam	2 45 7	0840	1100	Boeing 737 Passenger	4
KL	1002	London Heathrow Apt	Amsterdam	1 3 6	0840	1100	Boeing 737 Passenger	3
KL	1007	Amsterdam	London Heathrow Apt	12345	0835	0900	Boeing 737 Passenger	5
KL	1008	London Heathrow Apt	Amsterdam	12345	0955	1225	Boeing 737 Passenger	5
KL	1009	Amsterdam	London Heathrow Apt	1 4 7	1015	1045	Boeing 737 Passenger	2
KL	1009	Amsterdam	London Heathrow Apt	123 56	1015	1045	Boeing 737 Passenger	5
KL	1010	London Heathrow Apt	Amsterdam	1 4 7	1145	1405	Boeing 737 Passenger	2
KL	1010	London Heathrow Apt	Amsterdam	123 56	1145	1405	Boeing 737 Passenger	5
KL	1017	Amsterdam	London Heathrow Apt	6	1320	1350	Boeing 737 Passenger	1
KL	1017	Amsterdam	London Heathrow Apt	67	1320	1350	Embraer 170/195	1
KL	1017	Amsterdam	London Heathrow Apt	12345	1320	1350	Boeing 737 Passenger	5
KL	1018	London Heathrow Apt	Amsterdam	6	1445	1700	Boeing 737 Passenger	1
KL	1018	London Heathrow Apt	Amsterdam	67	1445	1700	Embraer 170/195	1
KL	1018	London Heathrow Apt	Amsterdam	12345	1445	1700	Boeing 737 Passenger	5
KL	1019	Amsterdam	London Heathrow Apt	4	1440	1500	Embraer 170/195	1
KL	1019	Amsterdam	London Heathrow Apt	2	1440	1500	Embraer 170/195	1
KL	1019	Amsterdam	London Heathrow Apt	1 3 5	1440	1500	Embraer 170/195	3
KL	1020	London Heathrow Apt	Amsterdam	2	1605	1820	Embraer 170/195	1
KL	1020	London Heathrow Apt	Amsterdam	1 345	1605	1820	Embraer 170/195	4
KL	1021	Amsterdam	London Heathrow Apt	3 6	1555	1615	Boeing 737 Passenger	1
KL	1021	Amsterdam	London Heathrow Apt	12345 7	1555	1615	Boeing 737 Passenger	6
KL	1022	London Heathrow Apt	Amsterdam	3 6	1710	1935	Boeing 737 Passenger	1
KL	1022	London Heathrow Apt	Amsterdam	12345 7	1710	1935	Boeing 737 Passenger	6
KL	1023	Amsterdam	London Heathrow Apt	7	1715	1735	Boeing 737 Passenger	1
KL	1023	Amsterdam	London Heathrow Apt	2	1715	1735	Embraer 170/195	1
KL	1023	Amsterdam	London Heathrow Apt	1 345	1715	1735	Embraer 170/195	4
KL	1024	London Heathrow Apt	Amsterdam	7	1835	2050	Boeing 737 Passenger	1
KL	1024	London Heathrow Apt	Amsterdam	6	1835	2050	Boeing 737 Passenger	1
KL	1024	London Heathrow Apt	Amsterdam	12345	1835	2050	Embraer 170/195	5
KL	1027	Amsterdam	London Heathrow Apt	7	1910	1930	Boeing 737 Passenger	1
KL	1027	Amsterdam	London Heathrow Apt	123456	1905	1925	Embraer 170/195	6
KL	1028	London Heathrow Apt	Amsterdam	7	2055	2305	Boeing 737 Passenger	1
KL	1028	London Heathrow Apt	Amsterdam	123456	2055	2305	Embraer 170/195	6
KL	1029	Amsterdam	London Heathrow Apt	5	1700	1710	Embraer 170/195	1
KL	1029	Amsterdam	London Heathrow Apt	1234	1655	1710	Embraer 170/195	4
KL	1030	London Heathrow Apt	Amsterdam	12345	1915	2125	Embraer 170/195	5
KL	1031	Amsterdam	London Heathrow Apt	6	1735	1750	Boeing 737 Passenger	1
KL	1031	Amsterdam	London Heathrow Apt	12345 7	1735	1750	Embraer 170/195	6
KL	1032	London Heathrow Apt	Amsterdam	12345 7	2025	2240	Embraer 170/195	6
KL	1033	Amsterdam	London Heathrow Apt	2	2030	2055	Boeing 737 Passenger	1
KL	1033	Amsterdam	London Heathrow Apt	1 34567	2030	2055	Boeing 737 Passenger	6
KL	1046	Bristol	Amsterdam	1	0620	0850	Embraer 170/195	1
KL	1046	Bristol	Amsterdam	1234567	0620	0850	Embraer 170/195	6
KL	1049	Amsterdam	Bristol	5	0835	0850	Boeing 737 Passenger	1
KL	1049	Amsterdam	Bristol	1234 67	0835	0850	Embraer 170/195	6
KL	1050	Bristol	Amsterdam	5	0930	1145	Boeing 737 Passenger	1

KL	1050	Bristol	Amsterdam	1234 67	0920	1135	Embraer 170/195	6
KL	1051	Amsterdam	Bristol	67	1300	1315	Embraer 170/195	2
KL	1051	Amsterdam	Bristol	12345	1300	1315	Embraer 170/195	5
KL	1052	Bristol	Amsterdam	67	1345	1605	Embraer 170/195	2
KL	1052	Bristol	Amsterdam	12345	1345	1605	Embraer 170/195	5
KL	1053	Amsterdam	Bristol	7	1640	1655	Embraer 170/195	1
KL	1053	Amsterdam	Bristol	6	1630	1645	Embraer 170/195	1
KL	1053	Amsterdam	Bristol	12345	1640	1655	Boeing 737 Passenger	5
KL	1054	Bristol	Amsterdam	7	1725	1945	Embraer 170/195	1
KL	1054	Bristol	Amsterdam	6	1715	1935	Embraer 170/195	1
KL	1054	Bristol	Amsterdam	12345	1735	1955	Boeing 737 Passenger	5
KL	1057	Amsterdam	Bristol	1234567	2200	2210	Embraer 170/195	7
KL	1058	Cardiff	Amsterdam	2 5	0605	0830	Embraer 170/195	2
KL	1058	Cardiff	Amsterdam	1	0605	0830	Embraer 170/195	1
KL	1058	Cardiff	Amsterdam	1 34 6	0605	0830	Embraer 170/195	3
KL	1059	Amsterdam	Cardiff	7	0905	0925	Embraer 170/195	1
KL	1059	Amsterdam	Cardiff	23456	0855	0915	Embraer 170/195	5
KL	1059	Amsterdam	Cardiff	1	0850	0910	Embraer 170/195	1
KL	1060	Cardiff	Amsterdam	7	0955	1215	Embraer 170/195	1
KL	1060	Cardiff	Amsterdam	23456	0945	1205	Embraer 170/195	5
KL	1060	Cardiff	Amsterdam	1	0940	1200	Embraer 170/195	1
KL	1063	Amsterdam	Cardiff	1234567	1625	1645	Embraer 170/195	7
KL	1064	Cardiff	Amsterdam	1234567	1715	1935	Embraer 170/195	7
KL	1069	Amsterdam	Cardiff	23 5 7	2110	2130	Embraer 170/195	4
KL	1069	Amsterdam	Cardiff	1 4	2110	2130	Embraer 170/195	2
KL	1070	Manchester (GB)	Amsterdam	56	0555	0815	Boeing 737 Passenger	2
KL	1070	Manchester (GB)	Amsterdam	1	0555	0820	Boeing 737 Passenger	1
KL	1070	Manchester (GB)	Amsterdam	1234 7	0555	0820	Boeing 737 Passenger	4
KL	1071	Amsterdam	Manchester (GB)	7	0755	0815	Boeing 737 Passenger	1
KL	1071	Amsterdam	Manchester (GB)	6	0810	0830	Boeing 737 Passenger	1
KL	1071	Amsterdam	Manchester (GB)	12345	0800	0820	Boeing 737 Passenger	5
KL	1072	Manchester (GB)	Amsterdam	7	0900	1115	Boeing 737 Passenger	1
KL	1072	Manchester (GB)	Amsterdam	6	0910	1125	Boeing 737 Passenger	1
KL	1072	Manchester (GB)	Amsterdam	1	0900	1115	Boeing 737 Passenger	1
KL	1072	Manchester (GB)	Amsterdam	12345	0900	1115	Boeing 737 Passenger	4
KL	1073	Amsterdam	Manchester (GB)	67	1005	1025	Boeing 737 Passenger	2
KL	1073	Amsterdam	Manchester (GB)	2345	1005	1025	Boeing 737 Passenger	3
KL	1073	Amsterdam	Manchester (GB)	12	1005	1025	Boeing 737 Passenger	2
KL	1074	Manchester (GB)	Amsterdam	6	1110	1330	Boeing 737 Passenger	1
KL	1074	Manchester (GB)	Amsterdam	2345 7	1110	1330	Boeing 737 Passenger	4
KL	1074	Manchester (GB)	Amsterdam	12	1110	1330	Boeing 737 Passenger	2
KL	1075	Amsterdam	Manchester (GB)	67	1250	1305	Embraer 170/195	2
KL	1075	Amsterdam	Manchester (GB)	12345	1250	1305	Embraer 170/195	5
KL	1076	Manchester (GB)	Amsterdam	67	1345	1605	Embraer 170/195	2
KL	1076	Manchester (GB)	Amsterdam	12345	1345	1605	Embraer 170/195	5
KL	1079	Amsterdam	Manchester (GB)	6	1625	1645	Boeing 737 Passenger	1
KL	1079	Amsterdam	Manchester (GB)	1 4 67	1625	1645	Boeing 737 Passenger	1
KL	1079	Amsterdam	Manchester (GB)	12345	1625	1645	Boeing 737 Passenger	5
KL	1080	Manchester (GB)	Amsterdam	6	1730	1950	Boeing 737 Passenger	1
KL	1080	Manchester (GB)	Amsterdam	1 4 7	1730	1950	Boeing 737 Passenger	1
KL	1080	Manchester (GB)	Amsterdam	12345	1730	1950	Boeing 737 Passenger	5
KL	1081	Amsterdam	Manchester (GB)	7	1845	1900	Embraer 170/195	1
KL	1081	Amsterdam	Manchester (GB)	12345	1845	1900	Embraer 170/195	5
KL	1082	Manchester (GB)	Amsterdam	12345 7	1935	2150	Embraer 170/195	6
KL	1083	Amsterdam	Manchester (GB)	7	2115	2135	Boeing 737 Passenger	1
KL	1083	Amsterdam	Manchester (GB)	6	2115	2135	Boeing 737 Passenger	1
KL	1083	Amsterdam	Manchester (GB)	12345	2115	2135	Boeing 737 Passenger	5
KL	1276	Edinburgh	Amsterdam	5	0600	0835	Boeing 737 Passenger	1
KL	1276	Edinburgh	Amsterdam	1	0600	0835	Boeing 737 Passenger	1
KL	1276	Edinburgh	Amsterdam	1234 67	0600	0835	Boeing 737 Passenger	5
KL	1277	Amsterdam	Edinburgh	7	0800	0825	Embraer 170/195	1

KL	1277	Amsterdam	Edinburgh	2	0800	0825	Boeing 737 Passenger	1
KL	1277	Amsterdam	Edinburgh	1 3456	0800	0825	Boeing 737 Passenger	5
KL	1278	Edinburgh	Amsterdam	7	0910	1145	Embraer 170/195	1
KL	1278	Edinburgh	Amsterdam	2	0910	1145	Boeing 737 Passenger	1
KL	1278	Edinburgh	Amsterdam	1 3456	0910	1145	Boeing 737 Passenger	5
KL	1281	Amsterdam	Edinburgh	67	1215	1240	Embraer 170/195	2
KL	1281	Amsterdam	Edinburgh	12345	1215	1240	Boeing 737 Passenger	5
KL	1282	Edinburgh	Amsterdam	6	1325	1555	Embraer 170/195	1
KL	1282	Edinburgh	Amsterdam	67	1315	1550	Embraer 170/195	1
KL	1282	Edinburgh	Amsterdam	4	1325	1555	Boeing 737 Passenger	1
KL	1282	Edinburgh	Amsterdam	123 5	1325	1600	Boeing 737 Passenger	4
KL	1289	Amsterdam	Edinburgh	2 6	1620	1640	Boeing 737 Passenger	2
KL	1289	Amsterdam	Edinburgh	1 345 7	1615	1640	Boeing 737 Passenger	5
KL	1290	Edinburgh	Amsterdam	1234567	1725	1955	Boeing 737 Passenger	7
KL	1293	Amsterdam	Edinburgh	4	2110	2135	Boeing 737 Passenger	1
KL	1293	Amsterdam	Edinburgh	123 567	2110	2135	Boeing 737 Passenger	6
KL	1420	Birmingham Airport	Amsterdam	234 67	0600	0825	Boeing 737 Passenger	4
KL	1420	Birmingham Airport	Amsterdam	1	0600	0825	Boeing 737 Passenger	1
KL	1420	Birmingham Airport	Amsterdam	12 5	0600	0825	Boeing 737 Passenger	2
KL	1421	Amsterdam	Birmingham Airport	7	0815	0830	Boeing 737 Passenger	1
KL	1421	Amsterdam	Birmingham Airport	123456	0815	0830	Boeing 737 Passenger	6
KL	1422	Birmingham Airport	Amsterdam	7	0915	1130	Boeing 737 Passenger	1
KL	1422	Birmingham Airport	Amsterdam	123456	0915	1130	Boeing 737 Passenger	6
KL	1423	Amsterdam	Birmingham Airport	7	0935	0950	Boeing 737 Passenger	1
KL	1424	Birmingham Airport	Amsterdam	7	1035	1250	Boeing 737 Passenger	1
KL	1425	Amsterdam	Birmingham Airport	6	1215	1230	Embraer 170/195	1
KL	1425	Amsterdam	Birmingham Airport	12345 7	1215	1230	Boeing 737 Passenger	6
KL	1426	Birmingham Airport	Amsterdam	6	1300	1515	Embraer 170/195	1
KL	1426	Birmingham Airport	Amsterdam	12345 7	1310	1525	Boeing 737 Passenger	6
KL	1431	Amsterdam	Birmingham Airport	6	1635	1650	Embraer 170/195	1
KL	1431	Amsterdam	Birmingham Airport	12345 7	1635	1650	Boeing 737 Passenger	6
KL	1432	Birmingham Airport	Amsterdam	6	1740	1955	Embraer 170/195	1
KL	1432	Birmingham Airport	Amsterdam	12345 7	1740	1955	Boeing 737 Passenger	6
KL	1433	Amsterdam	Birmingham Airport	5	1900	1915	Embraer 170/195	1
KL	1433	Amsterdam	Birmingham Airport	1234	1900	1915	Embraer 170/195	4
KL	1434	Birmingham Airport	Amsterdam	5	1945	2155	Embraer 170/195	1
KL	1434	Birmingham Airport	Amsterdam	1234	1945	2155	Embraer 170/195	4
KL	1435	Amsterdam	Birmingham Airport	1 4 7	2105	2120	Boeing 737 Passenger	3
KL	1435	Amsterdam	Birmingham Airport	123 56	2105	2120	Boeing 737 Passenger	4
KL	1440	Aberdeen (GB)	Amsterdam	1	0600	0835	Boeing 737 Passenger	1
KL	1440	Aberdeen (GB)	Amsterdam	1234567	0600	0835	Boeing 737 Passenger	6
KL	1441	Amsterdam	Aberdeen (GB)	1234567	0815	0845	Embraer 170/195	7
KL	1442	Aberdeen (GB)	Amsterdam	6	0915	1145	Embraer 170/195	1
KL	1442	Aberdeen (GB)	Amsterdam	12345 7	0915	1145	Embraer 170/195	6
KL	1443	Amsterdam	Aberdeen (GB)	7	0935	1005	Embraer 170/195	1
KL	1443	Amsterdam	Aberdeen (GB)	123456	0935	1005	Embraer 170/195	6
KL	1444	Aberdeen (GB)	Amsterdam	7	1035	1310	Embraer 170/195	1
KL	1444	Aberdeen (GB)	Amsterdam	123456	1035	1310	Embraer 170/195	6
KL	1445	Amsterdam	Aberdeen (GB)	7	1140	1210	Embraer 170/195	1
KL	1445	Amsterdam	Aberdeen (GB)	6	1125	1155	Embraer 170/195	1
KL	1445	Amsterdam	Aberdeen (GB)	2345	1140	1210	Embraer 170/195	4
KL	1445	Amsterdam	Aberdeen (GB)	1	1140	1210	Embraer 170/195	1
KL	1446	Aberdeen (GB)	Amsterdam	7	1240	1515	Embraer 170/195	1
KL	1446	Aberdeen (GB)	Amsterdam	6	1225	1500	Embraer 170/195	1
KL	1446	Aberdeen (GB)	Amsterdam	12345	1240	1515	Embraer 170/195	5
KL	1449	Amsterdam	Aberdeen (GB)	67	1610	1635	Boeing 737 Passenger	2
KL	1449	Amsterdam	Aberdeen (GB)	12345	1610	1635	Boeing 737 Passenger	5
KL	1450	Aberdeen (GB)	Amsterdam	67	1720	1955	Boeing 737 Passenger	2
KL	1450	Aberdeen (GB)	Amsterdam	12345	1720	1955	Boeing 737 Passenger	5
KL	1451	Amsterdam	Aberdeen (GB)	234567	2145	2215	Boeing 737 Passenger	6
KL	1451	Amsterdam	Aberdeen (GB)	1	2200	2230	Boeing 737 Passenger	1

KL	1470	Glasgow International Airport	Amsterdam	2	0605	0845	Boeing 737 Passenger	1
KL	1470	Glasgow International Airport	Amsterdam	1	0605	0845	Boeing 737 Passenger	1
KL	1470	Glasgow International Airport	Amsterdam	1234567	0605	0845	Boeing 737 Passenger	5
KL	1473	Amsterdam	Glasgow International Airport	67	0930	1000	Boeing 737 Passenger	2
KL	1473	Amsterdam	Glasgow International Airport	1	0930	1000	Boeing 737 Passenger	1
KL	1473	Amsterdam	Glasgow International Airport	12345	0930	1000	Boeing 737 Passenger	4
KL	1474	Glasgow International Airport	Amsterdam	67	1045	1320	Boeing 737 Passenger	2
KL	1474	Glasgow International Airport	Amsterdam	3	1045	1320	Boeing 737 Passenger	1
KL	1474	Glasgow International Airport	Amsterdam	1	1045	1320	Boeing 737 Passenger	1
KL	1474	Glasgow International Airport	Amsterdam	12 45	1045	1320	Boeing 737 Passenger	3
KL	1477	Amsterdam	Glasgow International Airport	4 7	1535	1605	Boeing 737 Passenger	2
KL	1477	Amsterdam	Glasgow International Airport	2	1535	1605	Boeing 737 Passenger	1
KL	1477	Amsterdam	Glasgow International Airport	1 3 56	1535	1605	Boeing 737 Passenger	4
KL	1478	Glasgow International Airport	Amsterdam	4 7	1655	1930	Boeing 737 Passenger	2
KL	1478	Glasgow International Airport	Amsterdam	123 56	1655	1930	Boeing 737 Passenger	5
KL	1481	Amsterdam	Glasgow International Airport	6	2140	2210	Boeing 737 Passenger	1
KL	1481	Amsterdam	Glasgow International Airport	1	2115	2145	Boeing 737 Passenger	1
KL	1481	Amsterdam	Glasgow International Airport	12345 7	2115	2145	Boeing 737 Passenger	5
KL	1482	Humberside	Amsterdam	1	0610	0810	Embraer 170/195	1
KL	1482	Humberside	Amsterdam	1234567	0610	0810	Embraer 170/195	6
KL	1485	Amsterdam	Humberside	123456	0930	0930	Embraer 170/195	6
KL	1486	Humberside	Amsterdam	1	1000	1200	Embraer 170/195	1
KL	1486	Humberside	Amsterdam	123456	1000	1200	Embraer 170/195	5
KL	1489	Amsterdam	Humberside	12345 7	1640	1640	Embraer 170/195	6
KL	1490	Humberside	Amsterdam	12345 7	1710	1915	Embraer 170/195	6
KL	1493	Amsterdam	Humberside	1234567	2130	2130	Embraer 170/195	7
KL	1514	Norwich	Amsterdam	1	0605	0800	Embraer 170/195	1
KL	1514	Norwich	Amsterdam	1234567	0605	0800	Embraer 170/195	6
KL	1515	Amsterdam	Norwich	6	0910	0900	Embraer 170/195	1
KL	1515	Amsterdam	Norwich	12345	0910	0900	Embraer 170/195	5
KL	1516	Norwich	Amsterdam	6	0930	1125	Embraer 170/195	1
KL	1516	Norwich	Amsterdam	12345	0930	1125	Embraer 170/195	5
KL	1519	Amsterdam	Norwich	7	1350	1340	Embraer 170/195	1
KL	1519	Amsterdam	Norwich	12345	1350	1340	Embraer 170/195	5
KL	1520	Norwich	Amsterdam	12345 7	1410	1605	Embraer 170/195	6
KL	1521	Amsterdam	Norwich	1	1700	1650	Embraer 170/195	1
KL	1522	Norwich	Amsterdam	1	1720	1915	Embraer 170/195	1
KL	1523	Amsterdam	Norwich	2345 7	1700	1650	Embraer 170/195	5
KL	1524	Norwich	Amsterdam	2345 7	1720	1915	Embraer 170/195	5
KL	1527	Amsterdam	Norwich	1234567	2120	2110	Embraer 170/195	7
KL	1530	Durham	Amsterdam	1	0620	0840	Embraer 170/195	1
KL	1530	Durham	Amsterdam	1234567	0620	0840	Embraer 170/195	6
KL	1533	Amsterdam	Durham	7	0920	0930	Embraer 170/195	1
KL	1533	Amsterdam	Durham	6	0925	0935	Embraer 170/195	1
KL	1533	Amsterdam	Durham	12345	0920	0930	Embraer 170/195	5
KL	1534	Durham	Amsterdam	6	1005	1220	Embraer 170/195	1
KL	1534	Durham	Amsterdam	3 7	1000	1215	Embraer 170/195	2
KL	1534	Durham	Amsterdam	12 45	1000	1220	Embraer 170/195	4
KL	1535	Amsterdam	Durham	12345	1640	1650	Embraer 170/195	5
KL	1536	Durham	Amsterdam	12345	1720	1935	Embraer 170/195	5
KL	1539	Amsterdam	Durham	1234567	2135	2145	Embraer 170/195	7
KL	1540	Leeds Bradford	Amsterdam	1	0620	0840	Embraer 170/195	1
KL	1540	Leeds Bradford	Amsterdam	1234567	0620	0840	Embraer 170/195	6
KL	1541	Amsterdam	Leeds Bradford	6	0925	0935	Embraer 170/195	1
KL	1541	Amsterdam	Leeds Bradford	12345 7	0920	0930	Embraer 170/195	6
KL	1542	Leeds Bradford	Amsterdam	6	1005	1215	Embraer 170/195	1
KL	1542	Leeds Bradford	Amsterdam	12345 7	1000	1210	Embraer 170/195	6
KL	1549	Amsterdam	Leeds Bradford	6	1640	1650	Embraer 170/195	1
KL	1549	Amsterdam	Leeds Bradford	12345 7	1640	1650	Embraer 170/195	6
KL	1550	Leeds Bradford	Amsterdam	6	1720	1935	Embraer 170/195	1
KL	1550	Leeds Bradford	Amsterdam	12345 7	1720	1935	Embraer 170/195	6

KL	1551	Amsterdam	Leeds Bradford	67	2210	2220	Embraer 170/195	2
KL	1551	Amsterdam	Leeds Bradford	12345	2200	2210	Embraer 170/195	5

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Sum of Frequency	Column Labels							
Row Labels	**Belfast George Best City Apt**	**Cardiff**	**Durham**	**Glasgow International Airport**	**Humberside**	**Inverness**	**Leeds Bradford**	**Grand Total**
0605		6		7				13
0610					7			7
0620			7				7	14
0625						7		7
0940		1						1
0945		5						5
0955		1						1
1000			6		6		6	18
1005			1				1	2
1045				7				7
1055						1		1
1320						1		1
1325						5		5
1550						1		1
1655				7				7
1710					6			6
1715	7	7						14
1720			5				7	12
Grand Total	**7**	**20**	**19**	**21**	**19**	**15**	**21**	**122**

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

STONE HILL PARK LTD'S COMMENTS ON THE APPLICANT'S WRITTEN SUMMARY OF ORAL SUBMISSIONS PUT AT THE COMPULSORY ACQUISITION HEARING HELD ON 20 MARCH 2019.

1. **BACKGROUND**

1.1 The Second Compulsory Acquisition Hearing ("CA Hearing") was held at 10:00am on 4 June 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2 The Applicant's Written Summary of Oral Submissions ("Applicant's Written Summary") was published on 18 June 2019 [REP8-011].

1.3 SHP submitted its own Written Summary of Oral Representations [REP8-030] ("SHP's Written Summary") at Deadline 8. The purpose of this note is not repeat those submissions, but principally to highlight to the ExA, certain omissions, anomalies and discrepancies relating to information contained in the Applicant's Written Summary.

1.4 Attached as Appendix 1 to this note is York Aviation's "Supplementary Note on the Applicant's Summaries of Oral Evidence at ISH5 regarding Socio-Economics and CAH2 regarding Compulsory Acquisition" ("York Aviation's Supplementary Note").

2. **AGENDA ITEM 4: REVISED FUNDING STATEMENT**

2.1 **Paragraph 2.1:** The Applicant's claims that *"sufficient information has been provided by the Applicant"* is incompatible with the view expressed by the ExA at the Hearing that there was no verifiable evidence before the examination on the availability of funding.

SHP has made submissions on the inadequacies of the information provided by the Applicant throughout this examination, which include, inter alia;

- Section 2 of SHP's Comments on the Applicant's Written Summary of Oral Representations to the First CA Hearing [REP6-052];
- SHP's Comments on the Applicant's Answers to 2WQs relating to Funding [REP7-014];
- SHP's Comments on the Applicant's Answers to 3WQs relating to Funding [REP8-035].

These submissions comment and respond to each of the six bullet points in Paragraph 2.1 of the Applicant's Written Summary.

2.2 **Paragraphs 2.2 – 2.3:** SHP has provided evidence regarding the exaggerated claims made by the Applicant regarding HMRC's role in scrutinising the source of funding

and to the examination in the following submissions. SHP would refer the ExA to the following submissions;

2.2.1 SHP's Comments on the Applicant's Answers to 3WQs F.3.2 and F.3.11 [REP8-035];

2.2.2 Paragraphs 3.14-3.17 of Appendix 1 to SHP's Written Summary [REP8-030].

2.3 **Paragraphs 2.5 – 2.10:** The assertions made by the Applicant are wrong in fundamental respects. Rather than repeat previous evidence, SHP would refer the ExA to paragraphs 3.1 – 3.13 of Appendix 1 SHP's Written Summary [REP8-030], which explains the fundamental failures in the Applicant's position.

2.4 **Paragraph 2.11:** The Applicant has submitted various sets of management accounts as part of Appendix CAH2-11.

SHP would note;

- these management accounts have not been verified by anyone other than the directors of the Applicant;
- it is worth noting that none of the accounts submitted by the Applicant to Companies House have been audited – claims made by two RSP directors regarding Calder & Co being the auditors of the RiverOak group of companies are wrong and misleading;
- the Applicant waited until the last possible day (31 May 2019) to submit the Accounts of RiverOak Operations Ltd to Companies House. It did so in paper form, ensuring that these accounts would not be published until after the second CA Hearing on 4 June 2019. This prevented the ExA and SHP being able to questions of the Applicant, which was necessary as the published accounts provide no verifiable evidence of how funds have been expended;
- SHP's Comments on the Applicant's Answers to 2WQ F.2.21 [REP7-014] explained how greater transparency could be provided, and why such transparency was essential to provide comfort that Business Investment Relief would not be subject to clawback.

3. AGENDA ITEMS 5: RESTRUCTURING

3.1 **Paragraphs 3.1-3.4:** SHP has made numerous detailed submissions to the Examination regarding the relevance of the restructure and why it does nothing to add transparency or availability of Funding. These include, inter alia;

- SHP's Additional Submission on Funding [AS-102]

- SHP's Comments on the Applicant's Answers to 2WQs relating to Funding [REP7-014];

- SHP's Comments on the Applicant's Answers to 3WQs relating to Funding [REP8-035].

4. **AGENDA ITEM 6: RESOURCE IMPLICATIONS**

4.1 **Paragraphs 4.1-4.5:**

4.1.1 The Applicant asserts that it has relied upon a figure of £7.5m identified by Mr Smith of CBRE. It is highly revealing that no information has been submitted from CBRE, in the form of any written report or letter, to support the assertions made by the Applicant.

4.1.2 This contrast with the evidence submitted by SHP, which includes a Compensation Assessment report prepared by Avison Young attached as Appendix 6 to SHP's Written Representations [REP3-025].

4.1.3 The Applicant fails to acknowledge that had it not been for the DCO the Local Plan would have allocated the site for residential led mixed use regeneration in line with the Planning Officers recommendation. Council members did not support this, with the rationale given that they did not want to prejudice the outcome of the DCO process. It is therefore reasonable to conclude that had it not been for the DCO, SHP are likely to have had planning consent for its mixed use scheme, to create a new settlement (including retention of a 1,200m runway for heritage aviation). This real life scenario describes the 'no scheme world'. Were it not for the Applicant's 'scheme', SHP's landholding would be expected to benefit from planning consent and an allocation in the local plan

4.1.4 The Applicant refers to Mr Smith's comments regarding the land being last transacted at a price of £1.

(a) As explained in SHP's Comments on the Applicant's Answers to 3WQs CA.3.30 [REP8-035], the Applicant and its advisor Mr Smith is fully aware that SHP had acquired the land from its previous owner, Manston Skyport Ltd, for £7m in September 2014.

(b) This was a number of months after RiverOak Investment Corporation LLC (the predecessor of the Applicant) had made an offer of £7 million to the previous owner (which George Yerrall had acknowledged was the asking price), as evidenced in SHP's comments on paragraph 2.9.20 of the Applicant's Comments on the Written Representations [REP5-028].

(c) As explained in Appendix 2 to SHP's Written Representations [REP3-025], Manston Skyport Ltd had previously acquired an airport operating company with material liabilities, which was also facing ongoing operational losses of £10,000 per day. It did not acquire the land for £1.

(d) It is also important to note that, in addition to the acquisition costs of £7 million (plus costs, including Stamp Duty Land Tax of £280k), SHP has invested well in excess of £3.5 million to date in planning related costs in advancing its plans for a new residential led mixed use community on the site.

(e) Appendix CA.3.30 to SHP's Comments on the Applicant's Answers to 3WQs [REP8-035], included correspondence sent to Mr Smith of CBRE on these matters.

4.1.5 In paragraph 4.5, the Applicant refers to SHP's advisers not having presented it with a value based on the Compensation Code. Firstly, the Applicant had offered (but then did not deliver on) a consideration of £20m for SHP's land around the same time CBRE were suggesting a "value" of £2m (please refer to SHP's Response to First Written Question CA.1.17 [REP3-303]). Secondly, SHP had submitted the Avison Young report as evidence to the examination as part of its Written Representations [REP3-025]. That report sets out Avison Young's opinion of value on 3 alternative scenarios, all of which are consistent with the Compensation Code. SHP would also refer the ExA to its answer to fourth written Question F.4.5 [REP9-reference to be allocated), which provides additional information to substantiate SHP's submissions that the Applicant has materially understated the cost of acquiring the land by compulsory acquisition. SHP would again note that the Applicant has not submitted any evidence from CBRE, instead preferring to make assertions about what CBRE's advice is.

4.2 **Paragraph 4.6:** SHP has addressed the Applicant's comments regarding its business plan, the lack of viability and the Applicant's assertions regarding the Chesterfield case in its previous submissions, including most recently in paragraphs 4.6 – 4.13 of SHP's Written Summary and the accompanying Appendix 1 (e.g. paragraphs 3.7 and 3.12) and Appendix 2: York Aviation Note (paragraphs 1-20).

4.3 **Paragraph 4.7:** The Applicant claimed to have included a "fuller business model" as Appendix CAH2-15 to the Applicant's Written Summary. However this submission is completely irrelevant as explained in paragraphs 24-25 of York Aviation's Supplementary Note,

> *"The information provided by the Applicant remains woefully deficient and certainly insufficient for any party to assess the plausibility of the revenue and cost estimates that underpin the claimed viability of the proposed development and operation of Manston as a cargo airport."*
>
> *"There is no meaningful explanation as to how the figures have been derived sufficient for their veracity to be tested. In any event, a spreadsheet is not a Business Plan. A Business Plan is a document that sets out clearly how a business is going to achieve its forecasts by reference to the revenues to be earned and the costs of doing so. As became evident at the Need and Operations Hearing (ISH2), the Applicant appears not to have made the linkage between the deliverability of the so-called 'forecasts', or rather a wish list of who might operate at Manston, and the costs to users of doing so based on the expected prices to be charged. The spreadsheet as presented cannot be considered a Business Plan in any normal sense of the*

term, nor are the assumptions underpinning the calculations clearly set out."

4.4 York Aviation's Supplementary Note provides further context behind these statements. It explains the importance of costs (including fuelling and handling costs) in the decision making of an airline to use a particular airport, the degree to which airports of any scale contract out the supply of aviation fuel to ensure that the cost does not act as a deterrent to airlines operating to/from them and the lack of information before the examination that would allow the Applicant's assumptions to be understood or start to be tested.

4.5 The Applicant's "Business Plan" makes also makes heroic assumptions regarding the level of property income that would be achieved, yet the Applicant has provided no evidence to substantiate its assertions. In the absence of anything from the Applicant, Appendix 2 to this note contains analysis to demonstrates that even when the most optimistic (yet completely unrealistic) set of assumptions are applied, the property income in the Applicant's "business plan" is clearly grossly overstated. This demonstrates why no weight can be applied to the Applicant's unevidenced assertions.

4.6 SHP would further note the information provided by the Applicant in Appendix CAH2-15 is not a "business plan" in any normal sense of the term. There is no information that would allow assumptions to be tested or viability to be assessed. There are numerous omissions including, but not limited to;

4.6.1 Failure to include basic cost categories including business rates, ongoing S106 contributions, replacement/maintenance capex, funding costs etc;

4.6.2 Failure to include and substantiate any capital costs, including planning costs, construction costs, land acquisition costs, noise mitigation costs, s106 costs and other highways related costs, costs associated with relocation of the HRDF Beacon, funding structure etc.

4.7 Notwithstanding the lack of credibility attaching to the Applicant's proposals, when the Applicant's business plan is compared with real, established and successful airports (that have ample spare capacity) it is clear that the Applicant's scheme is not even intended to be cost efficient nor does it seek to minimise costs to airlines or freight owners.

4.8 **Paragraph 4.8:** There are a number of issues with the Applicant's assertion that the global figure of all financial commitments is £19m as set out in its Appendix CAH2-11.

4.8.1 Firstly, the Applicant does not correctly ditinguish between one-off and annual capital costs. As a result, the £427,067 of annual costs have been added to the one-off costs of £18,703,600 of forecast "one-off" capital costs. The consistency of basic errors that continue to made by the Applicant, further suggests this is not a serious project;

4.8.2 The budgeted costs of land acquisition, noise insulation are materially understated. SHP has provided detailed submissions on this previously;

4.8.3 The estimates for S106 contributions appear to be materially underestimated compared to allowances that have been made in the Financial Viability Analysis report SHP has submitted to TDC.

4.8.4 With regard to the letter dated 10 June 2019 from Mr Molloy of Aldgate Developments to Mr Lawlor, SHP would note the following;

(a) Aldgate has no experience of airport related or similar development. Aldgate is an office and data centre developer, the latter being exactly the type of commercial use that could be accommodated on part of the Manston site. SHP would hope to provide more information to the ExA on this by Deadline 11;

(b) Rubicon Capital Advisors does not appear to have any relevant experience of raising development funding for projects of a similar nature to the Applicant's proposed project. Based on the full list of transactions published on Rubicon's website, the only "airport transaction" listed was advising Balfour Beatty on the 2013 debt refinancing of a UK Regional Airport on behalf of Balfour Beatty – this was Blackpool Airport - a very small airport; and

(c) Balfour Beatty subsequently closed the airport in 2014 (see attached article on BBC website: https://www.bbc.co.uk/news/uk-england-lancashire-29529327).

4.8.5 The last minute submission of a letter from a party that has no identifiable experience in the aviation sector (but is expanding its data centre operations) and is understood to have an existing relationship with one of RSP Directors must be treated by the ExA with extreme caution.

5. AGENDA ITEM 16: COMPELLING CASE IN THE PUBIC INTEREST

5.1 **Paragraphs 5.1 – 5.5:** SHP has fully addressed the case made by the Applicant in sections 4 -7 of SHP's Written Summary submitted at Deadline 8 [REP8-030]. We would also refer the ExA to paragraphs 17-19 of the appended York Aviation Supplementary Note. This provides additional information from Heathrow's Statutory Consultation, which for example, refutes claims by the Applicant that Terminal 4 would need be closed and demolished in order to increase freight capacity.

6. AGENDA ITEM 11: LAND REQUIRED

6.1 **Paragraphs 6.1-6.8:** SHP has made extensive submissions throughout the examination both addressing the specific points raised by the Applicant and setting out the material deficiencies in the Applicant's application regarding its failure to justify, explain and evidence the need for SHP's land.

6.2 These issues are summarised more fully in paragraphs 7.2-7.9 of SHP's Written Summary [REP8-030] and are not repeated here.

6.3 However, as the ExA will no doubt be aware, on 18 June 2019 Heathrow launched the Statutory Consultation for its plans to develop a third runway. It is apparent from the documentation published as part of the consultation that Heathrow is taking a very careful, evidenced approach to every square metre of claimed associated development (which is principally on land within its ownership and control). Heathrow has explicitly stated that only associated development that is essential for the successful operation of the airport has been included. This is highlighted in paragraphs 20 – 23 of York Aviation's Supplementary Note. **SHP will include further relevant detail on the Heathrow proposal as part of SHP's Deadline 11 submission commenting on the Applicant's answers to fourth written questions.**

6.4 The contrast between Heathrow's evidence based approach (which seeks to minimise land requirements) contrasts sharply with the cavalier approach taken by this Applicant - which appears to be based on maximising land take without explanation or justification.

7. AGENDA ITEM 12: REASONABLE ALTERNATIVES

7.1 **Paragraph 7.5**: SHP has consistently provided the ExA with detailed accurate information on the status of discussions between SHP and the Applicant. This contrasts with the approach of the Applicant, which has consistently misled the ExA regarding the nature and content of discussions. For example, SHP would note that the information contained with the Applicant's latest Compulsory Acquisition Status Report [REP8-008] demonstrate the Applicant's disregard for its obligations to provide the ExA with an accurate, complete perspective on the engagement between SHP and the Applicant.

7.2 AGENDA ITEM 16: CROWN LAND

7.3 **Paragraph 8.3:** The Applicant continues to gloss over the materiality of the issue with the HRDF Beacon and the degree to which it would be a material impediment to the implementation of its project.

7.4 SHP has reviewed the recent submissions of the DIO [REP7a-026] and [REP8-025], which set out the risks and impediments in a manner that is wholly consistent with recent submissions from SHP, including SHP's Response to Written Question CA.3.6 [REP7a-044].

7.5 From the evidence submitted, it is clear that the Applicant has not managed the issue properly. As the evidence from the DIO demonstrates, the Applicant was fully aware that its proposed development infringes on the safeguarded area. As a consequence, the Applicant should not have submitted its application until it had greater certainty that this issue would not be an impediment to the implementation of its scheme.

7.6 It is also highly revealing the extent to which the Applicant has misled, and failed to disclose critical information, each of the examination, the DIO and Cogent Land regarding this issue.

APPENDIX 1:

York Aviation's Supplementary Note on the Applicant's Summaries of Oral Evidence at ISH5 regarding Socio-Economics and CAH2 regarding Compulsory Acquisition

York Aviation

Manston Airport

Deadline 9: Supplementary Note in the Applicant's Summaries of Oral Evidence at ISH5 regarding Socio-Economics and CAH2 regarding Compulsory Acquisition

1. This note provides further comments on the Applicant's written summaries in relation to Socio-economics and Compulsory Acquisition, in particular responding to additional information provided by the Applicant at Deadline 8. We also cross refer as relevant to the ExA's Fourth Written Questions and address a few additional points contained therein. We cross refer as required to the previous evidence submitted on behalf of Stone Hill Park. As with our previous submissions, these remarks are without prejudice to our continued view that the 'forecasts' underpinning RSP's case for the development of a cargo airport at Manston are not robust and not capable of being realised.

Socio-Economics ISH5

Direct on-site employment

2. **Para. 2.7** again demonstrates that the Applicant's team does not understand how to estimate employment at airports. It remains our view that the employment density (direct jobs per WLU) at Prestwick is the most relevant comparator (see York Aviation February 2019 Report para. 3.54) or, if data from East Midlands is to be used then the non-aviation related jobs on Pegasus Business Park need to be excluded. Either way, the employment density used by Azimuth Associates to estimate direct on-site employment is too high and this impacts on the total employment estimates derived solely through multipliers from the direct employment estimate.

3. We note that the ExA (Question SE.4.1) has asked the Applicant for further information regarding the extent to which Pegasus Business Park was developed out in 2013. We can confirm that the estimate that we made of on-site employment for East Midlands in 2013 included non-airport related employment on Pegasus Business Park. This is made clear at page 5 of the *East Midlands Airport Sustainable Development Strategy Economics and Surface Access*, as relied on as a basis by Azimuth (Vol IV, para. 4.2.1) as made clear at para. 5 of our note of ISH5. This should have been taken into account by Dr Dixon in preparing her estimates rather than simply adopting the total East Midlands employment figures but was not. Indeed, the page referred to by Azimuth provides information about how much employment at East Midlands was cargo related and how much passenger related specifically, leaving 19% of the employment within the site as non-aviation related:

"In 2013, 6,730 employees were based on the Airport site, employed by 90 companies. Passenger related employment provides the largest proportion of airport jobs (45%), with Cargo at 36%.

4. These figures could have been applied by Dr Dixon to assess a specific employment density relevant to the passenger/cargo mix projected for Manston, albeit account would also need to have been taken of the extent to which DHL's employment serves surface access transport as well as simply air freight (see York Aviation February 2019 Report, para. 6.23). When all relevant factors are taken into account, the relevant employment density for Manston would be similar to that at Prestwick.

5. In relation to **Para. 2.8**, we advised Dr Dixon in Autumn 2017, appended to our Note of Oral Evidence given at ISH5, that use of our 2004 work for ACI EUROPE was not appropriate in 2017 as it was substantially out of date. We also made clear (at para. 8 of that Note) that the overall Europe-wide employment density was not necessarily valid for any particular airport as this would depend on its characteristics.

Indirect/Induced Employment

6. **Paras. 2.14-2.15 & 2.21** again serve to demonstrate that the Applicant does not understand the data upon which it relies for assessing the likely employment and economic effects of the proposed development. Dr Dixon clearly does not understand the application of multipliers to assess the indirect and induced effects of a development and how the size of the multiplier relates to the scale of the study area, reflecting how much of the supply chain for an airport is contained locally or spread more widely. At para 2.15, the Applicant cites the adoption of a multiplier of 1.8 indirect/induced jobs in addition to every direct job as valid for the local area.

7. In the case of the Oxford Economics work for London Luton Airport, the multiplier of 1.9 (not 1.8) for every on-site direct job is applicable at the UK level (see para. 19 of our Note on ISH5) and the relevant local area multipliers were materially lower (see para. 20 of our Note on ISH5).

8. In the case of London Stansted, also referred to by the Applicant, a multiplier of 1.8 times the number of direct jobs to estimate total employment impact is cited as applicable to the study area comprising 16 districts/boroughs in London and the East of England in the ES for its recently approved Planning Application[1]. It is clear from Table 11.8 of the ES that the Stansted multiplier has been applied as a multiple of direct jobs, i.e. the comparable multiplier to that applied by OE for Luton at the national level is 0.8 at the pan-regional level for estimating additional indirect/induced jobs, consistent with OE's sub-regional multiplier for Luton.

9. It is notable also that the recent PEIR for Heathrow Airport suggests a national level indirect/induced multiplier of 1.3, with the study area multiplier being 0.7 for a study area comprising the London Boroughs of Ealing, Hillingdon and Hounslow as well as districts in Buckinghamshire and Surrey.[2] It is important to note that there is a direct relationship between the scale of multiplier to be adopted and the scale of population and activity within the study area reflecting the likelihood of supply chain purchases being made within the area as well as secondary rounds of spending.

10. Hence, correctly understood, the examples of multipliers used at other airports would strongly suggest that the appropriate multiplier for the indirect and induced employment likely to arise in Thanet would be less than 0.8, consistent with our best estimate of 0.7 for Kent and the Thames Estuary and 0.4 as a maximum for Thanet.

11. It is clear that the Applicant, as advised by Dr Dixon, simply does not understand the evidence from other airports upon which it seeks to rely. Given the manifest errors in the assessment of the jobs and broader economic impact of the proposed development, the ExA can have no confidence in the socio-economic assessment. Clearly, if the number of jobs created is substantially lower, as would be the case if correctly assessed, then the benefits to Thanet and Kent would be materially less than set out in the ES.

12. **Paras. 2.18-2.19** address the potential employment due to MRO activities. It is important to recognise that these would not be additional to the on-site employment estimates as, for example at Prestwick, maintenance related employment is already included within the employment density stated. We have addressed the more realistic assessment of how many jobs might be associated with such activities on the scale proposed at paras. 11-14 of our Note on ISH5.

[1] Transforming London Stansted Airport, 35+ Planning Application, Environmental Statement, Section 11.

[2] Heathrow Airport Ltd, PEIR, Chapter 18, para 18.10.148.

Catalytic Impact

13. At **Para. 2.23**, the Applicant states that the catalytic employment estimates are assumed to be at the UK level but, as we pointed out in our November 2017 Report (para. 5.8), the ICAO estimate relates to the global catalytic effect of aviation and the 2015 Intervistas study referred to by the Applicant to the Europe-wide effects. Neither of these are relevant at the national level similarly to the importance of distinguishing the relevant study area and the extent to which purchases are local or even national. As pointed out in our reports and at the Hearing, consideration of the catalytic benefits of an airport are more usually examined by reference to the specific business that it seeks to serve and how this benefits passengers and businesses in the relevant study area. It is for this reason that crude multipliers are not normally applied, not least as direct employment at an airport provides no indication of the extent to which wider catalytic benefits would be generated, for example a busy airport serving primarily outbound leisure flights might well employ more staff than a small airport focussed entirely on core business links. Heathrow Airport's PEIR provides an example of how to consider the likelihood of catalytic effects arising. Furthermore, to the extent that direct employment has been overestimated, this would flow through to the catalytic employment estimates when a crude multiplier is adopted. The quantification of the catalytic impact of Manston has simply no validity at the national or any other level.

Displacement

14. The Applicant seeks to deny the relevance of any displacement effects at **Paras. 3.1-3.4**. Whilst this might be a reasonable approach if the impacts had only been assessed and scaled appropriately to a small local study area containing no other airport and few affected businesses, it is not correct given that the impacts have been assessed at least at a national scale. The Applicant continues to be in error when it says that displacement of activity at other airports or a switch from trucking to flown freight does not need to be accounted for.

15. We note that Heathrow correctly considered displacement effects in its recent PEIR.

Tourism

16. At **Paras 4.1-4.2**, the Applicant continues to assert large potential inbound tourism benefits by reference to Southend Airport. We have provided actual information in relation to Southend Airport at paras. 27-29 of our Note on ISH5, as noted in the ExA'.

Compulsory Acquisition CA2

Compelling Case

17. At **Paras. 5.2-5.3**, the Applicant simply reiterates the arguments previously made. We have addressed the weakness in these arguments, sufficient to negate the existence of a compelling case, in our February 2019 Report (paras. 2.2-2.21) and in our Note of Oral Evidence at CAH2, paras. 16-19).

18. It is significant that that since this Note was written, Heathrow Airport has confirmed its plans in relation to the development of its freight facilities in its recent Statutory Consultation documents. The *Preferred Master Plan* Report (Figures 5.2.11 and 5.2.12) illustrates clearly where additional cargo facilities are to be provided to accommodate the doubling of cargo throughput expected by Government as a consequence of the additional flights facilitated by the third runway. These do not, as claimed by the Applicant in various submissions, involve the closure and demolition of Terminal 4.

19. As we have noted in previous reports and submissions, the expected increase in cargo handling capability at Heathrow when coupled with expected uplifts in cargo capacity at East Midlands and other airports removes any shortfall in capacity for air cargo across the UK and removes that plank of the Applicant's compelling case argument completely. We have addressed the substantial overstatement of socio-economic benefits above.

Associated Development

20. We note that in the Heathrow Master Plan Report referred to above, that Heathrow has made clear that its definition of Airport Supporting Development (ASD) or Associated Development for the purpose of the NSIP is that which is essential to support the operation of the Airport and only that which requires to be located within the immediate vicinity of the Airport:

The Preferred Masterplan only includes replacement and additional ASD that is essential for the successful operation of the airport, with regards to site suitability, planning considerations and other factors" (para. 4.9.13) (emphasis added)

21. Given that the NSIP at Heathrow relates to the provision of an additional runway as well as passenger terminal capacity, the inclusion of facilities relevant to passengers, freight and aircraft support (MRO) are relevant. Applying the same 'essential for the successful operation' test to the list of potential 'airport related' uses suggested by the Applicant for Manston or potentially allowed within the definition currently included within the Draft DCO would show that most of them would fail a test of being essential for the successful operation of the cargo terminal and associated infrastructure (see our Deadline 7 comments on the Applicant's responses to ExA's Second Questions).

22. Contrary to what is said by the Applicant at **Para. 6.6**, the appropriate test is not whether the proposed use *"requires a location at or in close proximity to an airport"* but whether the use is necessary or essential for the successful operation, in this case, of a cargo terminal and associated stands.

23. We notice that the ExA has recognised the potential inconsistencies in the definition of what is or is not part of the Principal Development and what is Associated Development in relation to its recent Question ND.4.3 & 4.4, DCO.4.2 & 4.3, particularly in relation to the definition of airport related development. This is an important issue which needs further clarification, particularly in the absence of any cogent explanation from the Applicant as to the justification for the overall scale of development proposed. As explained in our Note on CA2, this extends beyond the justification for any development on the Northern Grass to the justification for the overall scale of development, even if the Applicant's 'forecasts' were correct.

Business Model

24. Appended to the Applicant's Note on CAH2, are two documents responding to the ExA's request for an updated and more detailed business plan and business model. We provided, in our Note on CAH2, an explanation of the minimum level of information that a Business Plan for an Airport seeking funding or to demonstrate viability should contain. The information provided by the Applicant remains woefully deficient and certainly insufficient for any party to assess the plausibility of the revenue and cost estimates that underpin the claimed viability of the proposed development and operation of Manston as a cargo airport.

25. In its response, the Applicant has provided a brief note explaining the differences between how it intends to operate Manston compared to East Midlands Airport and a revised spreadsheet with limited further information in relation to revenues and costs. There is no meaningful explanation as to how the figures have been derived sufficient for their veracity to be tested. In any event, a spreadsheet is not a Business Plan. A Business Plan is a document that sets out clearly how a business is going to achieve its forecasts by reference to the revenues to be earned and the costs of doing so. As became evident at the Need and Operations Hearing (ISH2), the Applicant appears not to have made the linkage between the deliverability of the so-called 'forecasts', or rather a wish list of who might operate at Manston, and the costs to users of doing so based on the expected prices to be charged. The spreadsheet as presented cannot be considered a Business Plan in any normal sense of the term, nor are the assumptions underpinning the calculations clearly set out.

26. In terms of the comparison to East Midlands, we note that RSP intend for Manston to provide its own handling, except for the (e-commerce) integrator, and so would earn revenue from this source, which we understand is included in the aeronautical revenue estimates. Clearly there would be a cost attached to providing this handling service, which we assume is contained within the staff and other operating costs, albeit this is not clear from the level of detail provided. We have some doubts as to the profitability of operating such handling services in house as experience at most airports would suggest that handling activities are outsourced given the low revenues that can be earned relative to the staff and other costs involved. Insufficient detail has been provided to enable this to be ascertained for Manston. We note that the ExA has asked for further information in relation to benchmarked charges for cargo handling (Question ND.4.6). Without such information it is simply not possible to check the reasonableness of the assumed income from this source.

27. We note also the RSP intends to supply aviation fuel directly and the explanatory note to the spreadsheet suggests that the income is shown within aeronautical revenues net of the costs of buying the fuel, i.e. as a profit margin on sales. Firstly, we note that it tends only to be very small airports that operate on this basis. This is because major airlines tend to have global fuel supply contracts with the main oil companies at heavily discounted rates applicable at most airports from which they operate. An airport itself, operating on a stand alone basis, can seldom match the selling price of aviation fuel offered by the main suppliers. Thus, most of the UK's larger airports, including East Midlands, contract out the supply of aviation fuel taking only a small throughput levy typically included within commercial revenues to ensure that the cost of aviation fuel, which makes up a major part of an airline's costs, does not act as a deterrent to airlines operating to/from them.

28. Airlines tend to seek to minimise fuel purchases at airports where their contracted supplier is not able to provide the fuel. As an independent supplier of fuel, RSP would a) be purchasing fuel from the oil companies and, as a relatively small operation, not able to avail of discounts available on a high volume basis and b) their mark-up on the base price (profit margin) would of itself increase the sale price to the airline still further. The extent of fuel sales would, thus, in all likelihood be in an inverse relationship to the overall cost to the airline relative to buying fuel elsewhere. Insufficient information is provided to explain the assumptions that underpin this part of the aeronautical revenue estimate in terms of the expected selling price of fuel relative to other airports and the margin on sales assumed (% or fixed amount).

29. The note setting out the comparison to East Midlands asserts that, once these revenues have been separated out, the comparable aeronautical revenue per WLU is £3.18, which RSP compare to the average aviation revenue earned at EMA in 2017/8 of £2.75 per WLU. The spreadsheet shows that the Manston estimate of £3.18 per WLU is made up of an assumed aeronautical revenue per passenger of £0.50, which is consistent with our expectation of the level of aeronautical income per passenger that Manston might attain, albeit some marketing support payments might need to be made in the early years reducing the net income for a period, and an assumed freight related aeronautical income of £4.28 per WLU (42.83 per metric tonne) in Year 20. This is then weighted by the relative WLU's produce an estimated average aeronautical revenue per WLU.

30. First of all, it is relevant to consider what this tells us about comparability to the level of charges at EMA. Whilst the assumed aeronautical revenue per passenger at Manston is of the order that we would expect for a small airport trying to establish itself in the market, this does not mean that passenger related aeronautical revenues would necessarily be as low at an established airport such as East Midlands. Taking the closest example of a regional airport, with limited cargo activity, average aeronautical revenue per passenger at Leeds Bradford Airport was £2.51 in 2016/7 (the most recent year for which information is available[3]). It is notable that this is amongst the lowest average aeronautical revenues at airports covered in the report. Leeds Bradford has outsourced its handling and does not directly sell fuel. Taking this as a reasonable proxy for passenger related revenues at East Midlands would imply that East Midlands earns around £3.10 per WLU of freight based on the WLUs set out by the Applicant for East Midlands for the FY ending March 2018. Hence, direct aeronautical charges at Manston would be still be 40% higher than at East Midlands, still acting as a significant deterrent to attracting airlines to use it, leaving aside whether Manston is cost competitive in other aspects of the service it seeks to provide directly.

31. The other costs of using an airport are equally relevant to whether airlines will chose to operate, particularly fuel and handling costs as noted above. This is particularly relevant given that, based on the information provided by the Applicant, such charges are assumed to make up the vast majority of the aeronautical income that RSP expects to earn at Manston:

<u>Aeronautical Income</u>:		
Passenger Income:	*£3,407,000*	
Direct Aeronautical Income	*£703,877*	
Handling and Fuel Income	*£2,703,123*	*79% of pax related income*
Cargo Income:	*£50,966,000*	
Direct Aeronautical Income	*£14,594,665*	
Handling and Fuel Income	*£36,371,335*	*71% of cargo related income*

32. In overall terms, handling and fuel related income accounts for 72% of the claimed aeronautical revenue, yet the build up of this income is without any explanation as to the assumptions used. This is all the more extraordinary given that the e-commerce integrator, accounting for 50% of cargo traffic is not expected to purchase any handling services. Potentially each cargo aircraft departing Manston would be facing a fuel mark-up (additional cost) of c.£3,000-4,000, dependent on what is assumed for handling income.

33. Handling and fuel costs would be an important part of airlines' decision making as to whether they would be willing to operate yet no information is provided by the Applicant to justify such high levels of revenue being realistically attainable. Whilst we appreciate that the Azimuth Report provides a table of fuel storage required (Table 8), no information is provided as to how this has been calculated in terms the extent to which airlines would purchase fuel at Manston at the price proposed. These levels of income from handling charges and fuel margin seem extraordinarily high and likely to constitute another material factor as to why airlines would not choose to operate from Manston and would certainly influence the extent to which they were willing to purchase these services or goods from the airport operator when alternatives are available, handling freight off-site or purchasing fuel elsewhere, particularly given the propensity of freighter aircraft to multi-stop across Europe en-route to longer haul destinations.

[3] Leigh Fisher UK Airport Performance Indicators for 2016/7.

34. In terms of property income, which makes up over 35% of total income in Year 20 (over £32 million), SHP provide separate comments on the realism of this. Given that the clear intention of RSP is to operate its own cargo sheds, the scope for rental income would be limited by the extent to which legitimate airport related uses can be attracted and the level of rent they are likely to be willing to pay. Most essential airport operationally related activities are generally only low rental income generators. At the very least, further explanation is required of the build up of this large rental stream in order that the legitimacy of the proposed rental generating activities can be ascertained. By way of comparator, total other income (including property income) at East Midlands Airport in 2017/8 (Annual Report and Accounts attached at **Appendix A**) was only £5.34 million, including income earned from the large scale DHL cargo hub, UPS building and other cargo operations, as well as the Airport's share of rental income from Pegasus Business Park (developed in conjunction with Wilson Bowden). In the circumstances where Manston intends to own and operate its own cargo facilities, the estimated property income at six times that earned at East Midlands is not credible given that the projected cargo throughput in Year 20 is of a similar order to that at East Midlands currently.

35. We are not able to comment further in relation to passenger related commercial revenues or operating costs pending provision of further information by the Applicant.

36. Overall, the information currently provided is inadequate to enable the realism of the overall Business Case for the proposed development to be understood and the likelihood of viability being obtained even over the longer term to be assessed. We remain of the view as set out in Section 7 of our February 2019 Report that the development of Manston is highly unlikely to be financially viable and that the claimed revenues would not be achievable even if it were to achieve its forecasts, which we do not consider credible for the reasons set out in our Reports.

Supplementary Points in Relation to ExA's 4th Questions

37. We set out here a few additional points of information that the ExA may find helpful in relation to its 4th Questions

DCO.4.22	We recognise the ExA's concern that vehicles being used by passengers to access the Airport result in congestion on the highway network during the morning peak period, particularly if there is concern that the impacts have not been properly assessed in the TA. These concerns would equally apply in the afternoon traffic peak, particularly in relation to aircraft arriving between 15.00 and 17.00 and departing between 17.00 and 19.00 as implied by the ExA's Question Tr.4.6. In our experience, this is often the more critical interaction between the highway network and the timing of flights. However, the key issue is the extent to which any restrictions would impact on the ability of airlines to operate flights at the times required to optimise the utilisation of their aircraft and meet passenger demand. Significantly, given Ryanair is indicated as the operator of the majority of flights, it is informative to consider their operating pattern across UK airports. We have extracted the timetable of all of Ryanair's UK flights for the week beginning 24th June 2019 (**Appendix B**). This shows that across the UK as a whole, 6% of all departing flights were between 09.00 and 12.00. More importantly, for smaller airports of a similar scale (up to 85 flights per week), 19% of all departures were between 09.00 and 12.00. Imposing a restriction during this period would have a significant impact on the ability of the airline to schedule its operations efficiently. Furthermore, any constraints on operations in this period would increase the likelihood of the airline needing to schedule arrivals later than 23.00 in order to attain full utilisation of the aircraft over the day. Restrictions on operations in the late afternoon period could be even more impactful on the overall operation, certainly pushing more movements into requiring night period slots, which would simply not be available at Manston. We have also looked at the timetable of KLM operations at UK airports (**Appendix C**). Again, at smaller airports with a similar frequency to that projected for Manston, there is

	heavy reliance on morning departures between 09.00 and 12.00. Some 29% of departures are during this period. This is because the flights are optimally timed so as to allow passengers arriving on early morning long haul flights at Amsterdam to connect into the UK and for passengers to reach Amsterdam in time for afternoon long haul departures. If the airline could not achieve such flight connections, it is unlikely to operate from Manston. Overall, the imposition of yet further restrictions on the timing of flight operations, which we understand are required to ensure that the impact of airport operations on the highway network are managed, would, when coupled with the proposed ban on scheduled night operations, severely limit an airline's ability to optimise its schedule and make efficient use of its aircraft. Such restrictions would make it very unlikely that passenger airlines would be willing to operate at Manston, other than a small number of niche operations for which the flight timings are not material. However, we understand the importance of restricting the impact of the Airport's operation on the highway network, particularly where inadequate mitigation has been proposed.
ND.4.2	The key point is that for dedicated freighter services to be viable, they need to operate at high load factors. Hence, the importance of consolidating operations where high volumes of import and export freight can be concentrated. This is why there is a 'golden triangle' of airports with high air freight volumes in northern Europe reflecting a concentration of population and industry generating demand for air freight. The same logic applies within the UK in relation to concentration at East Midlands. It is a gross over-simplification to suggest that freight destined for the UK could be flown to Manston instead as the local area would not generate sufficient freight demand for such a service to be viable.
ND.4.5	See comments above on the comparability of the proposed charges with East Midlands. We agree with the ExA that, at least in the early years, Manston would need to incentivise airlines to use it and would need to rebate charges substantially until its place in the market is established.
ND.4.21	What the Securitas information (if correct) does not state is the nature of this trucked cargo. To the extent that this is trucking under bond with airline flight numbers, such cargo is more likely related to availing of bellyhold capacity, including goods being trucked into the UK to avail of bellyhold capacity at Heathrow. Other trucking is likely to relate to conventional integrator operations linked to the established integrator hubs in Europe. The overall tonnage being trucked between the UK and Europe does not provide any indication of how likely it is or not that Manston could attract any share of it sufficient to justify a number of dedicated freighter operations at Heathrow.
ND.4.25	See comments at para. 17 above.
ND.4.28	Stansted Airport helpfully provides confirmation of the number of cargo stands that it has at https://www.magairports.com/our-expertise/cargo-services/london-stansted-cargo/. This accords with the information previously submitted by ourselves: Stansted's dedicated cargo stands can simultaneously accommodate 4 x A380, 3 x B747-8F, 1 x B747-400F and 1 X B767-300. In relation to freight at Stansted currently, we can confirm that we have checked with the CAA and the Airport and there has been an omission in the freight statistics submitted to the CAA regarding bellyhold freight being carried by Emirates. This will be rectified in CAA statistics from July onwards.
SE.4.3/SE.4.4	We have addressed these points above.

28th June 2019

Appendix A

East Midlands International Airport Limited

Annual report and financial statements

Registered number 02078271

Year ended 31 March 2018

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COMPANIES HOUSE

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Strategic report

The directors present their strategic report for the Company for the year ended 31 March 2018.

Principal activity
The principal activity of the Company during the year was the operation and management of East Midlands International Airport. The Company's revenues were derived primarily from aircraft and passenger handling charges, together with income from aviation, commercial, car park and retail activities.

The Company is a wholly owned subsidiary of East Midlands Airport Nottingham Derby Leicester Limited, which itself is a wholly owned subsidiary of Manchester Airports Holdings Limited. Manchester Airports Holdings Limited and its subsidiaries (including the Company) are referred to below as 'the Group'.

Business review and future outlook
The results for the year are set out on page 7. During the year the Company made a profit before tax of £31,230,000 (2017: £11,194,000). At the year end the Company had net assets of £94,056,000 (2017: £222,638,000).

The Company intends to continue the development of East Midlands International Airport as a world class airport to meet the requirements of users and for the benefit of the economy in the East Midlands region.

In preparing the financial statements for the year ended 31 March 2018 the previously reported figures for aviation and car parking income have been restated to bring their treatment in line with the presentation in the consolidated financial statements of the ultimate parent company Manchester Airports Holdings Limited. Aviation income has been restated to present certain rebates and discounts as a reduction of revenue rather than a cost of sale, and car parking income has been restated to present car park booking commissions paid to third parties as a cost of sale rather than a reduction of revenue. These adjustments have no effect on either the profit for the year or net assets.

Manchester Airports Group ('MAG'), the group of companies whose ultimate parent company is Manchester Airports Holdings Limited, and of which the Company is a member, has continued to work with industry partners to help shape the UK Government's approach to Brexit. MAG is confident that the UK Government and the EU recognise the need to provide continuity for aviation and the importance of a transitional period after the UK leaves the EU in March 2019. In particular, MAG welcomes the commitment from both sides to putting in place a framework to enable air services to be maintained post Brexit. Maintaining the current liberal regime in the long term, alongside other agreements with other countries, must be a priority of the Government, to help ensure that the recent successful growth of aviation continues into the future.

MAG's resilient foundations, healthy financial position and the fundamental strengths of MAG's airports, will ensure that the Company is well placed to respond to any challenges that may be felt by the UK economy in the future, and the directors continue to take a positive long-term view of the Company's prospects.

Principal risks and uncertainties
The key risks faced by the Company are aligned with those of Manchester Airports Holdings Limited. For more details of these risks and how they are managed please refer to the strategic report in the annual report and accounts for Manchester Airports Holdings Limited. The directors have not identified any other significant risks for the Company.

Key performance indicators ('KPIs')
The key performance indicators for the Company are aligned with those of Manchester Airports Holdings Limited. For more details of these KPIs please refer to the strategic report in the annual report and accounts for Manchester Airports Holdings Limited. The directors do not use any additional KPIs for this Company.

By order of the Board

N Thompson
Director

24 December 2018

Directors' report

The directors present their directors' report and audited financial statements for the Company for the year ended 31 March 2018.

Directors
The directors who held office during the year and up to the date of signing the financial statements were as follows:

A Cliffe	(resigned 12 April 2018)
C Cornish	
K Smart	(appointed 12 April 2018)
K O'Toole	
N Thompson	

Employees
The Company's employment policies are regularly reviewed and updated by the Board.

The Company is committed to providing equality of opportunity to all employees and potential employees. The Company gives full and careful consideration to applications for employment from all people regardless of their gender, ethnic origin, nationality, sexuality, age, disability or religious beliefs, bearing in mind the respective aptitudes and abilities of the applicant concerned. This also applies to training and promotion within the Company.

In the event of members of staff becoming disabled every effort is made to ensure that their employment with the Company continues and the appropriate training is arranged. It is the policy of the Company that the training, career development and promotion of a disabled person should, as far as possible, be identical to that of a person who does not suffer from a disability.

Diversity
The Company provides services for a changing and diverse society and the board of directors considers that to provide the best services for our customers it is essential that the Company embraces diversity in the workforce. Accordingly, the Company has a programme of activity that aims to ensure that these objectives are achieved.

Consultation and communication
Consultation with employees or their representatives has continued at all levels, with the aim of ensuring that views are taken into account when decisions are made that are likely to affect their interests, and that all employees are aware of the financial and economic performance of their business units and of the Company as a whole. At regular intervals all employees are invited to take part in a Company wide survey of employee views. Employees receive a written summary of the results of the survey and are given the opportunity to discuss these with their respective management teams.

The Company is constantly looking for ways to ensure that employees are able to participate and engage in the business. As part of the Trade Union recognition arrangements, various employee forums exist for each business area. In addition, business briefings are cascaded throughout the organisation to communicate key business and operational issues.

Financial risk management
The Company's activities expose it to a variety of financial risks. The Company's funding, liquidity and exposure to interest rate risks are managed by the Group's treasury function.

Treasury operations are conducted within a framework of policies, which are approved and subsequently monitored by the Board. These include guidelines on funding, interest rate risk management and counterparty risk management.

For more details of the management of these risks please refer to page 40 of the annual report and accounts for Manchester Airports Holdings Limited. The directors have not identified any additional risks specific to this Company.

Directors' report *(continued)*

Going concern
The Company is able to rely on the Group of which it is a member for financial support. Manchester Airports Holdings Limited, the Company's ultimate parent undertaking, has confirmed that it will continue to provide financial and other support to the Company, for at least the next twelve months from the date of approval of the financial statements, to the extent necessary to enable the Company to continue to trade, and in particular will not seek repayment of the amounts currently made available.

It should be recognised that any consideration of the foreseeable future involves making a judgement, at a particular point in time, about future events, which are inherently uncertain. Nevertheless, at the time of preparation of these accounts and after making appropriate enquiries, the directors have a reasonable expectation that the Group has adequate resources to continue operating for the foreseeable future. For this reason the directors continue to adopt the going concern basis in preparing these accounts. For further details see note 1.

Dividends
A dividend of £160,545,000 (2017: £nil) was declared and paid in the year.

Disclosure of information to auditor
The directors who held office at the date of approval of this directors' report confirm that, so far as they are each aware, there is no relevant audit information of which the Company's auditor is unaware; and each director has taken all the steps that they ought to have taken as a director to make themselves aware of any relevant audit information, and to establish that the Company's auditor is aware of that information.

Independent auditor
Written resolutions relating to the reappointment of KPMG LLP as auditor, and to the authority of the directors to fix the auditor's remuneration, are to be put before the Company's voting shareholders for execution in the short term (and in the case of the former resolution, within the relevant period prescribed by statute).

By order of the Board

N Thompson
Director
24 December 2018

Olympic House
Manchester Airport
Manchester
M90 1QX

Statement of directors' responsibilities relating to the strategic report, the directors' report and the financial statements

The directors are responsible for preparing the strategic report, the directors' report and the financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare financial statements for each financial year. Under that law they have elected to prepare the financial statements in accordance with UK accounting standards and applicable law (UK Generally Accepted Accounting Practice), including FRS 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland.*

Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the company and of the profit or loss of the company for that period. In preparing these financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable UK accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- assess the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and
- use the going concern basis of accounting unless they either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the company and to prevent and detect fraud and other irregularities.

KPMG LLP
1 St Peter's Square
Manchester
M2 3AE
United Kingdom

Independent auditor's report to the members of East Midlands International Airport Limited

Opinion

We have audited the financial statements of East Midlands International Airport Limited ("the company") for the year ended 31 March 2018, which comprise the income statement and other comprehensive income, statement of financial position and statement of changes in equity, and related notes, including the accounting policies in note 1.

In our opinion the financial statements:

- give a true and fair view of the state of the company's affairs as at 31 March 2018 and of its profit for the year then ended;
- have been properly prepared in accordance with UK accounting standards, including FRS 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland*; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ('ISAs (UK)') and applicable law. Our responsibilities are described below. We have fulfilled our ethical responsibilities under, and are independent of the company in accordance with, UK ethical requirements including the FRC Ethical Standard. We believe that the audit evidence we have obtained is a sufficient and appropriate basis for our opinion.

Going concern

We are required to report to you if we have concluded that the use of the going concern basis of accounting is inappropriate or there is an undisclosed material uncertainty that may cast significant doubt over the use of that basis for a period of at least twelve months from the date of approval of the financial statements. We have nothing to report in these respects.

Strategic report and directors' report

The directors are responsible for the strategic report and the directors' report. Our opinion on the financial statements does not cover those reports and we do not express an audit opinion thereon.

Our responsibility is to read the strategic report and the directors' report and, in doing so, consider whether, based on our financial statements audit work, the information therein is materially misstated or inconsistent with the financial statements or our audit knowledge. Based solely on that work:

- we have not identified material misstatements in the strategic report and the directors' report;
- in our opinion the information given in those reports for the financial year is consistent with the financial statements; and
- in our opinion those reports have been prepared in accordance with the Companies Act 2006.

Independent auditor's report to the members of East Midlands International Airport Limited *(continued)*

Matters on which we are required to report by exception

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in these respects.

Directors' responsibilities

As explained more fully in their statement set out on page 4, the directors are responsible for: the preparation of the financial statements and for being satisfied that they give a true and fair view; such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error; assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and using the going concern basis of accounting unless they either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue our opinion in an auditor's report. Reasonable assurance is a high level of assurance, but does not guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

A fuller description of our responsibilities is provided on the FRC's website at www.frc.org.uk/auditorresponsibilities.

The purpose of our audit work and to whom we owe our responsibilities

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members, as a body, for our audit work, for this report, or for the opinions we have formed.

Nicola Quayle (Senior Statutory Auditor)
for and on behalf of KPMG LLP, Statutory Auditor
Chartered Accountants
1 St Peter's Square
Manchester
M2 3AE

24 December 2018

Income statement

for the year ended 31 March 2018

	Note	**2018 £000**	2017 £000 Restated*
Revenue	*2*	**61,048**	50,751
Operating costs		**(54,121)**	(41,528)
Operating profit		**6,927**	9,223
Profit on disposal of fixed assets	*3*	**-**	4,202
Profit on disposal of investment properties	*9*	**4,769**	-
Revaluation of investment properties	*9*	**(2,771)**	(246)
Interest payable and similar charges	*6*	**(2,185)**	(1,985)
Dividends receivable		**24,490**	-
Profit before taxation	*3*	**31,230**	11,194
Tax on profit	*7*	**(2,791)**	(877)
Profit for the financial year		**28,439**	10,317

The results presented above are all derived from the Company's continuing operations.

The notes on pages 11 to 31 form an integral part of these financial statements.

*See note 1 for details of the restatement.

Other comprehensive income

for the year ended 31 March 2018

	2018 £000	2017 £000
Profit for the year	**28,439**	10,317
Other comprehensive income		
Remeasurement of the net defined benefit liability	**4,500**	(10,400)
Income tax on other comprehensive (expense)/income	**(765)**	1,836
Effect of change in rate of corporation tax on deferred tax	**-**	(118)
Other comprehensive income for the year, net of income tax	**3,735**	(8,682)
Total comprehensive income for the year	**32,174**	1,635

The notes on pages 11 to 31 form an integral part of these financial statements.

Statement of financial position

at 31 March 2018

	Note	**2018 £000**	**2018 £000**	2017 £000	2017 £000
Non-current assets					
Tangible assets	*8*		**216,943**		217,255
Investment properties	*9*		**4,901**		12,004
Deferred tax assets	*14*		**3,310**		3,956
			225,154		233,215
Current assets					
Inventories	*10*	**187**		187	
Trade and other receivables	*12*	**119,179**		76,749	
Cash at bank and in hand		**1,827**		938	
		121,193		77,874	
Current liabilities					
Trade and other payables	*13*	**(209,886)**		(42,354)	
Net current liabilities			**(88,693)**		35,520
Total assets less current liabilities			**136,461**		268,735
Provisions for liabilities					
Deferred tax	*14*		**(23,605)**		(23,497)
Pension liabilities	*19*		**(18,800)**		(22,600)
			(42,405)		(46,097)
Net assets			**94,056**		222,638
Capital and reserves					
Share capital	*15*		**17,614**		17,614
Revaluation reserve	*16*		**-**		68,969
Retained earnings	*16*		**76,442**		136,055
Shareholders' funds			**94,056**		222,638

The notes on pages 11 to 31 form an integral part of these financial statements.

These financial statements of East Midland International Airport Limited, registered number, 02078271 were approved by the board of directors on 24 December 2018 and were signed on its behalf by:

N Thompson
Director

Statement of changes in equity

For the year ended 31 March 2018

	Share capital	Revaluation reserve	Retained earnings	Total equity
	£000	£000	£000	£000
Balance at 1 April 2017	**17,614**	**68,969**	**136,055**	**222,638**
Total comprehensive income for the year				
Profit for the year	-	-	28,439	28,439
Other comprehensive income (see note 16)	-	2,922	601	3,523
Total comprehensive income for the year	-	2,922	29,040	31,962
Transactions with owners recorded directly in equity				
Transfer of revaluation reserves to retained earnings	-	(71,892)	71,892	-
Dividends paid	-	-	(160,545)	(160,545)
Balance at 31 March 2018	**17,614**	**-**	**76,442**	**94,056**

	Share capital	Revaluation reserve	Retained earnings	Total equity
	£000	£000	£000	£000
Balance at 1 April 2016	17,614	70,265	133,123	221,002
Total comprehensive income for the year				
Profit for the year	-	-	10,317	10,317
Other comprehensive income (see note 16)	-	(1,296)	(7,385)	(8,681)
Total comprehensive income for the year	-	(1,296)	2,932	1,636
Balance at 31 March 2017	**17,614**	**68,969**	**136,055**	**222,638**

The notes on pages 11 to 31 form an integral part of these financial statements.

Notes
(forming part of the financial statements)

1 Accounting policies

East Midlands International Airport Limited (the 'Company') is a company limited by shares and incorporated and domiciled in the UK.

The Company is exempt by virtue of section 400 of the Companies Act 2006 from the requirement to prepare group financial statements. These financial statements present information about the Company as an individual undertaking and not about its group.

These financial statements were prepared in accordance with Financial Reporting Standard 102 *The Financial Reporting Standard* applicable in the UK and Republic of Ireland (*'FRS 102'*) as issued in August 2014. The amendments issued in July 2015 have been applied. The presentation currency of these financial statements is sterling. All amounts in the financial statements have been rounded to the nearest £1,000.

The Company's ultimate parent undertaking, Manchester Airports Holdings Limited, includes the Company in its consolidated financial statements. The consolidated financial statements of Manchester Airports Holdings Limited are prepared in accordance with International Financial Reporting Standards as adopted by the EU, are available to the public and may be obtained from Olympic House, Manchester Airport, M90 1QX.

In these financial statements, the Company is considered to be a qualifying entity (for the purposes of this FRS) and has applied the exemptions available under FRS 102 relating to the following disclosures:

- Reconciliation of the number of shares outstanding from the beginning to end of the year;
- Cash Flow Statement and related notes; and
- Key Management Personnel compensation.

The Company has taken advantage of section 33.1A of FRS 102 and not disclosed transactions with fellow Group companies.

As the consolidated financial statements of Manchester Airports Holdings Limited include the equivalent disclosures, the Company has also taken the exemptions under FRS 102 available relating to the following disclosures:

- The disclosures required by FRS 102.11 *Basic Financial Instruments* and FRS 102.12 *Other Financial Instrument Issues* relating to financial instruments not falling within the fair value accounting rules of Paragraph 36(4) of Schedule 1.

The Company proposes to continue to adopt the reduced disclosure framework of FRS 102 in its next financial statements.

The accounting policies set out over the page have, unless otherwise stated, been applied consistently to all years presented in these financial statements.

1.1 Measurement convention
The financial statements are prepared on the historical cost basis with the exception of certain assets and liabilities, namely investment properties and defined benefit scheme assets and liabilities, which are stated at their fair value at each statement of financial position date.

1.2 Going concern
The financial statements have been prepared on the going concern basis, which the directors believe to be appropriate for the following reasons.

The Company is able to rely on the Group of which it is a member for financial support. Manchester Airports Holdings Limited, the Company's ultimate parent undertaking, has confirmed that it will continue to provide financial and other support to the Company, for at least the next twelve months from the date of approval of the financial statements, to the extent necessary to enable the Company to continue to trade, and in particular will not seek repayment of the amounts currently made available.

Notes *(continued)*

1 Accounting policies *(continued)*

The Group has considerable financial resources, as well as long-term contracts with a number of customers and suppliers across different geographic areas and industries. As a consequence, the directors of the Group believe that the Group is well placed to manage its business risks successfully despite the current uncertain economic outlook.

The Group's forecasts and projections, taking account of reasonably possible changes in trading performance, show that the Group should be able to operate within the level of its current facilities.

After considering all this available information, the directors of the Group have a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future.

As with any company placing reliance on other group entities for financial support, the directors of the Company acknowledge that there can be no certainty that this financial and other support will continue, although at the date of approval of these financial statements, they have no reason to believe that it will not do so. On the basis of the above, the directors of the Company consider it appropriate to prepare the financial statements on a going concern basis.

1.3 Restatement

	2017	Reclassification	2017 Restated
Revenue	£000	£000	£000
Aviation	20,115	(4,254)	15,861
Retail concessions	11,128		11,128
Car parking	16,303	2,340	18,643
Other	5,119		5,119
	52,665	(1,914)	50,751
Operating costs	(43,442)	1,914	(41,528)
Operating profit	9,223		9,223
Profit before taxation	11,194		11,194
Profit for the financial year	11,194		11,194

In preparing the financial statements for the year ended 31 March 2018 the previously reported figures for aviation and car parking income have been restated to appropriately present certain rebates and discounts as a reduction of revenue rather than a cost of sale, and car parking income has been restated to appropriately present car park booking commissions paid to third parties as a cost of sale rather than a reduction of revenue. These adjustments have no effect on either the profit for the year or net assets.

1.4 Foreign currency

The Company financial statements are presented in pound sterling and rounded to thousands. The Company's functional and presentation currency is the pound sterling.

Foreign currency transactions are translated into the functional currency using the spot exchange rates at the dates of the transactions. At each year end foreign currency monetary items are translated using the closing rate. Foreign exchange gains and losses resulting from the settlement of transactions, and from the translation at year end exchange rates of monetary assets and liabilities denominated in foreign currencies, are recognised in the income statement within operating costs.

Notes *(continued)*

1 Accounting policies *(continued)*

1.5 Classification of financial instruments issued by the Company

In accordance with FRS 102.22, financial instruments issued by the Company are treated as equity only to the extent that they meet the following two conditions:

(a) they include no contractual obligations upon the Company to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party under conditions that are potentially unfavourable to the Company; and

(b) where the instrument will or may be settled in the Company's own equity instruments, it is either a non-derivative that includes no obligation to deliver a variable number of the Company's own equity instruments or is a derivative that will be settled by the Company's exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments.

To the extent that this definition is not met, the proceeds of issue are classified as a financial liability. Where the instrument so classified takes the legal form of the Company's own shares, the amounts presented in these financial statements for called up share capital and share premium exclude amounts in relation to those shares.

1.6 Basic financial instruments

Trade and other receivables/payables

Trade and other receivables are recognised initially at transaction price less attributable transaction costs. Trade and other payables are recognised initially at transaction price plus attributable transaction costs. Subsequent to initial recognition they are measured at amortised cost using the effective interest method, less any impairment losses in the case of trade receivables. If the arrangement constitutes a financing transaction, for example if payment is deferred beyond normal business terms, then it is measured at the present value of future payments discounted at a market rate of instrument for a similar debt instrument.

Investments in subsidiaries

Investments in subsidiaries are carried at cost less impairment, with changes recognised in other comprehensive income. Impairments are recognised in the income statement.

1.7 Revenue

Revenue, which excludes value added tax, represents amounts received and receivable by the Company for services provided in the normal course of business, rent receivable and income from commercial concessions.

The Company recognises revenue when (a) the significant risks and rewards of ownership have been transferred to the buyer; (b) the Company retains no continuing involvement or control over the services; (c) the amount of revenue can be measured reliably; (d) it is probable that future economic benefits will flow to the entity and (e) when the specific criteria relating to each of the Company's sales channels have been met, as described below.

The following revenue recognition criteria apply to the Company's main income streams:

- Various passenger charges for handling and security based upon the number of departing passengers, are recognised at point of departure;
- Aircraft departure and arrival charges levied according to weight and time of departure/arrival, are recognised at point of departure;
- Aircraft parking charges based upon a combination of weight and time parked, are recognised at the point of departure;
- Car parking income is recognised at the point of exit for turn-up short and long stay parking. Contract parking and pre-book parking is recognised over the year to which it relates on a straight-line basis;
- Concession income from retail and commercial concessionaries is recognised in the year to which it relates on an accruals basis;
- Rental income arising from operating leases on investment properties is accounted for on a straight-line basis over the lease term; and
- Development profits are recognised upon legal completion of contracts.

Notes *(continued)*

1 Accounting policies *(continued)*

1.8 Tangible fixed assets

Tangible fixed assets constitute the Company's operational asset base including terminal, airfield, car parking, land, plant, and owner-occupied property assets. Investment properties held to earn rentals or for capital growth are accounted for separately. Fixed assets are stated at cost or deemed cost less accumulated depreciation. Cost includes directly attributable own labour.

Tangible fixed assets are stated at cost less accumulated depreciation and accumulated impairment losses. Certain items of tangible fixed assets that had been revalued to fair value prior to the date of transition to FRS 102, are measured on the basis of deemed cost, being the revalued amount at the date of that revaluation.

Where parts of an item of tangible fixed assets have different useful lives, they are accounted for as separate items of tangible fixed assets, for example land is treated separately from buildings.

The Company assesses at each reporting date whether tangible fixed assets are impaired.

Depreciation is charged to the income statement on a straight-line basis over the estimated useful lives of each part of an item of tangible fixed assets. No depreciation is provided on freehold land. Assets in the course of construction are stated at cost. These assets are not depreciated until they are available for use.

The estimated useful lives are as follows:

Freehold and long leasehold property	-	10 - 50 years
Runways, taxiways and aprons	-	10 - 75 years
Main services	-	7 - 50 years
Plant and machinery	-	5 - 25 years
Motor vehicles	-	3 - 7 years
Fixtures, fittings, tools and equipment	-	5 - 10 years

Depreciation methods, useful lives and residual values are reviewed if there is an indication of a significant change since last annual reporting date in the pattern by which the Company expects to consume an asset's future economic benefits.

Subsequent costs, including major inspections, are included in an asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that economic benefits associated with the item will flow to the Company and the cost can be measured reliably. The carrying amount of any replaced component is derecognised. Major components are treated as a separate asset where they have significantly different patterns of consumption of economic benefits and are depreciated separately over their useful lives.

Repairs, maintenance and minor inspection costs are expensed as incurred.

Tangible assets are derecognised on disposal or when no future economic benefits are expected. On disposal, the difference between the net disposal proceeds and the carrying amount is recognised in the income statement and included in operating costs.

1.9 Investment property

Investment properties are properties that are held either to earn rental income or for capital appreciation or for both. Investment properties are recognised initially at cost.

Subsequent to initial recognition:

i. investment properties whose fair value can be measured reliably without undue cost or effort are held at fair value. Any gains or losses arising from changes in the fair value are recognised in the income statement in the year that they arise; and

ii. no depreciation is provided relating to investment properties applying the fair value model.

Notes *(continued)*

1 Accounting policies *(continued)*

All investment properties are valued by an independent property valuer as at the statement of financial position date. These valuations were prepared in accordance with the appraisal and valuation manual issued by the Royal Institution of Chartered Surveyors.

1.10 Inventories

Inventories are stated at the lower of cost and estimated selling price less costs to complete and sell.

Cost is determined on the first-in, first-out (FIFO) method. Cost includes the purchase price, including taxes, duties, transport and handling, directly attributable to bringing the inventory to its present location and condition.

At the end of each reporting year inventories are assessed for impairment. If an item of inventory is impaired, the identified inventory is reduced to its selling price less costs to complete and sell and an impairment charge is recognised in the income statement. Where a reversal of the impairment is required the impairment charge is reversed, up to the original impairment loss, and is recognised as a credit in the income statement.

1.11 Impairment excluding stocks, investment properties and deferred tax assets

Financial assets (including trade and other receivables)

A financial asset not carried at fair value through the income statement is assessed at each reporting date to determine whether there is objective evidence that it is impaired. A financial asset is impaired if objective evidence indicates that a loss event has occurred after the initial recognition of the asset, and that the loss event had a negative effect on the estimated future cash flows of that asset that can be estimated reliably.

An impairment loss relating to a financial asset measured at amortised cost is calculated as the difference between its carrying amount and the present value of the estimated future cash flows discounted at the asset's original effective interest rate. For financial instruments measured at cost less impairment, an impairment is calculated as the difference between its carrying amount and the best estimate of the amount that the Company would receive for the asset if it were to be sold at the reporting date. Interest on the impaired asset continues to be recognised through the unwinding of the discount. Impairment losses are recognised in the income statement. When a subsequent event causes the amount of impairment loss to decrease, the decrease in impairment loss is reversed through the income statement.

Non-financial assets

The carrying amounts of the Company's non-financial assets, other than investment property and deferred tax assets, are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. The recoverable amount of an asset or cash-generating unit is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or groups of assets (the 'cash-generating unit').

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its estimated recoverable amount. Impairment losses are recognised in the income statement.

Impairment losses recognised relating to cash generating units are allocated first to reduce the carrying amount of any goodwill allocated to the units, and then to reduce the carrying amounts of the other assets in the unit (group of units) on a *pro rata* basis.

An impairment loss is reversed only if the reasons for the impairment have ceased to apply. Impairment losses recognised in prior years are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

Notes *(continued)*

1 Accounting policies *(continued)*

1.12 Employee benefits

The Company provides a range of benefits to employees, including annual bonus arrangements, paid holiday arrangements, and defined benefit and defined contribution pension plans.

Short term benefits

Short term benefits, including holiday pay and other similar non-monetary benefits, are recognised as an expense in the year in which the service is received.

Defined contribution plans and other long term employee benefits

The Company operates a defined contribution pension scheme for all qualifying employees. A defined contribution plan is a post-employment benefit plan under which the Company pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised as an expense in the income statement in the years during which services are rendered by employees. Amounts not paid are shown in accruals in the statement of financial position. The assets of the plan are held separately from the Company in independently administered funds.

Defined benefit plans

The Company participates in a defined benefit pension scheme. A defined benefit plan defines the pension benefit that the employee will receive on retirement, usually dependent upon several factors including age, length of service and remuneration. A defined benefit plan is a post-employment benefit plan other than a defined contribution plan.

The liability recognised in the statement of financial position relating to the defined benefit plan is the present value of the defined benefit obligation at the reporting date less the fair value of the plan assets at the reporting date.

The defined benefit obligation is calculated using the projected unit credit method. Annually the Company engages independent actuaries to calculate the obligation. The present value is determined by discounting the estimated future payments using market yields on high quality corporate bonds that are denominated in sterling and that have terms approximating the estimated year of the future payments ('discount rate').

The fair value of plan assets is measured in accordance with the FRS 102 fair value hierarchy and in accordance with the Company's policy for similarly held assets. This includes the use of appropriate valuation techniques.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income. These amounts together with the return on plan assets, less amounts included in net interest, are disclosed as 'Remeasurement of net defined benefit liability'.

The cost of the defined benefit plan, recognised in the income statement as employee costs, except where included in the cost of an asset, comprises:

(a) the increase in pension benefit liability arising from employee service during the year; and
(b) the cost of plan introductions, benefit changes, curtailments and settlements.

The net interest cost is calculated by applying the discount rate to the net balance of the defined benefit obligation and the fair value of plan assets. This cost is recognised in the income statement as 'interest costs'.

Annual bonus plan

The Company operates a number of annual bonus plans for employees. An expense is recognised in the income statement when the Company has a legal or constructive obligation to make payments under the plans as a result of past events and a reliable estimate of the obligation can be made.

Notes *(continued)*

1 Accounting policies *(continued)*

1.13 Expenses

Operating leases

Payments (excluding costs for services and insurance) made under operating leases are recognised in the income statement on a straight-line basis over the term of the lease unless the payments to the lessor are structured to increase in line with expected general inflation, in which case the payments related to the structured increases are recognised as incurred.

Lease incentives received are recognised in the income statement over the term of the lease as an integral part of the total lease expense.

Interest receivable and interest payable

Interest payable and similar charges include interest payable and finance charges. Interest income and interest payable are recognised in the income statement as they accrue, using the effective interest method.

1.14 Significant items

Significant items are material items of income and expense that, because of the unusual nature or frequency of the events giving rise to them, merit separate presentation to allow an understanding of the Company's underlying financial performance.

Such items include impairment of assets, major reorganisation of businesses and integration costs associated with significant acquisitions.

1.15 Taxation

Tax on the profit or loss for the year comprises current and deferred tax. Tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity or other comprehensive income, in which case it is recognised directly in equity or other comprehensive income.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the statement of financial position date, and any adjustment to tax payable relating to previous years.

Deferred tax is provided on timing differences that arise from the inclusion of income and expenses in tax assessments in years different from those in which they are recognised in the financial statements. The following timing differences are not provided for: differences between accumulated depreciation and tax allowances for the cost of a fixed asset if and when all conditions for retaining the tax allowances have been met; and differences relating to investments in subsidiaries, to the extent that it is not probable that they will reverse in the foreseeable future and the reporting entity is able to control the reversal of the timing difference. Deferred tax is not recognised on permanent differences arising because certain types of income or expense are non-taxable, or are disallowable for tax, or because certain tax charges or allowances are greater or smaller than the corresponding income or expense.

Deferred tax is measured at the tax rate that is expected to apply to the reversal of the related difference, using tax rates enacted or substantively enacted at the statement of financial position date. For investment property that is measured at fair value, deferred tax is provided at the rates and allowances applicable to the sale of the property. Deferred tax balances are not discounted.

Unrelieved tax losses and other deferred tax assets are recognised only to the extent that is it probable that they will be recovered against the reversal of deferred tax liabilities or other future taxable profits.

1.16 Critical accounting estimates and judgements

In applying the Company's accounting policies, the Company has made estimates and judgements, concerning the future. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Actual results may, however, differ from the estimates calculated, and management believe that the following are the more significant judgements impacting these financial statements.

Notes *(continued)*

1 Accounting policies *(continued)*

Investment properties
Investment properties were valued at fair value at 31 March 2018 by Deloitte LLP. The valuations were prepared in accordance with IFRS and the appraisal and valuation manual issued by the Royal Institution of Chartered Surveyors. Valuations were carried out having regard to comparable market evidence of transaction prices for similar properties, land valuations and discounted cash flow methods.

Pensions
Certain assumptions have been adopted for factors that determine the valuation of the Company's liability for pension obligations at year end and future returns on pension scheme assets and charges to the income statement. The factors have been determined in consultation with the Company's independent actuary taking into account market and economic conditions.

Changes in assumptions can vary from year to year as a result of changing conditions and other determinants which may cause increases or decreases in the valuation of the Company's liability for pension obligations. The objective of setting pension scheme assumptions for future years is to reflect the expected actual outcomes. The impact of the change in assumptions on the valuation of the net financial position for pension schemes is reflected in the statement of changes in equity. Further details are available in note 19.

Notes *(continued)*

2 Analysis of revenue

	2018 £000	2017 £000 Restated*
By activity		
Aviation	**23,201**	15,861
Car parking	**20,762**	18,643
Retail concessions	**11,655**	11,128
Other	**5,430**	5,119
	61,048	50,751

*See note 1 for details of the restatement.

All of the Company's revenue arises in the United Kingdom and details of the revenue generated by each of the Company's key activities are disclosed above.

3 Notes to the income statement

	2018 £000	2017 £000
Profit before taxation is stated after charging/(crediting)		
Depreciation of tangible fixed assets	**11,572**	9,045
Hire of plant and machinery - operating leases	**6**	68
Profit on disposal of fixed assets	**-**	(4,202)

Auditor's remuneration
Amounts receivable by the Company's auditor and the auditor's associates relating to services to the Company have been borne by the Company's ultimate parent, Manchester Airports Holdings Limited. The directors believe that the proportion of the consolidated fee applicable to the Company is £20,000 (2017: £17,000).

4 Remuneration of directors

C Cornish, K O'Toole and N Thompson were directors of Manchester Airports Holdings Limited during the year, and their aggregate remuneration is disclosed in that company's financial statements. The directors believe that the total directors' remuneration applicable to the Company based on services provided is £800,000 (2017: £786,834). A Cliffe's aggregate emoluments as highest paid director of East Midlands Airport Limited is £500,556 (2017: £434,952).

Notes *(continued)*

5 Staff numbers and costs

The average number of persons employed by the Company (including directors) during the year, analysed by category, was as follows:

	Number of employees	
	2018	2017
Operational	**619**	532
Management and administrative	**10**	10
	629	542

The aggregate payroll costs of these persons were as follows:

	2018	2017
	£000	£000
Wages and salaries	**17,171**	13,941
Social security costs	**1,547**	1,402
Other pension costs	**1,795**	1,014
	20,513	16,357

6 Interest payable and similar charges

	2018	2017
	£000	£000
Interest payable on preference shares (see note 13)	**1,585**	1,585
Interest expense on net defined benefit liabilities (see note 19)	**600**	400
	2,185	1,985

Of the above amount £1,585,000 (2017: £1,585,000) was payable to Group undertakings.

Notes *(continued)*

7 Taxation

Total tax expense/(income) recognised in the income statement

	2018 £000	2018 £000	2017 £000	2017 £000
UK corporation tax				
Current tax on income for the year	2,425		2,140	
Adjustments relating to prior years	377		235	
Total current tax		2,802		2,375
Deferred tax				
Origination/reversal of timing differences	234		(50)	
Adjustment relating to prior years	(245)		(70)	
Effect of change in rate of corporation tax	-		(1,378)	
Total deferred tax		(11)		(1,498)
Tax on profit		2,791		877

Total tax expense/(income) included in other comprehensive income

	2018 £000	2017 £000
Deferred tax		
Origination/reversal of timing differences	765	(1,836)
Effect of change in rate of corporation tax	-	118
Total tax income included in other comprehensive income	765	(1,718)

Total tax expense/(income) recognised in the income statement, other comprehensive income and equity

	2018 Current tax £000	2018 Deferred tax £000	2018 Total tax £000	2017 Current tax £000	2017 Deferred tax £000	2017 Total tax £000
Recognised in the income statement	2,802	(11)	2,828	2,375	(1,498)	877
Recognised in other comprehensive income	-	765	765	-	(1,718)	(1,718)
Total tax	2,802	754	3,556	2,375	(3,216)	(841)

Notes *(continued)*

7 Taxation *(continued)*

Reconciliation of effective tax rate

	2018	2017
	£000	£000
Current tax reconciliation		
Profit for the year	**28,439**	10,317
Total tax expense	**2,791**	877
Profit before tax	**31,230**	11,194
Profit before tax multiplied by the standard rate of corporation tax of 19% (2017: 20%)	**5,934**	2,239
Effects of:		
Expenses not deductible for tax purposes	**1,495**	(599)
Income exempt from tax	**(4,653)**	-
Adjustments to tax charge to prior years	**377**	235
Adjustments to deferred tax charge to prior years	**(245)**	(70)
Lower than standard rate used for deferred tax temporary differences	**(117)**	450
Change in rate of corporation tax	**-**	(1,378)
Total tax expense included in the income statement	**2,791**	877

Factors that may affect future current and total tax charges

The Finance Bill 2016 was substantively enacted on 6 September 2016 and included a reduction in the rate of corporation tax to 17% from 1 April 2020.

Deferred tax balances at 31 March 2018 have therefore been calculated at 17%, unless they are expected to unwind earlier than 1 April 2020, in which case the deferred tax balances have been calculated at the prevailing rate at the time the unwind is expected.

Notes *(continued)*

8 Tangible fixed assets

	Freehold land and property £000	Long leasehold property £000	Airport infrastructure £000	Plant, fixtures and equipment £000	Assets in the course of construction £000	Total £000
Cost						
At beginning of year	32,531	104,581	212,411	51,077	11,539	412,139
Additions	-	-	-	-	11,450	11,450
Reclassification	-	417	5,813	6,838	(13,068)	-
Disposals	-	(810)	(204)	(4,937)	-	(5,951)
At end of year	32,531	104,188	218,020	52,978	9,921	417,638
Depreciation						
At beginning of year	-	64,991	82,862	47,031	-	194,884
Charge for year	-	2,064	5,021	4,487	-	11,572
Disposals	-	(810)	(14)	(4,937)	-	(5,761)
At end of year	-	66,245	87,869	46,581	-	200,695
Net book value						
At 31 March 2018	**32,531**	**37,943**	**130,151**	**6,397**	**9,921**	**216,943**
At 31 March 2017	32,531	39,590	129,549	4,046	11,539	217,255

The carrying amount of land not depreciated as at 31 March 2018 is £32,531,000 (2017: £32,531,000).

9 Investment properties

	Investment properties £000
Balance at 1 April 2017	12,004
Reclassification from operational assets	(56)
Disposals	(4,276)
Revaluations	(2,771)
Net book value	
At 31 March 2018	**4,901**
Historical cost net book value	3,070

The fair value of the Company's commercial investment property at 31 March 2018 has been arrived at on the basis of a valuation carried out at that date by Deloitte LLP. The valuers are independent and are not connected with the Company. The valuation, which conforms to International Valuation Standards, was arrived at by reference to market evidence of transaction prices for similar properties, land valuations and discounted cash flow methods.

The existing use value of land and buildings includes notional directly attributable acquisition costs. The open market value of land and buildings is determined before the deduction of expected selling costs.

Any gain or loss arising from a change in fair value is recognised in the income statement. Rental income from investment property is accounted for as described in the revenue accounting policy on page 13.

Notes *(continued)*

10 Inventories

	2018	2017
	£000	£000
Raw materials and consumables	**187**	187
	187	187

11 Fixed asset investments

	res in subsidiary undertakings
	£
Cost and net book value	
At 31 March 2018 and 31 March 2017	**4**

At 31 March 2018 the Company held investments in the following subsidiary undertakings:

Subsidiary undertakings	**Country of incorporation**	**Principal activity**	**Class and percentage of shares held**
East Midlands Airport Property Investments (Hotels) Limited	England and Wales	Investment property company	100% ordinary
East Midlands Airport Property Investments (Industrial) Limited	England and Wales	Investment property company	100% ordinary
East Midlands Airport Property Investments (Offices) Limited	England and Wales	Investment property company	100% ordinary
East Midlands Airport Core Property Investments Limited	England and Wales	Investment property company	100% ordinary

The registered office address for all of the above entities is Olympic House, Manchester Airport, Manchester, M90 1QX.

Notes *(continued)*

12 Trade and other receivables

	2018	2017
	£000	£000
Trade receivables	**7,425**	4,473
Amounts owed by group undertakings	**104,506**	65,415
Other receivables	**109**	1,034
Prepayments and accrued income	**7,139**	5,827
	119,179	76,749

Amounts owed by group undertakings are unsecured, interest free and are repayable on demand, and as at 31 March 2018 include dividends receivable of £24,490,000 (2017: £nil).

13 Trade and other payables

	2018	2017
	£000	£000
Trade payables	**5,125**	2,163
Amounts owed to group undertakings	**166,728**	-
Taxation and social security	**5,329**	6,835
Other payables	**2,048**	1,045
Accruals and deferred income	**13,042**	14,697
Preference shares classified as liabilities	**17,614**	17,614
	209,886	42,354

Amounts owed to group undertakings are unsecured, interest free and are repayable on demand, and as at 31 March 2018 include dividends payable of £160,545,000 (2017: £nil).

The 9% cumulative redeemable preference shares have no fixed redemption date. They are to be repaid, fully or in part, after either the Company or a shareholder has given one month's notice. No premium is payable on redemption. The preference shares have no voting rights attached.

Notes *(continued)*

14 Deferred tax assets and liabilities

	Differences between accumulated depreciation and capital allowances	Short term timing differences	Deferred tax on investment properties	Deferred tax asset on pension liability	Net tax assets/ (liabilities)
	£000	£000	£000	£000	£000
At 1 April 2017	(1,837)	114	(21,660)	3,842	(19,541)
(Charge)/credit to income	389	-	(497)	119	11
Credit to equity	-	-	-	(765)	(765)
At 31 March 2018	**(1,448)**	**114**	**(22,157)**	**3,196**	**(20,295)**

	Differences between accumulated depreciation and capital allowances	Short term timing differences	Deferred tax on investment properties	Deferred tax asset on pension liability	Net tax assets/ (liabilities)
	£000	£000	£000	£000	£000
At 1 April 2016	(1,503)	121	(23,499)	2,124	(22,757)
(Charge)/credit to income	(334)	(7)	1,839	-	1,498
(Charge)/credit to equity	-	-	-	1,718	1,718
At 31 March 2017	(1,837)	114	(21,660)	3,842	(19,541)

	2018 £000	2017 £000
Deferred tax assets	**3,310**	3,956
Deferred tax liabilities	**(23,605)**	(23,497)
	(20,295)	(19,541)

15 Called up share capital

	2018 £000	2017 £000
Issued, called up and fully paid		
17,614,008 Ordinary shares of £1 each	**17,614**	17,614
	17,614	17,614

Notes *(continued)*

16 Reserves

2018	Revaluation Reserve £000	Retained earnings £000
At beginning of year	68,969	136,055
Profit for the year	-	31,616
Movement in operational assets fair values	2,676	(2,676)
Movement in investment property fair values	(2,771)	(246)
Remeasurement of the net defined benefit liability	-	3,735
Transfer of revaluation reserves to retained earnings	(68,875)	68,875
Dividends paid	-	(160,545)
At end of year	**-**	**76,442**

2017	Revaluation Reserve £000	Retained earnings £000
At beginning of year	70,265	133,123
Profit for the year	-	10,317
Movement in investment property fair values	(246)	246
Deferred tax arising on movement in investment property fair values	42	(42)
Remeasurement of the net defined benefit liability	-	(8,564)
Effect of change in rate of corporation tax	1,306	(1,423)
Depreciation transfer to the income statement	(2,398)	2,398
At end of year	**68,969**	**136,055**

17 Commitments

Capital commitments at the end of the financial year, for which no provision has been made, are as follows:

	2018 £000	2017 £000
Contracted	**3,449**	127

Notes *(continued)*

18 Operating leases

At 31 March 2018 the Company has commitments under non-cancellable operating leases which expire as follows:

	2018 Other £000	2017 Other £000
Operating leases which expire:		
Within one year	**59**	68
In the second to fifth years inclusive	**63**	125
After five years	**-**	-
	122	193

Leases as a lessor

The investment properties are let under operating leases. The future minimum lease payments receivable under non-cancellable leases are as follows:

	2018 £000	2017 £000
Operating leases which expire:		
Within one year	**165**	737
In the second to fifth years inclusive	**398**	2,662
After five years	**6,068**	33,149
	6,631	36,548

Notes *(continued)*

19 Pension schemes

Defined contribution pension scheme

The Company operates a defined contribution pension scheme. The pension cost charge for the year represents contributions payable by the Company to the scheme and amounted to £389,000 (2017: £304,000).

As at 31 March 2018 there were £nil (2017: £nil) contributions due relating to the year then ended that had not been paid over to the scheme.

Defined benefit scheme

An actuarial valuation of the East Midlands International Airport Limited scheme, using the projected unit basis, was carried out at 6 April 2017 by PricewaterhouseCoopers, independent consulting actuaries. The information disclosed below is relating to the whole of the plans for which the Company is either the sponsoring employer or has been allocated a share of cost under an agreed Group policy throughout the years shown.

	2018	2017
	£000	£000
Present value of funded defined benefit obligations	**(80,100)**	(82,500)
Fair value of plan assets	**61,300**	59,900
Deficit	**(18,800)**	(22,600)

Movements in present value of defined benefit obligation

	2018	2017
	£000	£000
At 1 April	**(82,500)**	(64,700)
Current service cost	**(1,100)**	(800)
Interest cost	**(2,200)**	(2,300)
Actuarial (losses)/gains	**3,900**	(15,900)
Contributions by members	**(300)**	(300)
Net benefits paid out	**2,100**	1,500
At 31 March	**(80,100)**	(82,500)

Notes *(continued)*

19 Pension schemes *(continued)*

Movements in fair value of plan assets

	2018	2017
	£000	£000
At 1 April	**59,900**	52,900
Expected return on plan assets	**1,600**	1,900
Actuarial gains/(losses)	**600**	5,500
Contributions by employer	**1,200**	1,200
Contributions by members	**300**	300
Benefits paid	**(2,100)**	(1,500)
Administration expenses	**(200)**	(400)
At 31 March	**61,300**	59,900

Expense recognised in the income statement

	2018	2017
	£000	£000
Current service cost	**1,100**	800
Administration expenses	**200**	400
Interest on net defined benefit liability	**600**	400
Total	**1,900**	1,600

The expense is recognised in the following line items in the income statement:

	2018	2017
	£000	£000
Operating costs	**1,300**	1,200
Interest payable and similar charges	**600**	400
	1,900	1,600

The total amount recognised in other comprehensive income relating to actuarial gains on remeasurement is £4,500,000 (2017: loss of £10,400,000).

The fair values of the plan assets are as follows:

	2018	2017
	Fair value	Fair value
	£000	£000
Equities	**36,700**	35,600
Corporate bonds	**15,300**	15,300
Property	**6,500**	6,100
Other	**2,800**	2,900
	61,300	59,900

Notes *(continued)*

19 Pension schemes *(continued)*

Principal actuarial assumptions (expressed as weighted averages) at the year end were as follows:

	2018	2017
	%	%
Discount rate	**2.60**	2.65
Future salary increases	**2.00**	2.00
Inflation assumption	**2.15**	2.35

The mortality assumptions are based on the S1NXA standard mortality tables allowing for medium cohort 1% minimum mortality improvements. The assumptions are equivalent to expecting a 65-year old to live for a number of years as follows:

- Current pensioner aged 65: 22.7 years (male), 25.1 years (female)
- Future retiree upon reaching 65: 23.7 years (male), 26.3 years (female)

Experience adjustments

	2018	2017
	£000	£000
Experience adjustments on scheme liabilities	**300**	400
Experience adjustments on scheme assets	**600**	5,500

The Company expects to contribute approximately £1.2m (2017: £1.2m) to its defined benefit plans in the next financial year.

20 Contingent liabilities

Under the Common Terms Agreement signed on 14 February 2014, the Company and a number of its fellow subsidiaries have entered into a security agreement with the Group's bondholders and bankers. The bonds and bank loans are secured by a fixed and floating charge over substantially all of the Group's assets. The total amount outstanding under this agreement at 31 March 2018 is £1,095.3m (2017: £937.1m).

21 Ultimate parent company and parent undertaking of larger group of which the Company is a member

The Company is a subsidiary undertaking of East Midlands Airport Nottingham Derby Leicester Limited. The smallest Group in which the results of the Company are consolidated is that headed by Manchester Airport Group Investments Limited. The Company's ultimate parent is Manchester Airports Holdings Limited. The consolidated financial statements of Manchester Airports Holdings Limited Group are available to the public and may be obtained from the Company Secretary at Olympic House, Manchester Airport, Manchester M90 1QX, or via the website at www.magairports.com.

Appendix B Ryanair UK flights w/b 24th June 2019

Carrier Code	Flight No	Dep Airport Name	Arr Airport Name	Local Days Of Op	Local Dep Time	Local Arr Time	General Aircraft Name	Frequency
FR	1005	London Stansted Apt	Bucharest Henri Coanda Apt	7	0835	1345	Boeing 737 Passenger	1
FR	1005	London Stansted Apt	Bucharest Henri Coanda Apt	123456	0840	1350	Boeing 737 Passenger	6
FR	1006	Bucharest Henri Coanda Apt	London Stansted Apt	3	0650	0815	Boeing 737 Passenger	1
FR	1006	Bucharest Henri Coanda Apt	London Stansted Apt	12 4567	0645	0810	Boeing 737 Passenger	6
FR	1007	London Stansted Apt	Bucharest Henri Coanda Apt	6	1935	0045	Boeing 737 Passenger	1
FR	1007	London Stansted Apt	Bucharest Henri Coanda Apt	2	1845	2355	Boeing 737 Passenger	1
FR	1007	London Stansted Apt	Bucharest Henri Coanda Apt	1 345 7	1800	2310	Boeing 737 Passenger	5
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	6	1740	1910	Boeing 737 Passenger	1
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	3	1600	1730	Boeing 737 Passenger	1
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	2	1650	1820	Boeing 737 Passenger	1
FR	1008	Bucharest Henri Coanda Apt	London Stansted Apt	1 45 7	1605	1735	Boeing 737 Passenger	4
FR	1013	London Stansted Apt	Prague Ruzyne	1234567	0800	1055	Boeing 737 Passenger	7
FR	1014	Prague Ruzyne	London Stansted Apt	1234567	0635	0735	Boeing 737 Passenger	7
FR	1017	Edinburgh	Budapest	5	1850	2250	Boeing 737 Passenger	1
FR	1017	Edinburgh	Budapest	3	1935	2335	Boeing 737 Passenger	1
FR	1017	Edinburgh	Budapest	1	1515	1915	Boeing 737 Passenger	1
FR	1018	Budapest	Edinburgh	5	1625	1825	Boeing 737 Passenger	1
FR	1018	Budapest	Edinburgh	3	1710	1910	Boeing 737 Passenger	1
FR	1018	Budapest	Edinburgh	1	1250	1450	Boeing 737 Passenger	1
FR	102	Shannon	London Stansted Apt	1234567	0705	0835	Boeing 737 Passenger	7
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	7	0835	1150	Boeing 737 Passenger	1
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	4 6	0855	1210	Boeing 737 Passenger	2
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	3	0930	1245	Boeing 737 Passenger	1
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	2 5	0850	1205	Boeing 737 Passenger	2
FR	1021	London Stansted Apt	Nowy Dwor Mazowiecki	1	0700	1015	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	7	1215	1345	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	6	0700	0830	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	4	1235	1405	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	3	0735	0905	Boeing 737 Passenger	1
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	2 5	0655	0825	Boeing 737 Passenger	2
FR	1022	Nowy Dwor Mazowiecki	London Stansted Apt	1	1040	1210	Boeing 737 Passenger	1
FR	103	London Stansted Apt	Shannon	1234567	0905	1030	Boeing 737 Passenger	7
FR	1047	Karlsruhe/Baden-Baden Baden Airpar	Edinburgh	5	1805	1910	Boeing 737 Passenger	1
FR	1047	Karlsruhe/Baden-Baden Baden Airpar	Edinburgh	1	1025	1130	Boeing 737 Passenger	1
FR	1048	Edinburgh	Karlsruhe/Baden-Baden Baden Airpar	5	1440	1740	Boeing 737 Passenger	1
FR	1048	Edinburgh	Karlsruhe/Baden-Baden Baden Airpar	1	0700	1000	Boeing 737 Passenger	1
FR	1049	Edinburgh	Katowice	7	1755	2130	Boeing 737 Passenger	1
FR	1049	Edinburgh	Katowice	5	1815	2150	Boeing 737 Passenger	1
FR	1050	Katowice	Edinburgh	7	2155	2340	Boeing 737 Passenger	1
FR	1050	Katowice	Edinburgh	5	2215	2359	Boeing 737 Passenger	1
FR	1051	Edinburgh	Nantes Atlantique Airport	5	1345	1635	Boeing 737 Passenger	1
FR	1051	Edinburgh	Nantes Atlantique Airport	3	0705	0955	Boeing 737 Passenger	1
FR	1051	Edinburgh	Nantes Atlantique Airport	1	1155	1445	Boeing 737 Passenger	1
FR	1052	Nantes Atlantique Airport	Edinburgh	5	1700	1750	Boeing 737 Passenger	1
FR	1052	Nantes Atlantique Airport	Edinburgh	3	1020	1110	Boeing 737 Passenger	1
FR	1052	Nantes Atlantique Airport	Edinburgh	1	1510	1600	Boeing 737 Passenger	1
FR	1053	Prague Ruzyne	Edinburgh	4 7	1755	1910	Boeing 737 Passenger	2
FR	1053	Prague Ruzyne	Edinburgh	2	1950	2105	Boeing 737 Passenger	1
FR	1054	Edinburgh	Prague Ruzyne	4 7	1410	1730	Boeing 737 Passenger	2
FR	1054	Edinburgh	Prague Ruzyne	2	1605	1925	Boeing 737 Passenger	1
FR	1064	Edinburgh	Toulouse	7	1150	1510	Boeing 737 Passenger	1
FR	1064	Edinburgh	Toulouse	3	1830	2150	Boeing 737 Passenger	1
FR	1065	Toulouse	Edinburgh	7	1535	1655	Boeing 737 Passenger	1
FR	1065	Toulouse	Edinburgh	3	2215	2335	Boeing 737 Passenger	1
FR	1068	Edinburgh	Venice Treviso/Sant'Angelo Apt	5	0655	1030	Boeing 737 Passenger	1
FR	1068	Edinburgh	Venice Treviso/Sant'Angelo Apt	3	1750	2125	Boeing 737 Passenger	1
FR	1068	Edinburgh	Venice Treviso/Sant'Angelo Apt	1	1440	1815	Boeing 737 Passenger	1
FR	1069	Venice Treviso/Sant'Angelo Apt	Edinburgh	5	1055	1240	Boeing 737 Passenger	1
FR	1069	Venice Treviso/Sant'Angelo Apt	Edinburgh	3	2150	2335	Boeing 737 Passenger	1
FR	1069	Venice Treviso/Sant'Angelo Apt	Edinburgh	1	1840	2025	Boeing 737 Passenger	1
FR	1070	Valencia Airport	Edinburgh	6	2140	2345	Boeing 737 Passenger	1
FR	1070	Valencia Airport	Edinburgh	4	1910	2115	Boeing 737 Passenger	1
FR	1070	Valencia Airport	Edinburgh	2	1250	1455	Boeing 737 Passenger	1
FR	1071	Edinburgh	Valencia Airport	6	1715	2110	Boeing 737 Passenger	1
FR	1071	Edinburgh	Valencia Airport	4	1445	1840	Boeing 737 Passenger	1
FR	1071	Edinburgh	Valencia Airport	2	0825	1220	Boeing 737 Passenger	1
FR	1073	Nottingham East Midlands Airport	Reus	5	0810	1125	Boeing 737 Passenger	1

FR	1073	Nottingham East Midlands Airport	Reus	1	1805	2120	Boeing 737 Passenger	1
FR	1074	Reus	Nottingham East Midlands Airport	5	1150	1305	Boeing 737 Passenger	1
FR	1074	Reus	Nottingham East Midlands Airport	1	2145	2300	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	7	1730	1820	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	6	0625	0715	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	4	0620	0710	Boeing 737 Passenger	1
FR	1077	Hamburg Airport	Edinburgh	2	0610	0700	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	7	1410	1655	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	6	0740	1025	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	4	0735	1020	Boeing 737 Passenger	1
FR	1078	Edinburgh	Hamburg Airport	2	0725	1010	Boeing 737 Passenger	1
FR	108	Shannon	London Stansted Apt	67	2140	2310	Boeing 737 Passenger	2
FR	108	Shannon	London Stansted Apt	1 45	2120	2250	Boeing 737 Passenger	3
FR	1080	London Stansted Apt	Lisbon	6	1505	1755	Boeing 737 Passenger	1
FR	1080	London Stansted Apt	Lisbon	4	0950	1240	Boeing 737 Passenger	1
FR	1080	London Stansted Apt	Lisbon	23 5 7	1510	1800	Boeing 737 Passenger	4
FR	1080	London Stansted Apt	Lisbon	1	1010	1300	Boeing 737 Passenger	1
FR	1081	Lisbon	London Stansted Apt	4	1305	1555	Boeing 737 Passenger	1
FR	1081	Lisbon	London Stansted Apt	23 567	1825	2115	Boeing 737 Passenger	5
FR	1081	Lisbon	London Stansted Apt	1	1335	1625	Boeing 737 Passenger	1
FR	109	London Stansted Apt	Shannon	67	1950	2115	Boeing 737 Passenger	2
FR	109	London Stansted Apt	Shannon	1 45	1930	2055	Boeing 737 Passenger	3
FR	11	London Stansted Apt	Athens (GR)	1 3 5 7	1820	2359	Boeing 737 Passenger	4
FR	1108	Eindhoven Airport	Edinburgh	7	1045	1125	Boeing 737 Passenger	1
FR	1108	Eindhoven Airport	Edinburgh	5	2030	2110	Boeing 737 Passenger	1
FR	1108	Eindhoven Airport	Edinburgh	1	1400	1440	Boeing 737 Passenger	1
FR	1109	Edinburgh	Eindhoven Airport	7	0740	1020	Boeing 737 Passenger	1
FR	1109	Edinburgh	Eindhoven Airport	5	1345	1625	Boeing 737 Passenger	1
FR	1109	Edinburgh	Eindhoven Airport	1	0715	0955	Boeing 737 Passenger	1
FR	1117	Krakow John Paul II - Balice	Belfast International Apt	7	0655	0850	Boeing 737 Passenger	1
FR	1117	Krakow John Paul II - Balice	Belfast International Apt	4	0620	0815	Boeing 737 Passenger	1
FR	1117	Krakow John Paul II - Balice	Belfast International Apt	2	0650	0845	Boeing 737 Passenger	1
FR	1118	Belfast International Apt	Krakow John Paul II - Balice	7	0915	1310	Boeing 737 Passenger	1
FR	1118	Belfast International Apt	Krakow John Paul II - Balice	4	0840	1235	Boeing 737 Passenger	1
FR	1118	Belfast International Apt	Krakow John Paul II - Balice	2	0910	1305	Boeing 737 Passenger	1
FR	1119	Edinburgh	Carcassonne	6	0735	1105	Boeing 737 Passenger	1
FR	1119	Edinburgh	Carcassonne	2	1145	1515	Boeing 737 Passenger	1
FR	112	Dublin (IE)	London Gatwick Apt	1234567	0735	0910	Boeing 737 Passenger	7
FR	1120	Carcassonne	Edinburgh	6	1130	1255	Boeing 737 Passenger	1
FR	1120	Carcassonne	Edinburgh	2	1540	1705	Boeing 737 Passenger	1
FR	1121	Birmingham Airport	Tenerife Sur Apt	7	0635	1110	Boeing 737 Passenger	1
FR	1121	Birmingham Airport	Tenerife Sur Apt	5	0635	1105	Boeing 737 Passenger	1
FR	1121	Birmingham Airport	Tenerife Sur Apt	2 4	0555	1030	Boeing 737 Passenger	2
FR	1122	Tenerife Sur Apt	Birmingham Airport	7	1145	1605	Boeing 737 Passenger	1
FR	1122	Tenerife Sur Apt	Birmingham Airport	5	1140	1600	Boeing 737 Passenger	1
FR	1122	Tenerife Sur Apt	Birmingham Airport	2 4	1105	1525	Boeing 737 Passenger	2
FR	1128	Birmingham Airport	Gran Canaria	5	1815	2250	Boeing 737 Passenger	1
FR	1128	Birmingham Airport	Gran Canaria	1	1905	2340	Boeing 737 Passenger	1
FR	1129	Gran Canaria	Birmingham Airport	5	1330	1750	Boeing 737 Passenger	1
FR	1129	Gran Canaria	Birmingham Airport	1	1420	1840	Boeing 737 Passenger	1
FR	113	London Gatwick Apt	Dublin (IE)	1234567	0940	1100	Boeing 737 Passenger	6
FR	1130	Nottingham East Midlands Airport	Girona Costa Brava Apt	3 7	1950	2300	Boeing 737 Passenger	2
FR	1131	Girona Costa Brava Apt	Nottingham East Midlands Airport	3 7	1815	1925	Boeing 737 Passenger	2
FR	114	Dublin (IE)	London Gatwick Apt	5	1110	1245	Boeing 737 Passenger	1
FR	114	Dublin (IE)	London Gatwick Apt	1234 67	1105	1240	Boeing 737 Passenger	6
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	7	0900	1015	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	6	1045	1200	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	5	1210	1325	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	4	1335	1450	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	3	1005	1120	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	2	1105	1220	Boeing 737 Passenger	1
FR	1144	Berlin Schoenefeld Apt	Manchester (GB)	1	1040	1155	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	7	1040	1335	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	6	1225	1520	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	5	1350	1645	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	4	1515	1810	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	3	1145	1440	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	2	1245	1540	Boeing 737 Passenger	1
FR	1145	Manchester (GB)	Berlin Schoenefeld Apt	1	1220	1515	Boeing 737 Passenger	1
FR	115	London Gatwick Apt	Dublin (IE)	5	1315	1440	Boeing 737 Passenger	1

FR	115	London Gatwick Apt	Dublin (IE)	1234 67	1310	1435	Boeing 737 Passenger	5
FR	1158	Wroclaw	Edinburgh	4	0635	0800	Boeing 737 Passenger	1
FR	1158	Wroclaw	Edinburgh	2	1110	1235	Boeing 737 Passenger	1
FR	1159	Edinburgh	Wroclaw	4	0825	1140	Boeing 737 Passenger	1
FR	1159	Edinburgh	Wroclaw	2	0730	1045	Boeing 737 Passenger	1
FR	116	Dublin (IE)	London Gatwick Apt	1234567	1535	1710	Boeing 737 Passenger	7
FR	1163	Belfast International Apt	London Stansted Apt	5	1325	1445	Boeing 737 Passenger	1
FR	1164	London Stansted Apt	Belfast International Apt	5	1130	1300	Boeing 737 Passenger	1
FR	1165	Belfast International Apt	London Stansted Apt	7	2205	2325	Boeing 737 Passenger	1
FR	1166	London Stansted Apt	Belfast International Apt	7	2010	2140	Boeing 737 Passenger	1
FR	117	London Gatwick Apt	Dublin (IE)	1234567	1735	1855	Boeing 737 Passenger	6
FR	1174	Porto	Manchester (GB)	6	1225	1455	Boeing 737 Passenger	1
FR	1174	Porto	Manchester (GB)	4	1335	1605	Boeing 737 Passenger	1
FR	1174	Porto	Manchester (GB)	2	1905	2135	Boeing 737 Passenger	1
FR	1175	Manchester (GB)	Porto	6	0930	1200	Boeing 737 Passenger	1
FR	1175	Manchester (GB)	Porto	4	1040	1310	Boeing 737 Passenger	1
FR	1175	Manchester (GB)	Porto	2	1610	1840	Boeing 737 Passenger	1
FR	118	Dublin (IE)	London Gatwick Apt	234 67	1920	2055	Boeing 737 Passenger	5
FR	118	Dublin (IE)	London Gatwick Apt	1 5	1920	2050	Boeing 737 Passenger	2
FR	1182	Shannon	London Gatwick Apt	7	1820	1955	Boeing 737 Passenger	1
FR	1182	Shannon	London Gatwick Apt	5	1825	2000	Boeing 737 Passenger	1
FR	1182	Shannon	London Gatwick Apt	3	1805	1940	Boeing 737 Passenger	1
FR	1182	Shannon	London Gatwick Apt	12 4 6	1755	1930	Boeing 737 Passenger	4
FR	1183	London Gatwick Apt	Shannon	7	2020	2145	Boeing 737 Passenger	1
FR	1183	London Gatwick Apt	Shannon	5	2025	2150	Boeing 737 Passenger	1
FR	1183	London Gatwick Apt	Shannon	34	2010	2135	Boeing 737 Passenger	2
FR	1183	London Gatwick Apt	Shannon	12 6	1955	2120	Boeing 737 Passenger	3
FR	1184	Nottingham East Midlands Airport	Sevilla Airport	6	0625	1010	Boeing 737 Passenger	1
FR	1184	Nottingham East Midlands Airport	Sevilla Airport	2	0610	0955	Boeing 737 Passenger	1
FR	1185	Sevilla Airport	Nottingham East Midlands Airport	6	1045	1230	Boeing 737 Passenger	1
FR	1185	Sevilla Airport	Nottingham East Midlands Airport	2	1030	1215	Boeing 737 Passenger	1
FR	119	London Gatwick Apt	Dublin (IE)	1234567	2135	2255	Boeing 737 Passenger	6
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	7	1940	2245	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	6	2030	2335	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	3	1855	2200	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	2	1835	2140	Boeing 737 Passenger	1
FR	1194	London Stansted Apt	Bologna Guglielmo Marconi	1 45	1745	2050	Boeing 737 Passenger	3
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	7	1750	1915	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	6	1840	2005	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	3	2225	2350	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	2	2205	2330	Boeing 737 Passenger	1
FR	1195	Bologna Guglielmo Marconi	London Stansted Apt	1 45	2115	2240	Boeing 737 Passenger	3
FR	12	Athens (GR)	London Stansted Apt	1 3 5 7	1605	1755	Boeing 737 Passenger	4
FR	120	Dublin (IE)	London Gatwick Apt	23456	0630	0810	Boeing 737 Passenger	5
FR	120	Dublin (IE)	London Gatwick Apt	1 7	0630	0805	Boeing 737 Passenger	2
FR	1202	London Stansted Apt	Palma de Mallorca	7	0850	1215	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	56	0745	1110	Boeing 737 Passenger	2
FR	1202	London Stansted Apt	Palma de Mallorca	4	0655	1020	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	3	0900	1230	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	2	0740	1105	Boeing 737 Passenger	1
FR	1202	London Stansted Apt	Palma de Mallorca	1	0730	1055	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	7	1250	1425	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	56	1145	1320	Boeing 737 Passenger	2
FR	1203	Palma de Mallorca	London Stansted Apt	4	1055	1230	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	3	1305	1440	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	2	1140	1315	Boeing 737 Passenger	1
FR	1203	Palma de Mallorca	London Stansted Apt	1	1130	1305	Boeing 737 Passenger	1
FR	121	London Gatwick Apt	Dublin (IE)	1234567	0850	1010	Boeing 737 Passenger	7
FR	1212	Birmingham Airport	Bydgoszcz	6	0600	0915	Boeing 737 Passenger	1
FR	1212	Birmingham Airport	Bydgoszcz	4	0620	0935	Boeing 737 Passenger	1
FR	1212	Birmingham Airport	Bydgoszcz	2	1335	1650	Boeing 737 Passenger	1
FR	1213	Bydgoszcz	Birmingham Airport	6	0940	1100	Boeing 737 Passenger	1
FR	1213	Bydgoszcz	Birmingham Airport	4	1000	1120	Boeing 737 Passenger	1
FR	1213	Bydgoszcz	Birmingham Airport	2	1715	1835	Boeing 737 Passenger	1
FR	122	Dublin (IE)	London Gatwick Apt	7	1255	1430	Boeing 737 Passenger	1
FR	122	Dublin (IE)	London Gatwick Apt	3	1335	1510	Boeing 737 Passenger	1
FR	122	Dublin (IE)	London Gatwick Apt	12 45	1250	1425	Boeing 737 Passenger	4
FR	1227	Manchester (GB)	Reus	7	1725	2050	Boeing 737 Passenger	1
FR	1227	Manchester (GB)	Reus	3	1640	2005	Boeing 737 Passenger	1
FR	1228	Reus	Manchester (GB)	7	2125	2255	Boeing 737 Passenger	1

FR	1228	Reus	Manchester (GB)	3	2040	2210	Boeing 737 Passenger	1
FR	123	London Gatwick Apt	Dublin (IE)	7	1455	1615	Boeing 737 Passenger	1
FR	123	London Gatwick Apt	Dublin (IE)	3	1535	1655	Boeing 737 Passenger	1
FR	123	London Gatwick Apt	Dublin (IE)	12 45	1450	1610	Boeing 737 Passenger	3
FR	124	London Stansted Apt	Ancona	7	0620	0945	Boeing 737 Passenger	1
FR	124	London Stansted Apt	Ancona	23456	0625	0950	Boeing 737 Passenger	5
FR	124	London Stansted Apt	Ancona	1	0600	0925	Boeing 737 Passenger	1
FR	1248	Tenerife Sur Apt	Manchester (GB)	6	1255	1725	Boeing 737 Passenger	1
FR	1248	Tenerife Sur Apt	Manchester (GB)	3	1240	1710	Boeing 737 Passenger	1
FR	1249	Manchester (GB)	Tenerife Sur Apt	6	0745	1220	Boeing 737 Passenger	1
FR	1249	Manchester (GB)	Tenerife Sur Apt	3	1735	2210	Boeing 737 Passenger	1
FR	125	Ancona	London Stansted Apt	7	1010	1135	Boeing 737 Passenger	1
FR	125	Ancona	London Stansted Apt	23456	1015	1140	Boeing 737 Passenger	5
FR	125	Ancona	London Stansted Apt	1	0950	1115	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	7	0755	1030	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	6	0815	1050	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	4	1235	1510	Boeing 737 Passenger	1
FR	1251	London Stansted Apt	Aalborg Airport	2	0715	0950	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	7	1055	1140	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	6	1115	1200	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	4	1535	1620	Boeing 737 Passenger	1
FR	1252	Aalborg Airport	London Stansted Apt	2	1015	1100	Boeing 737 Passenger	1
FR	1253	Birmingham Airport	Katowice	5	0750	1110	Boeing 737 Passenger	1
FR	1253	Birmingham Airport	Katowice	1	1510	1830	Boeing 737 Passenger	1
FR	1254	Katowice	Birmingham Airport	5	1135	1310	Boeing 737 Passenger	1
FR	1254	Katowice	Birmingham Airport	1	1855	2030	Boeing 737 Passenger	1
FR	1263	Manchester (GB)	Ibiza	5	1535	1925	Boeing 737 Passenger	1
FR	1263	Manchester (GB)	Ibiza	1	1520	1910	Boeing 737 Passenger	1
FR	1264	Ibiza	Manchester (GB)	5	2000	2145	Boeing 737 Passenger	1
FR	1264	Ibiza	Manchester (GB)	1	1945	2130	Boeing 737 Passenger	1
FR	1265	Agadir	Manchester (GB)	6	1205	1600	Boeing 737 Passenger	1
FR	1265	Agadir	Manchester (GB)	2	2010	0005	Boeing 737 Passenger	1
FR	1266	Manchester (GB)	Agadir	6	0750	1140	Boeing 737 Passenger	1
FR	1266	Manchester (GB)	Agadir	2	1555	1945	Boeing 737 Passenger	1
FR	1277	Belfast International Apt	Wroclaw	1 5	0905	1245	Boeing 737 Passenger	2
FR	1278	Wroclaw	Belfast International Apt	1 5	0705	0840	Boeing 737 Passenger	2
FR	1279	Manchester (GB)	Venice Treviso/Sant'Angelo Apt	6	1700	2025	Boeing 737 Passenger	1
FR	1279	Manchester (GB)	Venice Treviso/Sant'Angelo Apt	4	1255	1620	Boeing 737 Passenger	1
FR	1279	Manchester (GB)	Venice Treviso/Sant'Angelo Apt	2	0930	1255	Boeing 737 Passenger	1
FR	1280	Venice Treviso/Sant'Angelo Apt	Manchester (GB)	6	2050	2215	Boeing 737 Passenger	1
FR	1280	Venice Treviso/Sant'Angelo Apt	Manchester (GB)	4	1645	1810	Boeing 737 Passenger	1
FR	1280	Venice Treviso/Sant'Angelo Apt	Manchester (GB)	2	1320	1445	Boeing 737 Passenger	1
FR	1286	Marseille Provence Apt	Edinburgh	1 5	0925	1055	Boeing 737 Passenger	2
FR	1287	Edinburgh	Marseille Provence Apt	1 5	1120	1455	Boeing 737 Passenger	2
FR	1307	Belfast International Apt	Alicante Airport	6	1645	2040	Boeing 737 Passenger	1
FR	1307	Belfast International Apt	Alicante Airport	2	1015	1410	Boeing 737 Passenger	1
FR	1307	Belfast International Apt	Alicante Airport	1 3 5	1640	2035	Boeing 737 Passenger	3
FR	1308	Alicante Airport	Belfast International Apt	6	1420	1620	Boeing 737 Passenger	1
FR	1308	Alicante Airport	Belfast International Apt	2	0750	0950	Boeing 737 Passenger	1
FR	1308	Alicante Airport	Belfast International Apt	1 3 5	2110	2310	Boeing 737 Passenger	3
FR	1314	Malaga Airport	Belfast International Apt	7	2115	2325	Boeing 737 Passenger	1
FR	1314	Malaga Airport	Belfast International Apt	2 4	2120	2330	Boeing 737 Passenger	2
FR	1314	Malaga Airport	Belfast International Apt	1	0755	1005	Boeing 737 Passenger	1
FR	1315	Belfast International Apt	Malaga Airport	4	1645	2045	Boeing 737 Passenger	1
FR	1315	Belfast International Apt	Malaga Airport	2 7	1635	2035	Boeing 737 Passenger	2
FR	1315	Belfast International Apt	Malaga Airport	1	1030	1430	Boeing 737 Passenger	1
FR	1318	Naples Capodichino Apt	Nottingham East Midlands Airport	6	2135	2330	Boeing 737 Passenger	1
FR	1318	Naples Capodichino Apt	Nottingham East Midlands Airport	2	1940	2135	Boeing 737 Passenger	1
FR	1319	Nottingham East Midlands Airport	Naples Capodichino Apt	6	1720	2100	Boeing 737 Passenger	1
FR	1319	Nottingham East Midlands Airport	Naples Capodichino Apt	2	1515	1855	Boeing 737 Passenger	1
FR	1364	London Stansted Apt	Rabat	2 4 6	1645	1955	Boeing 737 Passenger	3
FR	1365	Rabat	London Stansted Apt	2 4 6	2020	2330	Boeing 737 Passenger	3
FR	1372	London Stansted Apt	Biarritz	7	1845	2145	Boeing 737 Passenger	1
FR	1372	London Stansted Apt	Biarritz	3	1805	2105	Boeing 737 Passenger	1
FR	1373	Biarritz	London Stansted Apt	7	2210	2305	Boeing 737 Passenger	1
FR	1373	Biarritz	London Stansted Apt	3	2130	2225	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	7	1205	1500	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	6	1300	1555	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	4	1350	1645	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	3 5	1715	2010	Boeing 737 Passenger	2

FR	1374	London Stansted Apt	Prague Ruzyne	2	1810	2105	Boeing 737 Passenger	1
FR	1374	London Stansted Apt	Prague Ruzyne	1	1410	1705	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	7	1525	1620	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	6	1620	1710	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	4	1710	1810	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	3 5	2035	2135	Boeing 737 Passenger	2
FR	1375	Prague Ruzyne	London Stansted Apt	2	2140	2240	Boeing 737 Passenger	1
FR	1375	Prague Ruzyne	London Stansted Apt	1	1730	1820	Boeing 737 Passenger	1
FR	1377	Belfast International Apt	Milan Bergamo/orio al Serio Apt	3 6	0630	0955	Boeing 737 Passenger	2
FR	1378	Milan Bergamo/orio al Serio Apt	Belfast International Apt	3 6	1020	1155	Boeing 737 Passenger	2
FR	1392	London Stansted Apt	Oslo Gardermoen Airport	6	0915	1210	Boeing 737 Passenger	1
FR	1392	London Stansted Apt	Oslo Gardermoen Airport	12345 7	0940	1235	Boeing 737 Passenger	6
FR	1393	Oslo Gardermoen Airport	London Stansted Apt	6	0745	0850	Boeing 737 Passenger	1
FR	1393	Oslo Gardermoen Airport	London Stansted Apt	2345 7	0810	0915	Boeing 737 Passenger	5
FR	1393	Oslo Gardermoen Airport	London Stansted Apt	1	0815	0915	Boeing 737 Passenger	1
FR	1394	London Stansted Apt	Oslo Gardermoen Airport	7	1755	2100	Boeing 737 Passenger	1
FR	1394	London Stansted Apt	Oslo Gardermoen Airport	6	1915	2220	Boeing 737 Passenger	1
FR	1394	London Stansted Apt	Oslo Gardermoen Airport	12345	1905	2210	Boeing 737 Passenger	5
FR	1395	Oslo Gardermoen Airport	London Stansted Apt	7	2130	2235	Boeing 737 Passenger	1
FR	1395	Oslo Gardermoen Airport	London Stansted Apt	6	2245	2350	Boeing 737 Passenger	1
FR	1395	Oslo Gardermoen Airport	London Stansted Apt	12345	2235	2340	Boeing 737 Passenger	5
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	7	1140	1445	Boeing 737 Passenger	1
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	6	1200	1505	Boeing 737 Passenger	1
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	345	1155	1500	Boeing 737 Passenger	3
FR	1396	London Stansted Apt	Oslo Gardermoen Airport	2	1300	1605	Boeing 737 Passenger	1
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	7	1510	1615	Boeing 737 Passenger	1
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	6	1530	1635	Boeing 737 Passenger	1
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	345	1525	1630	Boeing 737 Passenger	3
FR	1397	Oslo Gardermoen Airport	London Stansted Apt	2	1635	1740	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	7	0645	0835	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	6	0655	0845	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	5	1450	1640	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	4	0630	0820	Boeing 737 Passenger	1
FR	14	Athens (GR)	London Stansted Apt	123	0700	0850	Boeing 737 Passenger	3
FR	142	Dublin (IE)	London Gatwick Apt	3	1650	1820	Boeing 737 Passenger	1
FR	142	Dublin (IE)	London Gatwick Apt	12 4567	1645	1820	Boeing 737 Passenger	6
FR	143	London Gatwick Apt	Dublin (IE)	234567	1900	2030	Boeing 737 Passenger	6
FR	1432	Milan Malpensa Apt	Liverpool	4	1210	1320	Boeing 737 Passenger	1
FR	1432	Milan Malpensa Apt	Liverpool	2 6	1225	1335	Boeing 737 Passenger	2
FR	1433	Liverpool	Milan Malpensa Apt	4	1345	1655	Boeing 737 Passenger	1
FR	1433	Liverpool	Milan Malpensa Apt	2 6	1400	1710	Boeing 737 Passenger	2
FR	144	Berlin Schoenefeld Apt	London Stansted Apt	1234567	0630	0725	Boeing 737 Passenger	7
FR	1442	Dublin (IE)	Liverpool	7	1825	1920	Boeing 737 Passenger	1
FR	1442	Dublin (IE)	Liverpool	12345	1450	1545	Boeing 737 Passenger	5
FR	1443	Liverpool	Dublin (IE)	7	2015	2110	Boeing 737 Passenger	1
FR	1443	Liverpool	Dublin (IE)	12345	1330	1425	Boeing 737 Passenger	5
FR	1448	Birmingham Airport	Lanzarote	5	1205	1615	Boeing 737 Passenger	1
FR	1448	Birmingham Airport	Lanzarote	3	1200	1610	Boeing 737 Passenger	1
FR	1448	Birmingham Airport	Lanzarote	1	0900	1310	Boeing 737 Passenger	1
FR	1449	Lanzarote	Birmingham Airport	3 5	0725	1135	Boeing 737 Passenger	2
FR	1449	Lanzarote	Birmingham Airport	1	1345	1755	Boeing 737 Passenger	1
FR	145	London Stansted Apt	Berlin Schoenefeld Apt	1234567	0750	1040	Boeing 737 Passenger	7
FR	146	Berlin Schoenefeld Apt	London Stansted Apt	5	1830	1915	Boeing 737 Passenger	1
FR	146	Berlin Schoenefeld Apt	London Stansted Apt	3	1950	2035	Boeing 737 Passenger	1
FR	146	Berlin Schoenefeld Apt	London Stansted Apt	12 4 7	1800	1855	Boeing 737 Passenger	4
FR	1465	Birmingham Airport	Krakow John Paul II - Balice	7	0735	1100	Boeing 737 Passenger	1
FR	1465	Birmingham Airport	Krakow John Paul II - Balice	3	0555	0920	Boeing 737 Passenger	1
FR	1465	Birmingham Airport	Krakow John Paul II - Balice	1	2010	2335	Boeing 737 Passenger	1
FR	1466	Krakow John Paul II - Balice	Birmingham Airport	7	1125	1300	Boeing 737 Passenger	1
FR	1466	Krakow John Paul II - Balice	Birmingham Airport	3	0945	1120	Boeing 737 Passenger	1
FR	1466	Krakow John Paul II - Balice	Birmingham Airport	1	1810	1945	Boeing 737 Passenger	1
FR	147	London Stansted Apt	Berlin Schoenefeld Apt	5	1940	2230	Boeing 737 Passenger	1
FR	147	London Stansted Apt	Berlin Schoenefeld Apt	3	2100	2350	Boeing 737 Passenger	1
FR	147	London Stansted Apt	Berlin Schoenefeld Apt	12 4 7	1920	2210	Boeing 737 Passenger	4
FR	1477	Belfast International Apt	Berlin Schoenefeld Apt	4 7	0655	1015	Boeing 737 Passenger	2
FR	1478	Berlin Schoenefeld Apt	Belfast International Apt	4 7	1040	1200	Boeing 737 Passenger	2
FR	15	London Stansted Apt	Athens (GR)	7	0900	1440	Boeing 737 Passenger	1
FR	15	London Stansted Apt	Athens (GR)	6	0920	1500	Boeing 737 Passenger	1
FR	15	London Stansted Apt	Athens (GR)	45	0845	1425	Boeing 737 Passenger	2
FR	15	London Stansted Apt	Athens (GR)	123	0915	1455	Boeing 737 Passenger	3

FR	1503	Leeds Bradford	Gdansk Lech Walesa	6	1855	2215	Boeing 737 Passenger	1
FR	1503	Leeds Bradford	Gdansk Lech Walesa	4	1105	1425	Boeing 737 Passenger	1
FR	1503	Leeds Bradford	Gdansk Lech Walesa	3	1725	2045	Boeing 737 Passenger	1
FR	1503	Leeds Bradford	Gdansk Lech Walesa	2	1345	1705	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	6	1710	1830	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	4	1450	1610	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	3	2110	2230	Boeing 737 Passenger	1
FR	1504	Gdansk Lech Walesa	Leeds Bradford	2	1200	1320	Boeing 737 Passenger	1
FR	1517	Hamburg Airport	London Stansted Apt	6	0650	0725	Boeing 737 Passenger	1
FR	1517	Hamburg Airport	London Stansted Apt	4	0635	0710	Boeing 737 Passenger	1
FR	1517	Hamburg Airport	London Stansted Apt	23 5 7	0640	0715	Boeing 737 Passenger	4
FR	1517	Hamburg Airport	London Stansted Apt	1	0605	0640	Boeing 737 Passenger	1
FR	1518	London Stansted Apt	Hamburg Airport	7	0745	1015	Boeing 737 Passenger	1
FR	1518	London Stansted Apt	Hamburg Airport	4	0735	1005	Boeing 737 Passenger	1
FR	1518	London Stansted Apt	Hamburg Airport	23 56	0750	1020	Boeing 737 Passenger	4
FR	1518	London Stansted Apt	Hamburg Airport	1	0705	0935	Boeing 737 Passenger	1
FR	1519	Hamburg Airport	London Stansted Apt	5	1820	1855	Boeing 737 Passenger	1
FR	1519	Hamburg Airport	London Stansted Apt	4 6	1800	1835	Boeing 737 Passenger	2
FR	1519	Hamburg Airport	London Stansted Apt	3 7	1845	1920	Boeing 737 Passenger	2
FR	1519	Hamburg Airport	London Stansted Apt	1	1855	1930	Boeing 737 Passenger	1
FR	152	Dublin (IE)	Leeds Bradford	2 456	0755	0900	Boeing 737 Passenger	4
FR	152	Dublin (IE)	Leeds Bradford	1 3 7	0800	0905	Boeing 737 Passenger	3
FR	1520	London Stansted Apt	Hamburg Airport	7	1945	2215	Boeing 737 Passenger	1
FR	1520	London Stansted Apt	Hamburg Airport	5	1920	2150	Boeing 737 Passenger	1
FR	1520	London Stansted Apt	Hamburg Airport	4 6	1900	2130	Boeing 737 Passenger	2
FR	1520	London Stansted Apt	Hamburg Airport	3	2000	2230	Boeing 737 Passenger	1
FR	1520	London Stansted Apt	Hamburg Airport	1	1955	2225	Boeing 737 Passenger	1
FR	1522	Aberdeen (GB)	Malta	7	1845	2345	Boeing 737 Passenger	1
FR	1522	Aberdeen (GB)	Malta	3	1835	2325	Boeing 737 Passenger	1
FR	1523	Malta	Aberdeen (GB)	7	1510	1820	Boeing 737 Passenger	1
FR	1523	Malta	Aberdeen (GB)	3	1510	1810	Boeing 737 Passenger	1
FR	153	Leeds Bradford	Dublin (IE)	2 456	0630	0730	Boeing 737 Passenger	4
FR	153	Leeds Bradford	Dublin (IE)	1 3 7	0635	0735	Boeing 737 Passenger	3
FR	1546	Frankfurt International Apt	London Stansted Apt	45	1825	1900	Boeing 737 Passenger	2
FR	1546	Frankfurt International Apt	London Stansted Apt	3 67	1815	1850	Boeing 737 Passenger	3
FR	1546	Frankfurt International Apt	London Stansted Apt	2	1835	1910	Boeing 737 Passenger	1
FR	1546	Frankfurt International Apt	London Stansted Apt	1	1810	1845	Boeing 737 Passenger	1
FR	1547	London Stansted Apt	Frankfurt International Apt	7	1930	2205	Boeing 737 Passenger	1
FR	1547	London Stansted Apt	Frankfurt International Apt	45	1925	2200	Boeing 737 Passenger	2
FR	1547	London Stansted Apt	Frankfurt International Apt	3 6	1915	2150	Boeing 737 Passenger	2
FR	1547	London Stansted Apt	Frankfurt International Apt	2	1935	2210	Boeing 737 Passenger	1
FR	1547	London Stansted Apt	Frankfurt International Apt	1	1910	2145	Boeing 737 Passenger	1
FR	1556	Dublin (IE)	Manchester (GB)	6	2130	2235	Boeing 737 Passenger	1
FR	1556	Dublin (IE)	Manchester (GB)	12345 7	1905	2010	Boeing 737 Passenger	6
FR	1557	Manchester (GB)	Dublin (IE)	6	2000	2105	Boeing 737 Passenger	1
FR	1557	Manchester (GB)	Dublin (IE)	12345 7	1735	1840	Boeing 737 Passenger	6
FR	156	Dublin (IE)	Leeds Bradford	7	2135	2240	Boeing 737 Passenger	1
FR	156	Dublin (IE)	Leeds Bradford	6	2130	2235	Boeing 737 Passenger	1
FR	156	Dublin (IE)	Leeds Bradford	5	1550	1655	Boeing 737 Passenger	1
FR	156	Dublin (IE)	Leeds Bradford	234	1535	1640	Boeing 737 Passenger	3
FR	156	Dublin (IE)	Leeds Bradford	1	1605	1710	Boeing 737 Passenger	1
FR	1562	Birmingham Airport	Verona Villafranca Airport	5	0625	0940	Boeing 737 Passenger	1
FR	1562	Birmingham Airport	Verona Villafranca Airport	1	1140	1450	Boeing 737 Passenger	1
FR	1563	Verona Villafranca Airport	Birmingham Airport	5	1005	1120	Boeing 737 Passenger	1
FR	1563	Verona Villafranca Airport	Birmingham Airport	1	1515	1635	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	7	2010	2110	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	6	2005	2105	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	5	1720	1820	Boeing 737 Passenger	1
FR	157	Leeds Bradford	Dublin (IE)	234	1710	1810	Boeing 737 Passenger	3
FR	157	Leeds Bradford	Dublin (IE)	1	1735	1835	Boeing 737 Passenger	1
FR	1584	Leeds Bradford	Fuerteventura	1 5	0625	1045	Boeing 737 Passenger	2
FR	1585	Fuerteventura	Leeds Bradford	1 5	1120	1530	Boeing 737 Passenger	2
FR	1590	Cologne/Bonn Apt	Bristol	5	1735	1815	Boeing 737 Passenger	1
FR	1590	Cologne/Bonn Apt	Bristol	1 3 7	1510	1550	Boeing 737 Passenger	3
FR	1591	Bristol	Cologne/Bonn Apt	5	1840	2115	Boeing 737 Passenger	1
FR	1591	Bristol	Cologne/Bonn Apt	1 3 7	1210	1445	Boeing 737 Passenger	3
FR	1592	Cologne/Bonn Apt	Manchester (GB)	7	0630	0710	Boeing 737 Passenger	1
FR	1592	Cologne/Bonn Apt	Manchester (GB)	4	0745	0825	Boeing 737 Passenger	1
FR	1592	Cologne/Bonn Apt	Manchester (GB)	1 3 56	0755	0835	Boeing 737 Passenger	4
FR	1593	Manchester (GB)	Cologne/Bonn Apt	7	0735	1010	Boeing 737 Passenger	1

FR	1593	Manchester (GB)	Cologne/Bonn Apt	4	0850	1125	Boeing 737 Passenger	1
FR	1593	Manchester (GB)	Cologne/Bonn Apt	1 3 56	0900	1135	Boeing 737 Passenger	4
FR	1612	Nottingham East Midlands Airport	Carcassonne	5	1155	1450	Boeing 737 Passenger	1
FR	1612	Nottingham East Midlands Airport	Carcassonne	1	1130	1425	Boeing 737 Passenger	1
FR	1613	Carcassonne	Nottingham East Midlands Airport	5	1515	1610	Boeing 737 Passenger	1
FR	1613	Carcassonne	Nottingham East Midlands Airport	1	1450	1545	Boeing 737 Passenger	1
FR	1624	Nottingham East Midlands Airport	Lodz Wladyslaw Reymont	2 6	1835	2150	Boeing 737 Passenger	2
FR	1625	Lodz Wladyslaw Reymont	Nottingham East Midlands Airport	2 6	2215	2335	Boeing 737 Passenger	2
FR	1632	Nottingham East Midlands Airport	Limoges	6	1355	1640	Boeing 737 Passenger	1
FR	1632	Nottingham East Midlands Airport	Limoges	4	1345	1630	Boeing 737 Passenger	1
FR	1632	Nottingham East Midlands Airport	Limoges	2	1325	1610	Boeing 737 Passenger	1
FR	1633	Limoges	Nottingham East Midlands Airport	6	1705	1745	Boeing 737 Passenger	1
FR	1633	Limoges	Nottingham East Midlands Airport	4	1655	1735	Boeing 737 Passenger	1
FR	1633	Limoges	Nottingham East Midlands Airport	2	1635	1715	Boeing 737 Passenger	1
FR	1638	Nottingham East Midlands Airport	Berlin Schoenefeld Apt	1 5	0640	0935	Boeing 737 Passenger	2
FR	1639	Berlin Schoenefeld Apt	Nottingham East Midlands Airport	5	1005	1110	Boeing 737 Passenger	1
FR	1639	Berlin Schoenefeld Apt	Nottingham East Midlands Airport	1	1000	1105	Boeing 737 Passenger	1
FR	1640	London Luton Apt	Bydgoszcz	5	1810	2120	Boeing 737 Passenger	1
FR	1640	London Luton Apt	Bydgoszcz	3 7	1750	2100	Boeing 737 Passenger	2
FR	1641	Bydgoszcz	London Luton Apt	5	2145	2255	Boeing 737 Passenger	1
FR	1641	Bydgoszcz	London Luton Apt	3 7	2125	2235	Boeing 737 Passenger	2
FR	1642	London Stansted Apt	Lviv	1 5 7	0645	1125	Boeing 737 Passenger	3
FR	1643	Lviv	London Stansted Apt	1 5 7	1150	1240	Boeing 737 Passenger	3
FR	1646	Nottingham East Midlands Airport	Wroclaw	3 7	1905	2225	Boeing 737 Passenger	2
FR	1646	Nottingham East Midlands Airport	Wroclaw	1 5	0630	0950	Boeing 737 Passenger	2
FR	1647	Wroclaw	Nottingham East Midlands Airport	5	1015	1130	Boeing 737 Passenger	1
FR	1647	Wroclaw	Nottingham East Midlands Airport	3 7	2250	0005	Boeing 737 Passenger	2
FR	1647	Wroclaw	Nottingham East Midlands Airport	1	1020	1135	Boeing 737 Passenger	1
FR	1652	Nottingham East Midlands Airport	Dinard/St-Malo	6	1400	1615	Boeing 737 Passenger	1
FR	1652	Nottingham East Midlands Airport	Dinard/St-Malo	2	1225	1440	Boeing 737 Passenger	1
FR	1653	Dinard/St-Malo	Nottingham East Midlands Airport	6	1640	1655	Boeing 737 Passenger	1
FR	1653	Dinard/St-Malo	Nottingham East Midlands Airport	2	1505	1520	Boeing 737 Passenger	1
FR	1662	Bologna Guglielmo Marconi	London Stansted Apt	5	1200	1305	Boeing 737 Passenger	1
FR	1662	Bologna Guglielmo Marconi	London Stansted Apt	1	1225	1330	Boeing 737 Passenger	1
FR	1663	London Stansted Apt	Bologna Guglielmo Marconi	5	1330	1650	Boeing 737 Passenger	1
FR	1663	London Stansted Apt	Bologna Guglielmo Marconi	1	1355	1715	Boeing 737 Passenger	1
FR	1664	Nottingham East Midlands Airport	Riga	5	1055	1540	Boeing 737 Passenger	1
FR	1664	Nottingham East Midlands Airport	Riga	3	1720	2205	Boeing 737 Passenger	1
FR	1664	Nottingham East Midlands Airport	Riga	1	0950	1435	Boeing 737 Passenger	1
FR	1665	Riga	Nottingham East Midlands Airport	5	1605	1700	Boeing 737 Passenger	1
FR	1665	Riga	Nottingham East Midlands Airport	3	2230	2325	Boeing 737 Passenger	1
FR	1665	Riga	Nottingham East Midlands Airport	1	1500	1555	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	6	1345	1655	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	4	1320	1630	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	2	1350	1700	Boeing 737 Passenger	1
FR	168	London Stansted Apt	Trieste	1	0915	1225	Boeing 737 Passenger	1
FR	1682	Nottingham East Midlands Airport	Bergerac	3 7	0700	0945	Boeing 737 Passenger	2
FR	1683	Bergerac	Nottingham East Midlands Airport	3 7	1010	1055	Boeing 737 Passenger	2
FR	1686	Frankfurt International Apt	London Stansted Apt	7	0700	0735	Boeing 737 Passenger	1
FR	1686	Frankfurt International Apt	London Stansted Apt	6	0640	0715	Boeing 737 Passenger	1
FR	1686	Frankfurt International Apt	London Stansted Apt	345	0705	0740	Boeing 737 Passenger	3
FR	1686	Frankfurt International Apt	London Stansted Apt	12	0630	0705	Boeing 737 Passenger	2
FR	1687	London Stansted Apt	Frankfurt International Apt	7	0800	1035	Boeing 737 Passenger	1
FR	1687	London Stansted Apt	Frankfurt International Apt	6	0740	1015	Boeing 737 Passenger	1
FR	1687	London Stansted Apt	Frankfurt International Apt	345	0805	1040	Boeing 737 Passenger	3
FR	1687	London Stansted Apt	Frankfurt International Apt	12	0730	1005	Boeing 737 Passenger	2
FR	169	Trieste	London Stansted Apt	6	1720	1835	Boeing 737 Passenger	1
FR	169	Trieste	London Stansted Apt	4	1655	1810	Boeing 737 Passenger	1
FR	169	Trieste	London Stansted Apt	2	1725	1840	Boeing 737 Passenger	1
FR	169	Trieste	London Stansted Apt	1	1250	1405	Boeing 737 Passenger	1
FR	1702	Nottingham East Midlands Airport	Milan Bergamo/orio al Serio Apt	4	1800	2110	Boeing 737 Passenger	1
FR	1702	Nottingham East Midlands Airport	Milan Bergamo/orio al Serio Apt	2 6	1325	1635	Boeing 737 Passenger	2
FR	1703	Milan Bergamo/orio al Serio Apt	Nottingham East Midlands Airport	4	2135	2245	Boeing 737 Passenger	1
FR	1703	Milan Bergamo/orio al Serio Apt	Nottingham East Midlands Airport	2 6	1700	1810	Boeing 737 Passenger	2
FR	1707	Pisa	Nottingham East Midlands Airport	3 7	1505	1625	Boeing 737 Passenger	2
FR	1708	Nottingham East Midlands Airport	Pisa	3 7	1120	1440	Boeing 737 Passenger	2
FR	1717	Malta	Belfast International Apt	6	0615	0925	Boeing 737 Passenger	1
FR	1717	Malta	Belfast International Apt	2	1520	1820	Boeing 737 Passenger	1
FR	1718	Belfast International Apt	Malta	6	0950	1445	Boeing 737 Passenger	1
FR	1718	Belfast International Apt	Malta	2	1845	2330	Boeing 737 Passenger	1

FR	172	Dublin (IE)	Newcastle	7	0735	0845	Boeing 737 Passenger	1
FR	172	Dublin (IE)	Newcastle	123456	0945	1055	Boeing 737 Passenger	6
FR	1724	Nottingham East Midlands Airport	Krakow John Paul II - Balice	5	0910	1240	Boeing 737 Passenger	1
FR	1724	Nottingham East Midlands Airport	Krakow John Paul II - Balice	3	0850	1220	Boeing 737 Passenger	1
FR	1724	Nottingham East Midlands Airport	Krakow John Paul II - Balice	1	1725	2055	Boeing 737 Passenger	1
FR	1725	Krakow John Paul II - Balice	Nottingham East Midlands Airport	5	0710	0845	Boeing 737 Passenger	1
FR	1725	Krakow John Paul II - Balice	Nottingham East Midlands Airport	3	0650	0825	Boeing 737 Passenger	1
FR	1725	Krakow John Paul II - Balice	Nottingham East Midlands Airport	1	2130	2305	Boeing 737 Passenger	1
FR	173	Newcastle	Dublin (IE)	7	0910	1020	Boeing 737 Passenger	1
FR	173	Newcastle	Dublin (IE)	123456	1120	1230	Boeing 737 Passenger	6
FR	174	Dublin (IE)	Newcastle	7	2005	2115	Boeing 737 Passenger	1
FR	174	Dublin (IE)	Newcastle	5	1935	2045	Boeing 737 Passenger	1
FR	174	Dublin (IE)	Newcastle	1 4	2055	2205	Boeing 737 Passenger	2
FR	1742	Nottingham East Midlands Airport	Knock	7	1305	1420	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	5	1220	1335	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	4	1255	1410	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	3	1335	1450	Boeing 737 Passenger	1
FR	1742	Nottingham East Midlands Airport	Knock	1	1320	1435	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	7	1445	1600	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	5	1400	1515	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	4	1435	1550	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	3	1515	1630	Boeing 737 Passenger	1
FR	1743	Knock	Nottingham East Midlands Airport	1	1500	1615	Boeing 737 Passenger	1
FR	175	Newcastle	Dublin (IE)	7	2140	2250	Boeing 737 Passenger	1
FR	175	Newcastle	Dublin (IE)	5	2110	2220	Boeing 737 Passenger	1
FR	175	Newcastle	Dublin (IE)	1 4	2230	2340	Boeing 737 Passenger	2
FR	1756	Nottingham East Midlands Airport	Valencia Airport	6	1640	2010	Boeing 737 Passenger	1
FR	1756	Nottingham East Midlands Airport	Valencia Airport	2 4	1500	1830	Boeing 737 Passenger	2
FR	1756	Nottingham East Midlands Airport	Valencia Airport	1	1600	1930	Boeing 737 Passenger	1
FR	1757	Valencia Airport	Nottingham East Midlands Airport	6	1440	1615	Boeing 737 Passenger	1
FR	1757	Valencia Airport	Nottingham East Midlands Airport	2 4	1900	2035	Boeing 737 Passenger	2
FR	1757	Valencia Airport	Nottingham East Midlands Airport	1	2000	2135	Boeing 737 Passenger	1
FR	1766	Nottingham East Midlands Airport	Faro	6	1520	1815	Boeing 737 Passenger	1
FR	1766	Nottingham East Midlands Airport	Faro	3	1015	1310	Boeing 737 Passenger	1
FR	1766	Nottingham East Midlands Airport	Faro	12 45 7	1550	1845	Boeing 737 Passenger	5
FR	1767	Faro	Nottingham East Midlands Airport	6	1840	2130	Boeing 737 Passenger	1
FR	1767	Faro	Nottingham East Midlands Airport	3	1335	1625	Boeing 737 Passenger	1
FR	1767	Faro	Nottingham East Midlands Airport	12 45 7	1910	2200	Boeing 737 Passenger	5
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	7	1950	2235	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	6	1410	1655	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	5	1645	1930	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	4	1935	2220	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	3	1550	1835	Boeing 737 Passenger	1
FR	1782	London Stansted Apt	Bordeaux Merignac Apt	1	1030	1315	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	7	1840	1925	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	6	1305	1345	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	5	1535	1620	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	4	1825	1910	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	3	1440	1525	Boeing 737 Passenger	1
FR	1783	Bordeaux Merignac Apt	London Stansted Apt	1	0920	1005	Boeing 737 Passenger	1
FR	1788	London Stansted Apt	Dortmund	7	1315	1535	Boeing 737 Passenger	1
FR	1788	London Stansted Apt	Dortmund	123456	1300	1520	Boeing 737 Passenger	6
FR	1789	Dortmund	London Stansted Apt	7	1600	1620	Boeing 737 Passenger	1
FR	1789	Dortmund	London Stansted Apt	123456	1545	1605	Boeing 737 Passenger	6
FR	1802	London Stansted Apt	Kerkyra	7	1650	2205	Boeing 737 Passenger	1
FR	1802	London Stansted Apt	Kerkyra	4	1500	2015	Boeing 737 Passenger	1
FR	1802	London Stansted Apt	Kerkyra	3	1420	1935	Boeing 737 Passenger	1
FR	1803	Kerkyra	London Stansted Apt	7	2230	2345	Boeing 737 Passenger	1
FR	1803	Kerkyra	London Stansted Apt	4	2040	2155	Boeing 737 Passenger	1
FR	1803	Kerkyra	London Stansted Apt	3	2000	2115	Boeing 737 Passenger	1
FR	1832	London Stansted Apt	Naples Capodichino Apt	5	0645	1030	Boeing 737 Passenger	1
FR	1832	London Stansted Apt	Naples Capodichino Apt	3	0630	1015	Boeing 737 Passenger	1
FR	1832	London Stansted Apt	Naples Capodichino Apt	2 4 67	0700	1045	Boeing 737 Passenger	4
FR	1832	London Stansted Apt	Naples Capodichino Apt	1	1755	2140	Boeing 737 Passenger	1
FR	1833	Naples Capodichino Apt	London Stansted Apt	4 6	1120	1320	Boeing 737 Passenger	2
FR	1833	Naples Capodichino Apt	London Stansted Apt	3 5	1055	1255	Boeing 737 Passenger	2
FR	1833	Naples Capodichino Apt	London Stansted Apt	2 7	1110	1310	Boeing 737 Passenger	2
FR	1833	Naples Capodichino Apt	London Stansted Apt	1	2205	0005	Boeing 737 Passenger	1
FR	1834	London Stansted Apt	Clermont-Ferrand	1 5	1340	1625	Boeing 737 Passenger	2
FR	1835	Clermont-Ferrand	London Stansted Apt	1 5	1650	1730	Boeing 737 Passenger	2

FR	1836	London Stansted Apt	Plovdiv	3	1530	2040	Boeing 737 Passenger	1
FR	1836	London Stansted Apt	Plovdiv	1 5	1525	2035	Boeing 737 Passenger	2
FR	1837	Plovdiv	London Stansted Apt	3	2105	2230	Boeing 737 Passenger	1
FR	1837	Plovdiv	London Stansted Apt	1 5	2100	2225	Boeing 737 Passenger	2
FR	1874	London Stansted Apt	Nice	7	1910	2210	Boeing 737 Passenger	1
FR	1874	London Stansted Apt	Nice	4 6	1800	2100	Boeing 737 Passenger	2
FR	1874	London Stansted Apt	Nice	3	1820	2120	Boeing 737 Passenger	1
FR	1874	London Stansted Apt	Nice	2	1400	1700	Boeing 737 Passenger	1
FR	1874	London Stansted Apt	Nice	1 5	1920	2220	Boeing 737 Passenger	2
FR	1875	Nice	London Stansted Apt	7	2245	2345	Boeing 737 Passenger	1
FR	1875	Nice	London Stansted Apt	4 6	2135	2235	Boeing 737 Passenger	2
FR	1875	Nice	London Stansted Apt	3	2155	2255	Boeing 737 Passenger	1
FR	1875	Nice	London Stansted Apt	2	1735	1835	Boeing 737 Passenger	1
FR	1875	Nice	London Stansted Apt	1 5	2255	2355	Boeing 737 Passenger	2
FR	1882	London Stansted Apt	Lisbon	7	1630	1920	Boeing 737 Passenger	1
FR	1882	London Stansted Apt	Lisbon	12345	1740	2030	Boeing 737 Passenger	5
FR	1883	Lisbon	London Stansted Apt	7	1945	2235	Boeing 737 Passenger	1
FR	1883	Lisbon	London Stansted Apt	12345	2055	2345	Boeing 737 Passenger	5
FR	1884	London Stansted Apt	Lisbon	5	0915	1205	Boeing 737 Passenger	1
FR	1884	London Stansted Apt	Lisbon	2	0950	1240	Boeing 737 Passenger	1
FR	1884	London Stansted Apt	Lisbon	1 34 67	0945	1235	Boeing 737 Passenger	5
FR	1885	Lisbon	London Stansted Apt	5	0600	0850	Boeing 737 Passenger	1
FR	1885	Lisbon	London Stansted Apt	1234 67	0630	0920	Boeing 737 Passenger	6
FR	1886	London Stansted Apt	Lisbon	5	1135	1425	Boeing 737 Passenger	1
FR	1886	London Stansted Apt	Lisbon	1234 67	1155	1445	Boeing 737 Passenger	6
FR	1887	Lisbon	London Stansted Apt	5	1450	1740	Boeing 737 Passenger	1
FR	1887	Lisbon	London Stansted Apt	1234 67	1510	1800	Boeing 737 Passenger	6
FR	1905	London Stansted Apt	Bari	6	1655	2035	Boeing 737 Passenger	1
FR	1905	London Stansted Apt	Bari	2345 7	1740	2120	Boeing 737 Passenger	5
FR	1905	London Stansted Apt	Bari	1	0700	1040	Boeing 737 Passenger	1
FR	1906	Bari	London Stansted Apt	6	2100	2255	Boeing 737 Passenger	1
FR	1906	Bari	London Stansted Apt	5	2150	2345	Boeing 737 Passenger	1
FR	1906	Bari	London Stansted Apt	234 7	2145	2340	Boeing 737 Passenger	4
FR	1906	Bari	London Stansted Apt	1	1105	1300	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	7	0635	1020	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	5	0610	0955	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	3	0600	0945	Boeing 737 Passenger	1
FR	1924	Nottingham East Midlands Airport	Corvera	2 4 6	0700	1045	Boeing 737 Passenger	3
FR	1924	Nottingham East Midlands Airport	Corvera	1	0645	1030	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	7	1055	1240	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	5	1050	1235	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	3	1020	1205	Boeing 737 Passenger	1
FR	1925	Corvera	Nottingham East Midlands Airport	2 4 6	1120	1305	Boeing 737 Passenger	3
FR	1925	Corvera	Nottingham East Midlands Airport	1	1105	1250	Boeing 737 Passenger	1
FR	194	London Stansted Apt	Bologna Guglielmo Marconi	45	0830	1135	Boeing 737 Passenger	2
FR	194	London Stansted Apt	Bologna Guglielmo Marconi	123 67	0845	1150	Boeing 737 Passenger	5
FR	195	Bologna Guglielmo Marconi	London Stansted Apt	1234567	0645	0805	Boeing 737 Passenger	7
FR	1956	Nottingham East Midlands Airport	Faro	7	0600	0855	Boeing 737 Passenger	1
FR	1956	Nottingham East Midlands Airport	Faro	1 3456	0700	0955	Boeing 737 Passenger	5
FR	1957	Faro	Nottingham East Midlands Airport	7	0920	1210	Boeing 737 Passenger	1
FR	1957	Faro	Nottingham East Midlands Airport	1 3456	1020	1310	Boeing 737 Passenger	5
FR	1998	Birmingham Airport	Perpignan	6	1125	1425	Boeing 737 Passenger	1
FR	1998	Birmingham Airport	Perpignan	2	1510	1810	Boeing 737 Passenger	1
FR	1999	Perpignan	Birmingham Airport	6	1450	1600	Boeing 737 Passenger	1
FR	1999	Perpignan	Birmingham Airport	2	1835	1945	Boeing 737 Passenger	1
FR	2013	London Stansted Apt	Prague Ruzyne	3	1305	1600	Boeing 737 Passenger	1
FR	2013	London Stansted Apt	Prague Ruzyne	2 7	1805	2100	Boeing 737 Passenger	2
FR	2013	London Stansted Apt	Prague Ruzyne	1 5	2050	2345	Boeing 737 Passenger	2
FR	2014	Prague Ruzyne	London Stansted Apt	7	1635	1735	Boeing 737 Passenger	1
FR	2014	Prague Ruzyne	London Stansted Apt	3	1140	1240	Boeing 737 Passenger	1
FR	2014	Prague Ruzyne	London Stansted Apt	2	1640	1740	Boeing 737 Passenger	1
FR	2014	Prague Ruzyne	London Stansted Apt	1 5	1925	2025	Boeing 737 Passenger	2
FR	202	Dublin (IE)	London Stansted Apt	1234567	0625	0750	Boeing 737 Passenger	7
FR	203	London Stansted Apt	Dublin (IE)	123456	0630	0755	Boeing 737 Passenger	6
FR	2047	Lanzarote	Leeds Bradford	6	1420	1830	Boeing 737 Passenger	1
FR	2047	Lanzarote	Leeds Bradford	4	1510	1920	Boeing 737 Passenger	1
FR	2047	Lanzarote	Leeds Bradford	2	1500	1910	Boeing 737 Passenger	1
FR	2048	Leeds Bradford	Lanzarote	6	1855	2315	Boeing 737 Passenger	1
FR	2048	Leeds Bradford	Lanzarote	4	1945	0005	Boeing 737 Passenger	1
FR	2048	Leeds Bradford	Lanzarote	2	1935	2355	Boeing 737 Passenger	1

FR	205	London Stansted Apt	Dublin (IE)	1234567	0815	0940	Boeing 737 Passenger	7
FR	206	Dublin (IE)	London Stansted Apt	123456	0820	0940	Boeing 737 Passenger	6
FR	2060	Birmingham Airport	Palma de Mallorca	7	1815	2140	Boeing 737 Passenger	1
FR	2060	Birmingham Airport	Palma de Mallorca	4	1355	1720	Boeing 737 Passenger	1
FR	2060	Birmingham Airport	Palma de Mallorca	3	0850	1215	Boeing 737 Passenger	1
FR	2060	Birmingham Airport	Palma de Mallorca	2	1035	1400	Boeing 737 Passenger	1
FR	2075	Nottingham East Midlands Airport	Menorca	1 5	1800	2130	Boeing 737 Passenger	2
FR	2076	Menorca	Nottingham East Midlands Airport	1 5	2205	2340	Boeing 737 Passenger	2
FR	2082	Madrid Adolfo Suarez-Barajas Apt	Birmingham Airport	5	1445	1615	Boeing 737 Passenger	1
FR	2082	Madrid Adolfo Suarez-Barajas Apt	Birmingham Airport	1 3 7	1305	1435	Boeing 737 Passenger	3
FR	2083	Birmingham Airport	Madrid Adolfo Suarez-Barajas Apt	5	1655	2025	Boeing 737 Passenger	1
FR	2083	Birmingham Airport	Madrid Adolfo Suarez-Barajas Apt	1 3 7	1500	1830	Boeing 737 Passenger	3
FR	2090	Palma de Mallorca	Birmingham Airport	7	1610	1745	Boeing 737 Passenger	1
FR	2090	Palma de Mallorca	Birmingham Airport	4	1135	1310	Boeing 737 Passenger	1
FR	2090	Palma de Mallorca	Birmingham Airport	3	0645	0820	Boeing 737 Passenger	1
FR	2090	Palma de Mallorca	Birmingham Airport	2	0810	0945	Boeing 737 Passenger	1
FR	2107	Manchester (GB)	Kerkyra	4 7	1510	2030	Boeing 737 Passenger	2
FR	2108	Kerkyra	Manchester (GB)	7	2105	2235	Boeing 737 Passenger	1
FR	2108	Kerkyra	Manchester (GB)	4	2055	2225	Boeing 737 Passenger	1
FR	211	Dublin (IE)	London Stansted Apt	1234567	1630	1750	Boeing 737 Passenger	7
FR	212	London Stansted Apt	Dublin (IE)	1234567	1830	1955	Boeing 737 Passenger	7
FR	2131	Manchester (GB)	Lanzarote	7	0640	1100	Boeing 737 Passenger	1
FR	2131	Manchester (GB)	Lanzarote	5	0645	1105	Boeing 737 Passenger	1
FR	2131	Manchester (GB)	Lanzarote	3	0745	1205	Boeing 737 Passenger	1
FR	2131	Manchester (GB)	Lanzarote	12 4	0555	1015	Boeing 737 Passenger	3
FR	2132	Lanzarote	Manchester (GB)	7	1135	1545	Boeing 737 Passenger	1
FR	2132	Lanzarote	Manchester (GB)	5	1140	1550	Boeing 737 Passenger	1
FR	2132	Lanzarote	Manchester (GB)	3	1240	1650	Boeing 737 Passenger	1
FR	2132	Lanzarote	Manchester (GB)	12 4	1050	1500	Boeing 737 Passenger	3
FR	2134	London Stansted Apt	Rzeszow	7	0655	1020	Boeing 737 Passenger	1
FR	2134	London Stansted Apt	Rzeszow	3	1150	1515	Boeing 737 Passenger	1
FR	2135	Rzeszow	London Stansted Apt	7	1045	1220	Boeing 737 Passenger	1
FR	2135	Rzeszow	London Stansted Apt	3	1540	1715	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	7	1800	2125	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	5	1655	2020	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	4	0655	1020	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	3	0720	1045	Boeing 737 Passenger	1
FR	2136	London Stansted Apt	Rzeszow	2 6	1145	1510	Boeing 737 Passenger	2
FR	2136	London Stansted Apt	Rzeszow	1	1810	2135	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	7	2155	2330	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	5	2045	2220	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	4	1045	1220	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	3	1110	1245	Boeing 737 Passenger	1
FR	2137	Rzeszow	London Stansted Apt	2 6	1535	1710	Boeing 737 Passenger	2
FR	2137	Rzeszow	London Stansted Apt	1	2200	2335	Boeing 737 Passenger	1
FR	2141	Manchester (GB)	Krakow John Paul II - Balice	6	0555	0935	Boeing 737 Passenger	1
FR	2141	Manchester (GB)	Krakow John Paul II - Balice	3	1905	2245	Boeing 737 Passenger	1
FR	2141	Manchester (GB)	Krakow John Paul II - Balice	1 5	1050	1430	Boeing 737 Passenger	2
FR	2142	Krakow John Paul II - Balice	Manchester (GB)	6	1000	1145	Boeing 737 Passenger	1
FR	2142	Krakow John Paul II - Balice	Manchester (GB)	3	2310	0055	Boeing 737 Passenger	1
FR	2142	Krakow John Paul II - Balice	Manchester (GB)	1 5	1455	1640	Boeing 737 Passenger	2
FR	2144	London Luton Apt	Kaunas	1234 67	0855	1335	Boeing 737 Passenger	6
FR	2145	Kaunas	London Luton Apt	1234 67	0730	0815	Boeing 737 Passenger	6
FR	2150	Alicante Airport	Birmingham Airport	7	1610	1750	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	6	1600	1740	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	5	0645	0825	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	4	1505	1645	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	2	1230	1410	Boeing 737 Passenger	1
FR	2150	Alicante Airport	Birmingham Airport	1	0900	1040	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	7	1815	2155	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	6	1805	2145	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	5	0850	1230	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	4	1710	2050	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	2	0815	1155	Boeing 737 Passenger	1
FR	2151	Birmingham Airport	Alicante Airport	1	1105	1445	Boeing 737 Passenger	1
FR	2152	Birmingham Airport	Alicante Airport	6	0745	1125	Boeing 737 Passenger	1
FR	2152	Birmingham Airport	Alicante Airport	345 7	1405	1745	Boeing 737 Passenger	4
FR	2152	Birmingham Airport	Alicante Airport	2	1745	2125	Boeing 737 Passenger	1
FR	2152	Birmingham Airport	Alicante Airport	1	1750	2130	Boeing 737 Passenger	1
FR	2153	Alicante Airport	Birmingham Airport	6	1200	1340	Boeing 737 Passenger	1

FR	2153	Alicante Airport	Birmingham Airport	345 7	1820	2000	Boeing 737 Passenger	4
FR	2153	Alicante Airport	Birmingham Airport	2	1540	1720	Boeing 737 Passenger	1
FR	2153	Alicante Airport	Birmingham Airport	1	1545	1725	Boeing 737 Passenger	1
FR	2154	Birmingham Airport	Corvera	6	1705	2050	Boeing 737 Passenger	1
FR	2154	Birmingham Airport	Corvera	2 4	0610	0955	Boeing 737 Passenger	2
FR	2154	Birmingham Airport	Corvera	1	1700	2045	Boeing 737 Passenger	1
FR	2155	Corvera	Birmingham Airport	6	2125	2310	Boeing 737 Passenger	1
FR	2155	Corvera	Birmingham Airport	2 4	1030	1215	Boeing 737 Passenger	2
FR	2155	Corvera	Birmingham Airport	1	2120	2305	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	7	0800	1155	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	6	1405	1800	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	5	1210	1605	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	34	1220	1615	Boeing 737 Passenger	2
FR	2156	Birmingham Airport	Malaga Airport	2	1940	2335	Boeing 737 Passenger	1
FR	2156	Birmingham Airport	Malaga Airport	1	1950	2345	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	7	1230	1420	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	6	1835	2030	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	5	1640	1835	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	34	1650	1845	Boeing 737 Passenger	2
FR	2157	Malaga Airport	Birmingham Airport	2	1720	1915	Boeing 737 Passenger	1
FR	2157	Malaga Airport	Birmingham Airport	1	1725	1920	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	7	1700	2025	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	6	1655	2020	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	3	1735	2100	Boeing 737 Passenger	1
FR	2162	Birmingham Airport	Palma de Mallorca	12 45	2025	2350	Boeing 737 Passenger	4
FR	2163	Palma de Mallorca	Birmingham Airport	7	1500	1635	Boeing 737 Passenger	1
FR	2163	Palma de Mallorca	Birmingham Airport	6	1425	1600	Boeing 737 Passenger	1
FR	2163	Palma de Mallorca	Birmingham Airport	3	2140	2315	Boeing 737 Passenger	1
FR	2163	Palma de Mallorca	Birmingham Airport	12 45	1820	1955	Boeing 737 Passenger	4
FR	2182	London Southend Apt	Venice Marco Polo Apt	7	1800	2100	Boeing 737 Passenger	1
FR	2182	London Southend Apt	Venice Marco Polo Apt	4	1125	1425	Boeing 737 Passenger	1
FR	2182	London Southend Apt	Venice Marco Polo Apt	3	0745	1045	Boeing 737 Passenger	1
FR	2182	London Southend Apt	Venice Marco Polo Apt	1	1705	2005	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	7	2155	2255	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	4	1500	1600	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	3	1110	1210	Boeing 737 Passenger	1
FR	2183	Venice Marco Polo Apt	London Southend Apt	1	2030	2130	Boeing 737 Passenger	1
FR	2184	London Southend Apt	Alicante Airport	6	1305	1630	Boeing 737 Passenger	1
FR	2184	London Southend Apt	Alicante Airport	5	0640	1005	Boeing 737 Passenger	1
FR	2184	London Southend Apt	Alicante Airport	23 7	0645	1010	Boeing 737 Passenger	3
FR	2185	Alicante Airport	London Southend Apt	6	1705	1830	Boeing 737 Passenger	1
FR	2185	Alicante Airport	London Southend Apt	5	1040	1205	Boeing 737 Passenger	1
FR	2185	Alicante Airport	London Southend Apt	23 7	1045	1210	Boeing 737 Passenger	3
FR	2186	London Southend Apt	Dublin (IE)	6	2005	2120	Boeing 737 Passenger	1
FR	2186	London Southend Apt	Dublin (IE)	3	0710	0825	Boeing 737 Passenger	1
FR	2186	London Southend Apt	Dublin (IE)	2 7	0655	0810	Boeing 737 Passenger	2
FR	2186	London Southend Apt	Dublin (IE)	1 45	0715	0830	Boeing 737 Passenger	3
FR	2187	Dublin (IE)	London Southend Apt	6	2145	2255	Boeing 737 Passenger	1
FR	2187	Dublin (IE)	London Southend Apt	2 7	0835	0945	Boeing 737 Passenger	2
FR	2187	Dublin (IE)	London Southend Apt	1 345	0855	1005	Boeing 737 Passenger	4
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	7	1930	2215	Boeing 737 Passenger	1
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	5	1735	2020	Boeing 737 Passenger	1
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	3	1745	2030	Boeing 737 Passenger	1
FR	2188	London Southend Apt	Milan Bergamo/orio al Serio Apt	1	0815	1100	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	7	2245	2330	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	5	2045	2130	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	3	2055	2140	Boeing 737 Passenger	1
FR	2189	Milan Bergamo/orio al Serio Apt	London Southend Apt	1	1125	1210	Boeing 737 Passenger	1
FR	2190	London Southend Apt	Malaga Airport	6	1310	1645	Boeing 737 Passenger	1
FR	2190	London Southend Apt	Malaga Airport	1 3 5 7	1300	1645	Boeing 737 Passenger	4
FR	2191	Malaga Airport	London Southend Apt	6	1730	1915	Boeing 737 Passenger	1
FR	2191	Malaga Airport	London Southend Apt	1 3 5 7	1720	1905	Boeing 737 Passenger	4
FR	2203	Leeds Bradford	Nowy Dwor Mazowiecki	4 7	0845	1210	Boeing 737 Passenger	2
FR	2204	Nowy Dwor Mazowiecki	Leeds Bradford	4 7	0645	0820	Boeing 737 Passenger	2
FR	221	Nottingham East Midlands Airport	Budapest	5	1325	1700	Boeing 737 Passenger	1
FR	221	Nottingham East Midlands Airport	Budapest	3	1715	2050	Boeing 737 Passenger	1
FR	221	Nottingham East Midlands Airport	Budapest	1	0840	1215	Boeing 737 Passenger	1
FR	222	Budapest	Nottingham East Midlands Airport	5	1725	1905	Boeing 737 Passenger	1
FR	222	Budapest	Nottingham East Midlands Airport	3	2115	2255	Boeing 737 Passenger	1
FR	222	Budapest	Nottingham East Midlands Airport	1	0635	0815	Boeing 737 Passenger	1

FR	2224	Tallinn	London Stansted Apt	7	1100	1155	Boeing 737 Passenger	1
FR	2224	Tallinn	London Stansted Apt	5	1150	1245	Boeing 737 Passenger	1
FR	2224	Tallinn	London Stansted Apt	3	1120	1215	Boeing 737 Passenger	1
FR	2224	Tallinn	London Stansted Apt	1	1155	1250	Boeing 737 Passenger	1
FR	2225	London Stansted Apt	Tallinn	5	0645	1125	Boeing 737 Passenger	1
FR	2225	London Stansted Apt	Tallinn	3 7	0555	1035	Boeing 737 Passenger	2
FR	2225	London Stansted Apt	Tallinn	1	0650	1130	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	7	1530	1700	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	5	1325	1455	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	3	1440	1615	Boeing 737 Passenger	1
FR	2241	Bologna Guglielmo Marconi	Manchester (GB)	1	1210	1340	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	7	1140	1505	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	5	0935	1300	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	3	1050	1415	Boeing 737 Passenger	1
FR	2242	Manchester (GB)	Bologna Guglielmo Marconi	1	0820	1145	Boeing 737 Passenger	1
FR	2244	London Stansted Apt	Vilnius	7	1810	2250	Boeing 737 Passenger	1
FR	2244	London Stansted Apt	Vilnius	3	1620	2100	Boeing 737 Passenger	1
FR	2244	London Stansted Apt	Vilnius	2 456	1905	2345	Boeing 737 Passenger	4
FR	2244	London Stansted Apt	Vilnius	1	1910	2350	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	7	2315	2359	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	5	1740	1825	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	3	2125	2210	Boeing 737 Passenger	1
FR	2245	Vilnius	London Stansted Apt	2 4 6	1755	1840	Boeing 737 Passenger	3
FR	2245	Vilnius	London Stansted Apt	1	1800	1845	Boeing 737 Passenger	1
FR	225	London Stansted Apt	Dublin (IE)	1234567	1340	1505	Boeing 737 Passenger	7
FR	2252	Manchester (GB)	Lisbon	1 345 7	2055	2345	Boeing 737 Passenger	5
FR	2253	Lisbon	Manchester (GB)	1 345 7	1740	2030	Boeing 737 Passenger	5
FR	2266	Birmingham Airport	Malaga Airport	3 5 7	1655	2050	Boeing 737 Passenger	3
FR	2266	Birmingham Airport	Malaga Airport	2 4	1010	1405	Boeing 737 Passenger	2
FR	2266	Birmingham Airport	Malaga Airport	1	0800	1155	Boeing 737 Passenger	1
FR	2267	Malaga Airport	Birmingham Airport	3 5 7	2125	2320	Boeing 737 Passenger	3
FR	2267	Malaga Airport	Birmingham Airport	2 4	0750	0945	Boeing 737 Passenger	2
FR	2267	Malaga Airport	Birmingham Airport	1	1230	1425	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	7	2020	2130	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	6	1300	1410	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	4	1605	1715	Boeing 737 Passenger	1
FR	2268	Bournemouth	Dublin (IE)	2	1345	1455	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	7	2155	2305	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	6	1125	1235	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	4	1430	1540	Boeing 737 Passenger	1
FR	2269	Dublin (IE)	Bournemouth	2	1210	1320	Boeing 737 Passenger	1
FR	2272	Dublin (IE)	London Stansted Apt	1 34567	1155	1315	Boeing 737 Passenger	6
FR	228	London Stansted Apt	Szczytno	4 6	1335	1700	Boeing 737 Passenger	2
FR	228	London Stansted Apt	Szczytno	2	1655	2020	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	6	1225	1540	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	5	1255	1610	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	3	1140	1455	Boeing 737 Passenger	1
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	2 4 7	1200	1515	Boeing 737 Passenger	3
FR	2281	London Stansted Apt	Nowy Dwor Mazowiecki	1	1155	1510	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	6	1605	1735	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	5	1100	1230	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	3	1525	1655	Boeing 737 Passenger	1
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	2 4 7	1540	1710	Boeing 737 Passenger	3
FR	2282	Nowy Dwor Mazowiecki	London Stansted Apt	1	1535	1705	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	7	1740	2055	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	3	1755	2110	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	3 6	1810	2125	Boeing 737 Passenger	1
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	2 45	1800	2115	Boeing 737 Passenger	3
FR	2283	London Stansted Apt	Nowy Dwor Mazowiecki	1	1850	2205	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	7	2120	2250	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	3	2135	2305	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	3 6	2150	2320	Boeing 737 Passenger	1
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	2 45	2140	2310	Boeing 737 Passenger	3
FR	2284	Nowy Dwor Mazowiecki	London Stansted Apt	1	2230	2359	Boeing 737 Passenger	1
FR	229	Szczytno	London Stansted Apt	4 6	1725	1850	Boeing 737 Passenger	2
FR	229	Szczytno	London Stansted Apt	2	2045	2210	Boeing 737 Passenger	1
FR	2291	Alicante Airport	Bristol	4	1515	1650	Boeing 737 Passenger	1
FR	2292	Bristol	Alicante Airport	4	1715	2045	Boeing 737 Passenger	1
FR	2295	London Stansted Apt	Duesseldorf Weeze Airport	5	1420	1630	Boeing 737 Passenger	1
FR	2295	London Stansted Apt	Duesseldorf Weeze Airport	3	1455	1705	Boeing 737 Passenger	1

FR	2295	London Stansted Apt	Duesseldorf Weeze Airport	1	1905	2115	Boeing 737 Passenger	1
FR	2296	Duesseldorf Weeze Airport	London Stansted Apt	5	1655	1705	Boeing 737 Passenger	1
FR	2296	Duesseldorf Weeze Airport	London Stansted Apt	3	1730	1740	Boeing 737 Passenger	1
FR	2296	Duesseldorf Weeze Airport	London Stansted Apt	1	2140	2150	Boeing 737 Passenger	1
FR	231	Alghero	London Stansted Apt	6	2155	2330	Boeing 737 Passenger	1
FR	231	Alghero	London Stansted Apt	4	1055	1230	Boeing 737 Passenger	1
FR	231	Alghero	London Stansted Apt	2	1650	1825	Boeing 737 Passenger	1
FR	2314	London Stansted Apt	Bratislava	4	0815	1130	Boeing 737 Passenger	1
FR	2314	London Stansted Apt	Bratislava	23 567	0830	1145	Boeing 737 Passenger	5
FR	2315	Bratislava	London Stansted Apt	4	1155	1315	Boeing 737 Passenger	1
FR	2315	Bratislava	London Stansted Apt	23 567	0630	0750	Boeing 737 Passenger	5
FR	2318	London Stansted Apt	Bratislava	3 5 7	1950	2305	Boeing 737 Passenger	3
FR	2319	Bratislava	London Stansted Apt	3 5 7	1800	1920	Boeing 737 Passenger	3
FR	232	London Stansted Apt	Alghero	6	1800	2130	Boeing 737 Passenger	1
FR	232	London Stansted Apt	Alghero	4	0700	1030	Boeing 737 Passenger	1
FR	232	London Stansted Apt	Alghero	2	1255	1625	Boeing 737 Passenger	1
FR	2320	Edinburgh	Billund	7	1510	1745	Boeing 737 Passenger	1
FR	2320	Edinburgh	Billund	4	1515	1750	Boeing 737 Passenger	1
FR	2321	Billund	Edinburgh	7	1810	1845	Boeing 737 Passenger	1
FR	2321	Billund	Edinburgh	4	1815	1850	Boeing 737 Passenger	1
FR	2322	Leeds Bradford	Corvera	5	1650	2050	Boeing 737 Passenger	1
FR	2322	Leeds Bradford	Corvera	1	1620	2020	Boeing 737 Passenger	1
FR	2323	Corvera	Leeds Bradford	5	2130	2325	Boeing 737 Passenger	1
FR	2323	Corvera	Leeds Bradford	1	2055	2250	Boeing 737 Passenger	1
FR	2324	Girona Costa Brava Apt	Leeds Bradford	5	0640	0800	Boeing 737 Passenger	1
FR	2324	Girona Costa Brava Apt	Leeds Bradford	1	1745	1905	Boeing 737 Passenger	1
FR	2325	Leeds Bradford	Girona Costa Brava Apt	5	0825	1145	Boeing 737 Passenger	1
FR	2325	Leeds Bradford	Girona Costa Brava Apt	1	1930	2250	Boeing 737 Passenger	1
FR	2326	Leeds Bradford	Palma de Mallorca	5	0925	1305	Boeing 737 Passenger	1
FR	2326	Leeds Bradford	Palma de Mallorca	1234 67	0930	1310	Boeing 737 Passenger	6
FR	2327	Palma de Mallorca	Leeds Bradford	5	1340	1530	Boeing 737 Passenger	1
FR	2327	Palma de Mallorca	Leeds Bradford	1234 67	1345	1535	Boeing 737 Passenger	6
FR	2328	Leeds Bradford	Limoges	7	1535	1830	Boeing 737 Passenger	1
FR	2328	Leeds Bradford	Limoges	4	0620	0915	Boeing 737 Passenger	1
FR	2329	Limoges	Leeds Bradford	7	1855	1945	Boeing 737 Passenger	1
FR	2329	Limoges	Leeds Bradford	4	0940	1030	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	7	2025	2355	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	6	1635	2005	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	4	0645	1015	Boeing 737 Passenger	1
FR	2332	Leeds Bradford	Krakow John Paul II - Balice	2	1545	1915	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	7	1825	2000	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	6	2030	2205	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	4	1040	1215	Boeing 737 Passenger	1
FR	2333	Krakow John Paul II - Balice	Leeds Bradford	2	1940	2115	Boeing 737 Passenger	1
FR	2336	London Stansted Apt	Poznan Lawica Apt	3	0555	0900	Boeing 737 Passenger	1
FR	2336	London Stansted Apt	Poznan Lawica Apt	2 7	0705	1010	Boeing 737 Passenger	2
FR	2336	London Stansted Apt	Poznan Lawica Apt	1 456	1120	1425	Boeing 737 Passenger	4
FR	2337	Poznan Lawica Apt	London Stansted Apt	3	0925	1030	Boeing 737 Passenger	1
FR	2337	Poznan Lawica Apt	London Stansted Apt	2 7	1035	1140	Boeing 737 Passenger	2
FR	2337	Poznan Lawica Apt	London Stansted Apt	1 456	1450	1555	Boeing 737 Passenger	4
FR	2341	Faro	Newcastle	1 3 5 7	1535	1845	Boeing 737 Passenger	4
FR	2342	Newcastle	Faro	1 3 5 7	1910	2220	Boeing 737 Passenger	4
FR	2344	Girona Costa Brava Apt	Newcastle	6	1800	1930	Boeing 737 Passenger	1
FR	2344	Girona Costa Brava Apt	Newcastle	2	1715	1845	Boeing 737 Passenger	1
FR	2345	Newcastle	Girona Costa Brava Apt	6	1955	2325	Boeing 737 Passenger	1
FR	2345	Newcastle	Girona Costa Brava Apt	2	1910	2240	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	7	1700	1850	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	6	0745	0935	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	5	0615	0805	Boeing 737 Passenger	1
FR	2346	Palma de Mallorca	Newcastle	234	0630	0820	Boeing 737 Passenger	3
FR	2346	Palma de Mallorca	Newcastle	1	0635	0825	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	7	1925	2310	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	6	1000	1350	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	5	0830	1215	Boeing 737 Passenger	1
FR	2347	Newcastle	Palma de Mallorca	2 4	0845	1235	Boeing 737 Passenger	2
FR	2347	Newcastle	Palma de Mallorca	1 3	0850	1235	Boeing 737 Passenger	2
FR	2352	London Stansted Apt	Cologne/Bonn Apt	5	1420	1645	Boeing 737 Passenger	1
FR	2352	London Stansted Apt	Cologne/Bonn Apt	2 4	1505	1730	Boeing 737 Passenger	2
FR	2352	London Stansted Apt	Cologne/Bonn Apt	1 3	1210	1435	Boeing 737 Passenger	2
FR	2353	Cologne/Bonn Apt	London Stansted Apt	5	1710	1735	Boeing 737 Passenger	1

FR	2353	Cologne/Bonn Apt	London Stansted Apt	2 4	1755	1820	Boeing 737 Passenger	2
FR	2353	Cologne/Bonn Apt	London Stansted Apt	1 3	1500	1525	Boeing 737 Passenger	2
FR	2354	Edinburgh	Luxembourg	5	0925	1215	Boeing 737 Passenger	1
FR	2354	Edinburgh	Luxembourg	3	1350	1640	Boeing 737 Passenger	1
FR	2354	Edinburgh	Luxembourg	1	1710	2000	Boeing 737 Passenger	1
FR	2355	Luxembourg	Edinburgh	5	1250	1340	Boeing 737 Passenger	1
FR	2355	Luxembourg	Edinburgh	3	1715	1805	Boeing 737 Passenger	1
FR	2355	Luxembourg	Edinburgh	1	2035	2125	Boeing 737 Passenger	1
FR	2368	London Stansted Apt	Ostrava	6	1325	1640	Boeing 737 Passenger	1
FR	2368	London Stansted Apt	Ostrava	4	1725	2040	Boeing 737 Passenger	1
FR	2368	London Stansted Apt	Ostrava	2	1350	1705	Boeing 737 Passenger	1
FR	2369	Ostrava	London Stansted Apt	6	1710	1825	Boeing 737 Passenger	1
FR	2369	Ostrava	London Stansted Apt	4	2105	2220	Boeing 737 Passenger	1
FR	2369	Ostrava	London Stansted Apt	2	1730	1845	Boeing 737 Passenger	1
FR	2371	London Stansted Apt	Dublin (IE)	1 34567	1005	1130	Boeing 737 Passenger	6
FR	2372	London Stansted Apt	Gdansk Lech Walesa	7	2005	2315	Boeing 737 Passenger	1
FR	2372	London Stansted Apt	Gdansk Lech Walesa	6	0840	1150	Boeing 737 Passenger	1
FR	2372	London Stansted Apt	Gdansk Lech Walesa	2	2000	2310	Boeing 737 Passenger	1
FR	2372	London Stansted Apt	Gdansk Lech Walesa	1 345	1850	2200	Boeing 737 Passenger	4
FR	2373	Gdansk Lech Walesa	London Stansted Apt	7	1815	1930	Boeing 737 Passenger	1
FR	2373	Gdansk Lech Walesa	London Stansted Apt	6	0700	0815	Boeing 737 Passenger	1
FR	2373	Gdansk Lech Walesa	London Stansted Apt	2	1800	1915	Boeing 737 Passenger	1
FR	2373	Gdansk Lech Walesa	London Stansted Apt	1 345	2225	2340	Boeing 737 Passenger	4
FR	2374	London Stansted Apt	Gdansk Lech Walesa	5	0935	1245	Boeing 737 Passenger	1
FR	2374	London Stansted Apt	Gdansk Lech Walesa	34	1110	1420	Boeing 737 Passenger	2
FR	2374	London Stansted Apt	Gdansk Lech Walesa	2	0945	1255	Boeing 737 Passenger	1
FR	2374	London Stansted Apt	Gdansk Lech Walesa	1	0845	1155	Boeing 737 Passenger	1
FR	2375	Gdansk Lech Walesa	London Stansted Apt	5	0755	0910	Boeing 737 Passenger	1
FR	2375	Gdansk Lech Walesa	London Stansted Apt	34	0930	1045	Boeing 737 Passenger	2
FR	2375	Gdansk Lech Walesa	London Stansted Apt	2	0800	0915	Boeing 737 Passenger	1
FR	2375	Gdansk Lech Walesa	London Stansted Apt	1	0705	0820	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	7	1245	1550	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	5	0600	0905	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	34	0630	0935	Boeing 737 Passenger	2
FR	2376	Edinburgh	Berlin Schoenefeld Apt	2	0645	0950	Boeing 737 Passenger	1
FR	2376	Edinburgh	Berlin Schoenefeld Apt	1	1145	1450	Boeing 737 Passenger	1
FR	2377	Berlin Schoenefeld Apt	Edinburgh	7	1105	1210	Boeing 737 Passenger	1
FR	2377	Berlin Schoenefeld Apt	Edinburgh	345	1000	1105	Boeing 737 Passenger	3
FR	2377	Berlin Schoenefeld Apt	Edinburgh	2	1015	1120	Boeing 737 Passenger	1
FR	2377	Berlin Schoenefeld Apt	Edinburgh	1	1515	1620	Boeing 737 Passenger	1
FR	2404	London Stansted Apt	Memmingen	6	1215	1500	Boeing 737 Passenger	1
FR	2404	London Stansted Apt	Memmingen	4	1305	1550	Boeing 737 Passenger	1
FR	2404	London Stansted Apt	Memmingen	23 7	1205	1450	Boeing 737 Passenger	3
FR	2405	Memmingen	London Stansted Apt	6	1525	1605	Boeing 737 Passenger	1
FR	2405	Memmingen	London Stansted Apt	4	1200	1240	Boeing 737 Passenger	1
FR	2405	Memmingen	London Stansted Apt	23 7	1515	1555	Boeing 737 Passenger	3
FR	2411	Nottingham East Midlands Airport	Malta	5	1630	2055	Boeing 737 Passenger	1
FR	2411	Nottingham East Midlands Airport	Malta	3	0620	1045	Boeing 737 Passenger	1
FR	2411	Nottingham East Midlands Airport	Malta	1	1600	2035	Boeing 737 Passenger	1
FR	2418	Frankfurt International Apt	Manchester (GB)	12345	1425	1520	Boeing 737 Passenger	5
FR	2419	Manchester (GB)	Frankfurt International Apt	12345	1545	1835	Boeing 737 Passenger	5
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	7	0850	1215	Boeing 737 Passenger	1
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	5	0715	1040	Boeing 737 Passenger	1
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	2	0855	1220	Boeing 737 Passenger	1
FR	2432	London Stansted Apt	Krakow John Paul II - Balice	1 34 6	0900	1225	Boeing 737 Passenger	4
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	5	1105	1240	Boeing 737 Passenger	1
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	3	0700	0835	Boeing 737 Passenger	1
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	2	0655	0830	Boeing 737 Passenger	1
FR	2433	Krakow John Paul II - Balice	London Stansted Apt	1 4 67	0645	0820	Boeing 737 Passenger	4
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	5	1315	1640	Boeing 737 Passenger	1
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	4	1245	1610	Boeing 737 Passenger	1
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	2	1650	2015	Boeing 737 Passenger	1
FR	2434	London Stansted Apt	Krakow John Paul II - Balice	1 67	1300	1625	Boeing 737 Passenger	3
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	5	1705	1840	Boeing 737 Passenger	1
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	4	1040	1215	Boeing 737 Passenger	1
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	2	1450	1625	Boeing 737 Passenger	1
FR	2435	Krakow John Paul II - Balice	London Stansted Apt	1 67	1650	1825	Boeing 737 Passenger	3
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	6	1835	2200	Boeing 737 Passenger	1
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	4	1830	2155	Boeing 737 Passenger	1
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	3	1740	2105	Boeing 737 Passenger	1

FR	2436	London Stansted Apt	Krakow John Paul II - Balice	2	1700	2025	Boeing 737 Passenger	1
FR	2436	London Stansted Apt	Krakow John Paul II - Balice	1 5 7	1800	2125	Boeing 737 Passenger	3
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	6	2225	2359	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	4	2220	2355	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	3	2130	2305	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	2	2050	2225	Boeing 737 Passenger	1
FR	2437	Krakow John Paul II - Balice	London Stansted Apt	1 5 7	2150	2325	Boeing 737 Passenger	3
FR	2446	Leeds Bradford	Malaga Airport	7	1650	2035	Boeing 737 Passenger	1
FR	2446	Leeds Bradford	Malaga Airport	4	1630	2015	Boeing 737 Passenger	1
FR	2446	Leeds Bradford	Malaga Airport	3	1705	2100	Boeing 737 Passenger	1
FR	2446	Leeds Bradford	Malaga Airport	2 56	1655	2050	Boeing 737 Passenger	3
FR	2446	Leeds Bradford	Malaga Airport	1	1905	2300	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	7	2110	2310	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	4	2050	2250	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	3	2135	2335	Boeing 737 Passenger	1
FR	2447	Malaga Airport	Leeds Bradford	2 56	2125	2325	Boeing 737 Passenger	3
FR	2447	Malaga Airport	Leeds Bradford	1	1640	1840	Boeing 737 Passenger	1
FR	2448	Leeds Bradford	Malta	1 5	0945	1420	Boeing 737 Passenger	2
FR	2449	Malta	Leeds Bradford	1 5	0645	0920	Boeing 737 Passenger	2
FR	2453	Edinburgh	Bologna Guglielmo Marconi	5	0655	1040	Boeing 737 Passenger	1
FR	2453	Edinburgh	Bologna Guglielmo Marconi	1	2020	0005	Boeing 737 Passenger	1
FR	2454	Bologna Guglielmo Marconi	Edinburgh	5	1105	1255	Boeing 737 Passenger	1
FR	2454	Bologna Guglielmo Marconi	Edinburgh	1	1805	1955	Boeing 737 Passenger	1
FR	2462	London Stansted Apt	Bydgoszcz	1234567	0645	0955	Boeing 737 Passenger	7
FR	2463	Bydgoszcz	London Stansted Apt	1234567	1020	1130	Boeing 737 Passenger	7
FR	2466	London Stansted Apt	Szczecin	7	1920	2215	Boeing 737 Passenger	1
FR	2466	London Stansted Apt	Szczecin	5	1810	2105	Boeing 737 Passenger	1
FR	2466	London Stansted Apt	Szczecin	34 6	1900	2155	Boeing 737 Passenger	3
FR	2466	London Stansted Apt	Szczecin	2	1850	2145	Boeing 737 Passenger	1
FR	2466	London Stansted Apt	Szczecin	1	1840	2135	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	7	2240	2335	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	5	2130	2225	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	2	2210	2305	Boeing 737 Passenger	1
FR	2467	Szczecin	London Stansted Apt	1 34 6	2220	2315	Boeing 737 Passenger	4
FR	2468	London Stansted Apt	Lodz Wladyslaw Reymont	7	1325	1640	Boeing 737 Passenger	1
FR	2468	London Stansted Apt	Lodz Wladyslaw Reymont	3	0705	1020	Boeing 737 Passenger	1
FR	2468	London Stansted Apt	Lodz Wladyslaw Reymont	12 56	1155	1510	Boeing 737 Passenger	4
FR	2469	Lodz Wladyslaw Reymont	London Stansted Apt	7	1705	1825	Boeing 737 Passenger	1
FR	2469	Lodz Wladyslaw Reymont	London Stansted Apt	3	1045	1205	Boeing 737 Passenger	1
FR	2469	Lodz Wladyslaw Reymont	London Stansted Apt	12 56	1535	1655	Boeing 737 Passenger	4
FR	2472	Malta	Nottingham East Midlands Airport	5	2120	2345	Boeing 737 Passenger	1
FR	2472	Malta	Nottingham East Midlands Airport	3	1110	1335	Boeing 737 Passenger	1
FR	2472	Malta	Nottingham East Midlands Airport	1	2100	2335	Boeing 737 Passenger	1
FR	2476	Leeds Bradford	Chania	2 6	0700	1300	Boeing 737 Passenger	2
FR	2477	Chania	Leeds Bradford	2 6	1325	1540	Boeing 737 Passenger	2
FR	2480	Malaga Airport	Leeds Bradford	2	1115	1315	Boeing 737 Passenger	1
FR	2482	Leeds Bradford	Riga	7	0640	1120	Boeing 737 Passenger	1
FR	2482	Leeds Bradford	Riga	3	1610	2050	Boeing 737 Passenger	1
FR	2483	Riga	Leeds Bradford	7	1145	1245	Boeing 737 Passenger	1
FR	2483	Riga	Leeds Bradford	3	2115	2215	Boeing 737 Passenger	1
FR	2486	Leeds Bradford	Ibiza	7	1405	1755	Boeing 737 Passenger	1
FR	2486	Leeds Bradford	Ibiza	4	1335	1725	Boeing 737 Passenger	1
FR	2487	Ibiza	Leeds Bradford	7	1840	2025	Boeing 737 Passenger	1
FR	2487	Ibiza	Leeds Bradford	4	2155	2340	Boeing 737 Passenger	1
FR	2492	Leeds Bradford	Tenerife Sur Apt	6	1905	2340	Boeing 737 Passenger	1
FR	2492	Leeds Bradford	Tenerife Sur Apt	1 3	0625	1100	Boeing 737 Passenger	2
FR	2493	Tenerife Sur Apt	Leeds Bradford	6	1405	1840	Boeing 737 Passenger	1
FR	2493	Tenerife Sur Apt	Leeds Bradford	1 3	1135	1610	Boeing 737 Passenger	2
FR	2496	Leeds Bradford	Kerkyra	3	0745	1305	Boeing 737 Passenger	1
FR	2497	Kerkyra	Leeds Bradford	3	1330	1505	Boeing 737 Passenger	1
FR	2498	London Stansted Apt	Bratislava	4	1915	2230	Boeing 737 Passenger	1
FR	2498	London Stansted Apt	Bratislava	1	1645	2000	Boeing 737 Passenger	1
FR	2499	Bratislava	London Stansted Apt	4	2255	0020	Boeing 737 Passenger	1
FR	2499	Bratislava	London Stansted Apt	1	2030	2150	Boeing 737 Passenger	1
FR	2501	Leeds Bradford	Pisa	5	1505	1835	Boeing 737 Passenger	1
FR	2501	Leeds Bradford	Pisa	1	1855	2225	Boeing 737 Passenger	1
FR	2502	Pisa	Leeds Bradford	5	1310	1440	Boeing 737 Passenger	1
FR	2502	Pisa	Leeds Bradford	1	1700	1830	Boeing 737 Passenger	1
FR	2503	Leeds Bradford	Faro	6	0615	0915	Boeing 737 Passenger	1
FR	2503	Leeds Bradford	Faro	5	1820	2120	Boeing 737 Passenger	1

FR	2503	Leeds Bradford	Faro	34 7	1950	2250	Boeing 737 Passenger	3
FR	2503	Leeds Bradford	Faro	1	1125	1425	Boeing 737 Passenger	1
FR	2504	Faro	Leeds Bradford	6	0940	1235	Boeing 737 Passenger	1
FR	2504	Faro	Leeds Bradford	5	1500	1755	Boeing 737 Passenger	1
FR	2504	Faro	Leeds Bradford	34 7	1630	1925	Boeing 737 Passenger	3
FR	2504	Faro	Leeds Bradford	1	0805	1100	Boeing 737 Passenger	1
FR	2521	Alicante Airport	Glasgow International Airport	7	1700	1905	Boeing 737 Passenger	1
FR	2521	Alicante Airport	Glasgow International Airport	4	1435	1640	Boeing 737 Passenger	1
FR	2521	Alicante Airport	Glasgow International Airport	2	1500	1705	Boeing 737 Passenger	1
FR	2522	Glasgow International Airport	Alicante Airport	7	1930	2335	Boeing 737 Passenger	1
FR	2522	Glasgow International Airport	Alicante Airport	4	1705	2110	Boeing 737 Passenger	1
FR	2522	Glasgow International Airport	Alicante Airport	2	1730	2135	Boeing 737 Passenger	1
FR	2535	Gran Canaria	Leeds Bradford	7	1405	1825	Boeing 737 Passenger	1
FR	2535	Gran Canaria	Leeds Bradford	4	1345	1805	Boeing 737 Passenger	1
FR	2536	Leeds Bradford	Gran Canaria	7	1850	2320	Boeing 737 Passenger	1
FR	2536	Leeds Bradford	Gran Canaria	4	1830	2300	Boeing 737 Passenger	1
FR	2545	Tenerife Sur Apt	Newcastle	5	1330	1800	Boeing 737 Passenger	1
FR	2545	Tenerife Sur Apt	Newcastle	1	1400	1840	Boeing 737 Passenger	1
FR	2546	Newcastle	Tenerife Sur Apt	5	1825	2310	Boeing 737 Passenger	1
FR	2546	Newcastle	Tenerife Sur Apt	1	1905	2359	Boeing 737 Passenger	1
FR	2558	Brussels S. Charleroi Airport	Glasgow International Airport	2 6	1040	1120	Boeing 737 Passenger	2
FR	2559	Glasgow International Airport	Brussels S. Charleroi Airport	2 6	1145	1425	Boeing 737 Passenger	2
FR	2561	Tenerife Sur Apt	Belfast International Apt	7	1240	1700	Boeing 737 Passenger	1
FR	2561	Tenerife Sur Apt	Belfast International Apt	4	1400	1820	Boeing 737 Passenger	1
FR	2562	Belfast International Apt	Tenerife Sur Apt	7	1725	2155	Boeing 737 Passenger	1
FR	2562	Belfast International Apt	Tenerife Sur Apt	4	1900	2330	Boeing 737 Passenger	1
FR	2595	Lanzarote	Belfast International Apt	1 5	1135	1550	Boeing 737 Passenger	2
FR	2596	Belfast International Apt	Lanzarote	1 5	0645	1100	Boeing 737 Passenger	2
FR	2603	Valencia Airport	Manchester (GB)	5	2015	2155	Boeing 737 Passenger	1
FR	2603	Valencia Airport	Manchester (GB)	1 3	1435	1615	Boeing 737 Passenger	2
FR	2604	Manchester (GB)	Valencia Airport	5	1610	1940	Boeing 737 Passenger	1
FR	2604	Manchester (GB)	Valencia Airport	1 3	1640	2010	Boeing 737 Passenger	2
FR	2608	Malaga Airport	Glasgow International Airport	7	1325	1540	Boeing 737 Passenger	1
FR	2608	Malaga Airport	Glasgow International Airport	4 6	1535	1750	Boeing 737 Passenger	2
FR	2608	Malaga Airport	Glasgow International Airport	2	1515	1730	Boeing 737 Passenger	1
FR	2609	Glasgow International Airport	Malaga Airport	7	1605	2020	Boeing 737 Passenger	1
FR	2609	Glasgow International Airport	Malaga Airport	4 6	1815	2230	Boeing 737 Passenger	2
FR	2609	Glasgow International Airport	Malaga Airport	2	1755	2210	Boeing 737 Passenger	1
FR	2612	London Stansted Apt	Santander	7	1905	2205	Boeing 737 Passenger	1
FR	2612	London Stansted Apt	Santander	4	1835	2135	Boeing 737 Passenger	1
FR	2612	London Stansted Apt	Santander	2 5	1845	2145	Boeing 737 Passenger	2
FR	2612	London Stansted Apt	Santander	1	1315	1615	Boeing 737 Passenger	1
FR	2613	Santander	London Stansted Apt	7	2230	2325	Boeing 737 Passenger	1
FR	2613	Santander	London Stansted Apt	4	2200	2255	Boeing 737 Passenger	1
FR	2613	Santander	London Stansted Apt	2 5	2210	2305	Boeing 737 Passenger	2
FR	2613	Santander	London Stansted Apt	1	1640	1735	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	7	2030	0020	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	6	1005	1355	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	5	1950	2340	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	3	2010	2355	Boeing 737 Passenger	1
FR	2626	Manchester (GB)	Ibiza	12 4	0650	1040	Boeing 737 Passenger	3
FR	2627	Ibiza	Manchester (GB)	7	1830	2005	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	6	1430	1615	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	5	1740	1925	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	3	1755	1945	Boeing 737 Passenger	1
FR	2627	Ibiza	Manchester (GB)	12 4	1115	1300	Boeing 737 Passenger	3
FR	2630	Ponta Delgada	London Stansted Apt	6	1150	1645	Boeing 737 Passenger	1
FR	2631	London Stansted Apt	Ponta Delgada	6	0830	1125	Boeing 737 Passenger	1
FR	2634	London Stansted Apt	Zaragoza Airport	6	0650	1005	Boeing 737 Passenger	1
FR	2634	London Stansted Apt	Zaragoza Airport	4	1400	1715	Boeing 737 Passenger	1
FR	2634	London Stansted Apt	Zaragoza Airport	23 7	1325	1640	Boeing 737 Passenger	3
FR	2635	Zaragoza Airport	London Stansted Apt	6	1035	1150	Boeing 737 Passenger	1
FR	2635	Zaragoza Airport	London Stansted Apt	4	1740	1855	Boeing 737 Passenger	1
FR	2635	Zaragoza Airport	London Stansted Apt	23 7	1705	1820	Boeing 737 Passenger	3
FR	2642	London Stansted Apt	Riga	7	0620	1100	Boeing 737 Passenger	1
FR	2642	London Stansted Apt	Riga	5	0610	1050	Boeing 737 Passenger	1
FR	2642	London Stansted Apt	Riga	4	0635	1115	Boeing 737 Passenger	1
FR	2642	London Stansted Apt	Riga	3 6	0645	1125	Boeing 737 Passenger	2
FR	2642	London Stansted Apt	Riga	12	0625	1105	Boeing 737 Passenger	2
FR	2643	Riga	London Stansted Apt	7	1125	1210	Boeing 737 Passenger	1

FR	2643	Riga	London Stansted Apt	5	1115	1200	Boeing 737 Passenger	1
FR	2643	Riga	London Stansted Apt	4	1140	1225	Boeing 737 Passenger	1
FR	2643	Riga	London Stansted Apt	3 6	1150	1235	Boeing 737 Passenger	2
FR	2643	Riga	London Stansted Apt	12	1130	1215	Boeing 737 Passenger	2
FR	2644	London Stansted Apt	Riga	5	1640	2110	Boeing 737 Passenger	1
FR	2644	London Stansted Apt	Riga	234 67	1700	2130	Boeing 737 Passenger	5
FR	2644	London Stansted Apt	Riga	1	1755	2225	Boeing 737 Passenger	1
FR	2645	Riga	London Stansted Apt	5	2140	2225	Boeing 737 Passenger	1
FR	2645	Riga	London Stansted Apt	234 67	2155	2240	Boeing 737 Passenger	5
FR	2645	Riga	London Stansted Apt	1	2250	2335	Boeing 737 Passenger	1
FR	2665	Nowy Dwor Mazowiecki	Manchester (GB)	5	2250	0035	Boeing 737 Passenger	1
FR	2665	Nowy Dwor Mazowiecki	Manchester (GB)	3	1100	1245	Boeing 737 Passenger	1
FR	2665	Nowy Dwor Mazowiecki	Manchester (GB)	1	2130	2315	Boeing 737 Passenger	1
FR	2666	Manchester (GB)	Nowy Dwor Mazowiecki	5	1850	2215	Boeing 737 Passenger	1
FR	2666	Manchester (GB)	Nowy Dwor Mazowiecki	3	1310	1635	Boeing 737 Passenger	1
FR	2666	Manchester (GB)	Nowy Dwor Mazowiecki	1	1735	2100	Boeing 737 Passenger	1
FR	2669	London Stansted Apt	Nowy Dwor Mazowiecki	5	1945	2300	Boeing 737 Passenger	1
FR	2669	London Stansted Apt	Nowy Dwor Mazowiecki	3 7	1435	1750	Boeing 737 Passenger	2
FR	2669	London Stansted Apt	Nowy Dwor Mazowiecki	1	1420	1735	Boeing 737 Passenger	1
FR	2670	Nowy Dwor Mazowiecki	London Stansted Apt	5	1750	1920	Boeing 737 Passenger	1
FR	2670	Nowy Dwor Mazowiecki	London Stansted Apt	3 7	1815	1945	Boeing 737 Passenger	2
FR	2670	Nowy Dwor Mazowiecki	London Stansted Apt	1	1800	1930	Boeing 737 Passenger	1
FR	2672	London Stansted Apt	Rome Ciampino Apt	1234567	0625	0955	Boeing 737 Passenger	7
FR	2673	Rome Ciampino Apt	London Stansted Apt	1234567	1020	1205	Boeing 737 Passenger	7
FR	2674	Edinburgh	Copenhagen Kastrup Apt	1 3 5 7	1845	2135	Boeing 737 Passenger	4
FR	2675	Copenhagen Kastrup Apt	Edinburgh	1 3 5 7	2200	2250	Boeing 737 Passenger	4
FR	2687	London Stansted Apt	Cagliari	6	0720	1055	Boeing 737 Passenger	1
FR	2687	London Stansted Apt	Cagliari	4	0635	1010	Boeing 737 Passenger	1
FR	2687	London Stansted Apt	Cagliari	2	0610	0945	Boeing 737 Passenger	1
FR	2688	Cagliari	London Stansted Apt	6	1120	1255	Boeing 737 Passenger	1
FR	2688	Cagliari	London Stansted Apt	4	1035	1210	Boeing 737 Passenger	1
FR	2688	Cagliari	London Stansted Apt	2	1010	1145	Boeing 737 Passenger	1
FR	2690	London Southend Apt	Faro	6	1725	2010	Boeing 737 Passenger	1
FR	2690	London Southend Apt	Faro	34	1705	1950	Boeing 737 Passenger	2
FR	2690	London Southend Apt	Faro	1 5	1610	1855	Boeing 737 Passenger	2
FR	2691	Faro	London Southend Apt	6	2035	2315	Boeing 737 Passenger	1
FR	2691	Faro	London Southend Apt	34	2015	2255	Boeing 737 Passenger	2
FR	2691	Faro	London Southend Apt	1 5	1920	2200	Boeing 737 Passenger	2
FR	2698	London Southend Apt	Cluj-Napoca	6	0630	1110	Boeing 737 Passenger	1
FR	2698	London Southend Apt	Cluj-Napoca	4	0700	1140	Boeing 737 Passenger	1
FR	2698	London Southend Apt	Cluj-Napoca	2	1650	2130	Boeing 737 Passenger	1
FR	2699	Cluj-Napoca	London Southend Apt	6	1140	1220	Boeing 737 Passenger	1
FR	2699	Cluj-Napoca	London Southend Apt	4	1210	1250	Boeing 737 Passenger	1
FR	2699	Cluj-Napoca	London Southend Apt	2	2200	2240	Boeing 737 Passenger	1
FR	2700	London Southend Apt	Copenhagen Kastrup Apt	6	1920	2210	Boeing 737 Passenger	1
FR	2700	London Southend Apt	Copenhagen Kastrup Apt	4	1735	2025	Boeing 737 Passenger	1
FR	2700	London Southend Apt	Copenhagen Kastrup Apt	2	1750	2040	Boeing 737 Passenger	1
FR	2701	Copenhagen Kastrup Apt	London Southend Apt	6	2235	2325	Boeing 737 Passenger	1
FR	2701	Copenhagen Kastrup Apt	London Southend Apt	4	2050	2140	Boeing 737 Passenger	1
FR	2701	Copenhagen Kastrup Apt	London Southend Apt	2	2105	2155	Boeing 737 Passenger	1
FR	2709	London Southend Apt	Kerkyra	7	0740	1240	Boeing 737 Passenger	1
FR	2709	London Southend Apt	Kerkyra	2	1325	1825	Boeing 737 Passenger	1
FR	271	London Stansted Apt	Dublin (IE)	1234567	2205	2330	Boeing 737 Passenger	7
FR	2710	Kerkyra	London Southend Apt	7	1305	1400	Boeing 737 Passenger	1
FR	2710	Kerkyra	London Southend Apt	2	1850	1950	Boeing 737 Passenger	1
FR	2711	Birmingham Airport	Ibiza	7	0720	1100	Boeing 737 Passenger	1
FR	2711	Birmingham Airport	Ibiza	4	1450	1830	Boeing 737 Passenger	1
FR	2712	Ibiza	Birmingham Airport	7	1135	1315	Boeing 737 Passenger	1
FR	2712	Ibiza	Birmingham Airport	4	1905	2045	Boeing 737 Passenger	1
FR	2714	Alicante Airport	London Gatwick Apt	5	1520	1700	Boeing 737 Passenger	1
FR	2714	Alicante Airport	London Gatwick Apt	4	0825	1005	Boeing 737 Passenger	1
FR	2714	Alicante Airport	London Gatwick Apt	2 6	0810	0950	Boeing 737 Passenger	2
FR	2714	Alicante Airport	London Gatwick Apt	1 3	1530	1710	Boeing 737 Passenger	2
FR	2715	London Gatwick Apt	Alicante Airport	6	1015	1345	Boeing 737 Passenger	1
FR	2715	London Gatwick Apt	Alicante Airport	4	1100	1430	Boeing 737 Passenger	1
FR	2715	London Gatwick Apt	Alicante Airport	3 5	1735	2105	Boeing 737 Passenger	2
FR	2715	London Gatwick Apt	Alicante Airport	2	1025	1355	Boeing 737 Passenger	1
FR	2715	London Gatwick Apt	Alicante Airport	1	1740	2110	Boeing 737 Passenger	1
FR	2716	London Southend Apt	Bilbao	7	1455	1735	Boeing 737 Passenger	1
FR	2716	London Southend Apt	Bilbao	4	0630	0910	Boeing 737 Passenger	1

FR	2716	London Southend Apt	Bilbao	3	1300	1540	Boeing 737 Passenger	1
FR	2716	London Southend Apt	Bilbao	2	1305	1545	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	7	1805	1845	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	4	0945	1025	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	3	1615	1655	Boeing 737 Passenger	1
FR	2717	Bilbao	London Southend Apt	2	1620	1700	Boeing 737 Passenger	1
FR	2718	London Southend Apt	Kosice	6	0630	1010	Boeing 737 Passenger	1
FR	2718	London Southend Apt	Kosice	4	1340	1720	Boeing 737 Passenger	1
FR	2718	London Southend Apt	Kosice	2	0650	1030	Boeing 737 Passenger	1
FR	2719	Kosice	London Southend Apt	6	1035	1215	Boeing 737 Passenger	1
FR	2719	Kosice	London Southend Apt	4	1745	1925	Boeing 737 Passenger	1
FR	2719	Kosice	London Southend Apt	2	1055	1235	Boeing 737 Passenger	1
FR	272	Dublin (IE)	London Stansted Apt	1234567	2020	2140	Boeing 737 Passenger	7
FR	2720	London Southend Apt	Dublin (IE)	6	0630	0745	Boeing 737 Passenger	1
FR	2720	London Southend Apt	Dublin (IE)	4	2015	2130	Boeing 737 Passenger	1
FR	2720	London Southend Apt	Dublin (IE)	2	2040	2155	Boeing 737 Passenger	1
FR	2720	London Southend Apt	Dublin (IE)	1 3 5 7	1955	2110	Boeing 737 Passenger	4
FR	2721	Dublin (IE)	London Southend Apt	6	0810	0920	Boeing 737 Passenger	1
FR	2721	Dublin (IE)	London Southend Apt	4	2155	2305	Boeing 737 Passenger	1
FR	2721	Dublin (IE)	London Southend Apt	2	2220	2330	Boeing 737 Passenger	1
FR	2721	Dublin (IE)	London Southend Apt	1 3 5 7	2135	2245	Boeing 737 Passenger	4
FR	2746	London Stansted Apt	Kaunas	3 56	1815	2250	Boeing 737 Passenger	3
FR	2746	London Stansted Apt	Kaunas	2	0700	1135	Boeing 737 Passenger	1
FR	2747	Kaunas	London Stansted Apt	3 56	1710	1750	Boeing 737 Passenger	3
FR	2747	Kaunas	London Stansted Apt	2	1200	1240	Boeing 737 Passenger	1
FR	2752	Pisa	Edinburgh	6	0705	0850	Boeing 737 Passenger	1
FR	2752	Pisa	Edinburgh	4	1800	1945	Boeing 737 Passenger	1
FR	2752	Pisa	Edinburgh	2	1925	2110	Boeing 737 Passenger	1
FR	2753	Edinburgh	Pisa	6	0915	1300	Boeing 737 Passenger	1
FR	2753	Edinburgh	Pisa	4	2010	2355	Boeing 737 Passenger	1
FR	2753	Edinburgh	Pisa	2	1515	1900	Boeing 737 Passenger	1
FR	2772	London Stansted Apt	Fes	3 7	1045	1400	Boeing 737 Passenger	2
FR	2773	Fes	London Stansted Apt	3 7	0705	1020	Boeing 737 Passenger	2
FR	2781	Leeds Bradford	Malaga Airport	2	0645	1040	Boeing 737 Passenger	1
FR	2786	London Stansted Apt	Rodez	7	1125	1405	Boeing 737 Passenger	1
FR	2786	London Stansted Apt	Rodez	4	1420	1700	Boeing 737 Passenger	1
FR	2787	Rodez	London Stansted Apt	7	1430	1510	Boeing 737 Passenger	1
FR	2787	Rodez	London Stansted Apt	4	1725	1805	Boeing 737 Passenger	1
FR	2800	Manchester (GB)	Billund	5	1300	1555	Boeing 737 Passenger	1
FR	2800	Manchester (GB)	Billund	2 6	1335	1630	Boeing 737 Passenger	2
FR	2800	Manchester (GB)	Billund	1	0930	1225	Boeing 737 Passenger	1
FR	2801	Billund	Manchester (GB)	5	1620	1710	Boeing 737 Passenger	1
FR	2801	Billund	Manchester (GB)	2 6	1655	1745	Boeing 737 Passenger	2
FR	2801	Billund	Manchester (GB)	1	1250	1340	Boeing 737 Passenger	1
FR	2803	London Southend Apt	Palma de Mallorca	34	1105	1420	Boeing 737 Passenger	2
FR	2803	London Southend Apt	Palma de Mallorca	2 7	1045	1400	Boeing 737 Passenger	2
FR	2803	London Southend Apt	Palma de Mallorca	1 56	1050	1405	Boeing 737 Passenger	3
FR	2804	Palma de Mallorca	London Southend Apt	2 7	1440	1600	Boeing 737 Passenger	2
FR	2804	Palma de Mallorca	London Southend Apt	1 3456	1455	1615	Boeing 737 Passenger	5
FR	281	London Stansted Apt	Toulouse	7	1850	2150	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	6	1815	2115	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	5	1820	2120	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	4	1810	2110	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	3	1805	2105	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	2	1935	2235	Boeing 737 Passenger	1
FR	281	London Stansted Apt	Toulouse	1	1830	2130	Boeing 737 Passenger	1
FR	2813	Cologne/Bonn Apt	London Stansted Apt	123456	0645	0710	Boeing 737 Passenger	6
FR	2814	London Stansted Apt	Cologne/Bonn Apt	6	0735	1000	Boeing 737 Passenger	1
FR	2814	London Stansted Apt	Cologne/Bonn Apt	3	0745	1010	Boeing 737 Passenger	1
FR	2814	London Stansted Apt	Cologne/Bonn Apt	12 45	0740	1005	Boeing 737 Passenger	4
FR	2815	Cologne/Bonn Apt	London Stansted Apt	4	2210	2230	Boeing 737 Passenger	1
FR	2815	Cologne/Bonn Apt	London Stansted Apt	123 5 7	2155	2215	Boeing 737 Passenger	5
FR	2816	London Stansted Apt	Cologne/Bonn Apt	4	1920	2145	Boeing 737 Passenger	1
FR	2816	London Stansted Apt	Cologne/Bonn Apt	123 5 7	1905	2130	Boeing 737 Passenger	5
FR	282	Toulouse	London Stansted Apt	7	2215	2310	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	6	2140	2235	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	5	2145	2240	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	4	2135	2230	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	3	2130	2225	Boeing 737 Passenger	1
FR	282	Toulouse	London Stansted Apt	2	2300	2355	Boeing 737 Passenger	1

FR	282	Toulouse	London Stansted Apt	1	2155	2250	Boeing 737 Passenger	1
FR	2821	Manchester (GB)	Chania	6	0710	1315	Boeing 737 Passenger	1
FR	2821	Manchester (GB)	Chania	4	0810	1415	Boeing 737 Passenger	1
FR	2821	Manchester (GB)	Chania	2	1355	2000	Boeing 737 Passenger	1
FR	2822	Chania	Manchester (GB)	6	1405	1630	Boeing 737 Passenger	1
FR	2822	Chania	Manchester (GB)	4	1445	1710	Boeing 737 Passenger	1
FR	2822	Chania	Manchester (GB)	2	2025	2250	Boeing 737 Passenger	1
FR	2830	London Southend Apt	Reus	1 5	1055	1355	Boeing 737 Passenger	2
FR	2831	Reus	London Southend Apt	1 5	1420	1520	Boeing 737 Passenger	2
FR	2840	London Southend Apt	Brest (FR)	1 5	0705	0920	Boeing 737 Passenger	2
FR	2841	Brest (FR)	London Southend Apt	1 5	0945	1000	Boeing 737 Passenger	2
FR	286	London Stansted Apt	Klaipeda/Palanga	2 6	0610	1025	Boeing 737 Passenger	2
FR	2860	London Stansted Apt	Luxembourg	7	1425	1640	Boeing 737 Passenger	1
FR	2860	London Stansted Apt	Luxembourg	56	1900	2115	Boeing 737 Passenger	2
FR	2860	London Stansted Apt	Luxembourg	1234	1855	2110	Boeing 737 Passenger	4
FR	2861	Luxembourg	London Stansted Apt	7	1715	1730	Boeing 737 Passenger	1
FR	2861	Luxembourg	London Stansted Apt	56	2150	2205	Boeing 737 Passenger	2
FR	2861	Luxembourg	London Stansted Apt	1234	2145	2200	Boeing 737 Passenger	4
FR	287	Klaipeda/Palanga	London Stansted Apt	2 6	1050	1120	Boeing 737 Passenger	2
FR	288	Dublin (IE)	London Stansted Apt	3	1830	1950	Boeing 737 Passenger	1
FR	288	Dublin (IE)	London Stansted Apt	12 4567	1855	2015	Boeing 737 Passenger	6
FR	2885	Kaunas	Edinburgh	6	2225	2315	Boeing 737 Passenger	1
FR	2885	Kaunas	Edinburgh	2	1315	1405	Boeing 737 Passenger	1
FR	2886	Edinburgh	Kaunas	6	1715	2200	Boeing 737 Passenger	1
FR	2886	Edinburgh	Kaunas	2	0805	1250	Boeing 737 Passenger	1
FR	2911	Birmingham Airport	Faro	6	1935	2230	Boeing 737 Passenger	1
FR	2911	Birmingham Airport	Faro	4	1640	1935	Boeing 737 Passenger	1
FR	2912	Faro	Birmingham Airport	6	1620	1910	Boeing 737 Passenger	1
FR	2912	Faro	Birmingham Airport	4	2000	2250	Boeing 737 Passenger	1
FR	293	London Stansted Apt	Dublin (IE)	12345 7	2010	2130	Boeing 737 Passenger	6
FR	294	Dublin (IE)	London Stansted Apt	1234567	1530	1650	Boeing 737 Passenger	7
FR	295	London Stansted Apt	Toulouse	5	0635	0935	Boeing 737 Passenger	1
FR	295	London Stansted Apt	Toulouse	1234 67	0715	1015	Boeing 737 Passenger	6
FR	2953	Newquay	Alicante Airport	7	2005	2320	Boeing 737 Passenger	1
FR	2953	Newquay	Alicante Airport	3	0905	1220	Boeing 737 Passenger	1
FR	2954	Alicante Airport	Newquay	7	1810	1940	Boeing 737 Passenger	1
FR	2954	Alicante Airport	Newquay	3	0710	0840	Boeing 737 Passenger	1
FR	296	Toulouse	London Stansted Apt	5	1000	1055	Boeing 737 Passenger	1
FR	296	Toulouse	London Stansted Apt	1234 67	1040	1135	Boeing 737 Passenger	6
FR	297	London Stansted Apt	Dublin (IE)	3	1640	1805	Boeing 737 Passenger	1
FR	297	London Stansted Apt	Dublin (IE)	12 4567	1705	1830	Boeing 737 Passenger	6
FR	298	Dublin (IE)	London Stansted Apt	12345 7	2155	2315	Boeing 737 Passenger	6
FR	2981	Bristol	Bologna Guglielmo Marconi	7	0705	1015	Boeing 737 Passenger	1
FR	2981	Bristol	Bologna Guglielmo Marconi	3	0645	0955	Boeing 737 Passenger	1
FR	2982	Bologna Guglielmo Marconi	Bristol	7	1040	1200	Boeing 737 Passenger	1
FR	2982	Bologna Guglielmo Marconi	Bristol	3	1020	1140	Boeing 737 Passenger	1
FR	3002	London Stansted Apt	Rome Ciampino Apt	3	0840	1210	Boeing 737 Passenger	1
FR	3002	London Stansted Apt	Rome Ciampino Apt	12 4567	0845	1215	Boeing 737 Passenger	6
FR	3003	Rome Ciampino Apt	London Stansted Apt	23	1710	1855	Boeing 737 Passenger	2
FR	3003	Rome Ciampino Apt	London Stansted Apt	1 4567	1715	1900	Boeing 737 Passenger	5
FR	3004	London Stansted Apt	Rome Ciampino Apt	23	1920	2250	Boeing 737 Passenger	2
FR	3004	London Stansted Apt	Rome Ciampino Apt	1 4567	1925	2255	Boeing 737 Passenger	5
FR	3005	Rome Ciampino Apt	London Stansted Apt	234567	0630	0815	Boeing 737 Passenger	6
FR	3005	Rome Ciampino Apt	London Stansted Apt	1	0625	0810	Boeing 737 Passenger	1
FR	3014	London Stansted Apt	Rome Ciampino Apt	1234567	1610	1940	Boeing 737 Passenger	7
FR	3015	Rome Ciampino Apt	London Stansted Apt	1234567	1400	1545	Boeing 737 Passenger	7
FR	3026	Gdansk Lech Walesa	Belfast International Apt	3 6	0635	0815	Boeing 737 Passenger	2
FR	3027	Belfast International Apt	Gdansk Lech Walesa	3 6	0845	1230	Boeing 737 Passenger	2
FR	3028	Liverpool	Marrakech	5	0625	1015	Boeing 737 Passenger	1
FR	3028	Liverpool	Marrakech	1	0625	1005	Boeing 737 Passenger	1
FR	3029	Marrakech	Liverpool	5	1040	1430	Boeing 737 Passenger	1
FR	3029	Marrakech	Liverpool	1	1030	1410	Boeing 737 Passenger	1
FR	3033	London Stansted Apt	Agadir	6	1555	1945	Boeing 737 Passenger	1
FR	3033	London Stansted Apt	Agadir	2	1610	2000	Boeing 737 Passenger	1
FR	3034	Agadir	London Stansted Apt	6	2010	2359	Boeing 737 Passenger	1
FR	3034	Agadir	London Stansted Apt	2	2025	0015	Boeing 737 Passenger	1
FR	304	London Stansted Apt	Salzburg W A Mozart	3	0715	1010	Boeing 737 Passenger	1
FR	304	London Stansted Apt	Salzburg W A Mozart	1 567	0725	1020	Boeing 737 Passenger	4
FR	305	Salzburg W A Mozart	London Stansted Apt	3	1035	1135	Boeing 737 Passenger	1
FR	305	Salzburg W A Mozart	London Stansted Apt	1 567	1045	1145	Boeing 737 Passenger	4

FR	3071	London Stansted Apt	Comiso	5	1620	2035	Boeing 737 Passenger	1
FR	3071	London Stansted Apt	Comiso	1	0715	1130	Boeing 737 Passenger	1
FR	3072	London Stansted Apt	Rome Ciampino Apt	3	1310	1640	Boeing 737 Passenger	1
FR	3072	London Stansted Apt	Rome Ciampino Apt	12 4567	1325	1655	Boeing 737 Passenger	6
FR	3073	Rome Ciampino Apt	London Stansted Apt	3	1100	1245	Boeing 737 Passenger	1
FR	3073	Rome Ciampino Apt	London Stansted Apt	12 4567	1115	1300	Boeing 737 Passenger	6
FR	3074	Comiso	London Stansted Apt	5	2100	2320	Boeing 737 Passenger	1
FR	3074	Comiso	London Stansted Apt	1	1155	1415	Boeing 737 Passenger	1
FR	3086	Manchester (GB)	Bordeaux Merignac Apt	7	2035	2325	Boeing 737 Passenger	1
FR	3086	Manchester (GB)	Bordeaux Merignac Apt	3	0915	1205	Boeing 737 Passenger	1
FR	3087	Bordeaux Merignac Apt	Manchester (GB)	7	2350	0040	Boeing 737 Passenger	1
FR	3087	Bordeaux Merignac Apt	Manchester (GB)	3	0800	0850	Boeing 737 Passenger	1
FR	3088	Manchester (GB)	Goteborg Landvetter Apt	7	1125	1420	Boeing 737 Passenger	1
FR	3088	Manchester (GB)	Goteborg Landvetter Apt	3	0935	1230	Boeing 737 Passenger	1
FR	3089	Goteborg Landvetter Apt	Manchester (GB)	7	1005	1100	Boeing 737 Passenger	1
FR	3089	Goteborg Landvetter Apt	Manchester (GB)	3	1255	1350	Boeing 737 Passenger	1
FR	3118	Manchester (GB)	Marseille Provence Apt	2 6	1050	1400	Boeing 737 Passenger	2
FR	3119	Marseille Provence Apt	Manchester (GB)	2 6	1425	1535	Boeing 737 Passenger	2
FR	3126	Manchester (GB)	Marrakech	7	1935	2315	Boeing 737 Passenger	1
FR	3126	Manchester (GB)	Marrakech	4	0610	1000	Boeing 737 Passenger	1
FR	3127	Marrakech	Manchester (GB)	7	1530	1910	Boeing 737 Passenger	1
FR	3127	Marrakech	Manchester (GB)	4	1025	1415	Boeing 737 Passenger	1
FR	3128	Manchester (GB)	Thessaloniki	7	0640	1215	Boeing 737 Passenger	1
FR	3128	Manchester (GB)	Thessaloniki	3	1000	1535	Boeing 737 Passenger	1
FR	3129	Thessaloniki	Manchester (GB)	7	1240	1415	Boeing 737 Passenger	1
FR	3129	Thessaloniki	Manchester (GB)	3	1600	1735	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	7	1750	0030	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	6	1855	0125	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	5	1750	0020	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	4	1710	2350	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	3	1700	2330	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	2	0555	1225	Boeing 737 Passenger	1
FR	3131	London Stansted Apt	Paphos	1	1555	2225	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	7	1415	1725	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	6	1530	1830	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	5	1425	1725	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	4	1335	1645	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	3	1335	1635	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	2	1250	1550	Boeing 737 Passenger	1
FR	3132	Paphos	London Stansted Apt	1	1230	1530	Boeing 737 Passenger	1
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	7	1415	1850	Boeing 737 Passenger	1
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	6	1400	1835	Boeing 737 Passenger	1
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	2345	1355	1830	Boeing 737 Passenger	4
FR	3152	Nottingham East Midlands Airport	Tenerife Sur Apt	1	1405	1840	Boeing 737 Passenger	1
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	7	1925	2340	Boeing 737 Passenger	1
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	6	1910	2325	Boeing 737 Passenger	1
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	2345	1905	2320	Boeing 737 Passenger	4
FR	3153	Tenerife Sur Apt	Nottingham East Midlands Airport	1	1915	2330	Boeing 737 Passenger	1
FR	3162	Nottingham East Midlands Airport	Gran Canaria	6	2010	0035	Boeing 737 Passenger	1
FR	3162	Nottingham East Midlands Airport	Gran Canaria	3	1850	2325	Boeing 737 Passenger	1
FR	3163	Gran Canaria	Nottingham East Midlands Airport	6	1525	1945	Boeing 737 Passenger	1
FR	3163	Gran Canaria	Nottingham East Midlands Airport	3	1355	1825	Boeing 737 Passenger	1
FR	3168	Liverpool	Paphos	7	1415	2120	Boeing 737 Passenger	1
FR	3168	Liverpool	Paphos	3	0600	1255	Boeing 737 Passenger	1
FR	3169	Paphos	Liverpool	7	2145	0050	Boeing 737 Passenger	1
FR	3169	Paphos	Liverpool	3	1320	1615	Boeing 737 Passenger	1
FR	3170	Edinburgh	Riga	4	1740	2225	Boeing 737 Passenger	1
FR	3171	Riga	Edinburgh	4	2250	2335	Boeing 737 Passenger	1
FR	3172	Nottingham East Midlands Airport	Lanzarote	67	0705	1120	Boeing 737 Passenger	2
FR	3172	Nottingham East Midlands Airport	Lanzarote	2 4	0700	1120	Boeing 737 Passenger	2
FR	3173	Lanzarote	Nottingham East Midlands Airport	2 4 67	1155	1605	Boeing 737 Passenger	4
FR	3178	Edinburgh	Memmingen	6	1040	1355	Boeing 737 Passenger	1
FR	3178	Edinburgh	Memmingen	2	1335	1650	Boeing 737 Passenger	1
FR	3179	Memmingen	Edinburgh	6	1420	1535	Boeing 737 Passenger	1
FR	3179	Memmingen	Edinburgh	2	1715	1830	Boeing 737 Passenger	1
FR	3180	Edinburgh	Stockholm Skavsta Airport	4	0700	1010	Boeing 737 Passenger	1
FR	3180	Edinburgh	Stockholm Skavsta Airport	1	0635	0945	Boeing 737 Passenger	1
FR	3181	Stockholm Skavsta Airport	Edinburgh	4	1035	1145	Boeing 737 Passenger	1
FR	3181	Stockholm Skavsta Airport	Edinburgh	1	1010	1120	Boeing 737 Passenger	1
FR	3182	Edinburgh	Derry	6	0620	0715	Boeing 737 Passenger	1

FR	3182	Edinburgh	Derry	5	0645	0740	Boeing 737 Passenger	1
FR	3182	Edinburgh	Derry	2 4 7	1915	2010	Boeing 737 Passenger	3
FR	3183	Derry	Edinburgh	6	0740	0835	Boeing 737 Passenger	1
FR	3183	Derry	Edinburgh	5	0805	0900	Boeing 737 Passenger	1
FR	3183	Derry	Edinburgh	2 4 7	2035	2130	Boeing 737 Passenger	3
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	7	0700	0840	Boeing 737 Passenger	1
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	3	0655	0840	Boeing 737 Passenger	1
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	2 6	0805	0945	Boeing 737 Passenger	2
FR	3186	Madrid Adolfo Suarez-Barajas Apt	Manchester (GB)	1 45	0810	0950	Boeing 737 Passenger	3
FR	3187	Manchester (GB)	Madrid Adolfo Suarez-Barajas Apt	3 7	0905	1240	Boeing 737 Passenger	2
FR	3187	Manchester (GB)	Madrid Adolfo Suarez-Barajas Apt	2 6	1010	1345	Boeing 737 Passenger	2
FR	3187	Manchester (GB)	Madrid Adolfo Suarez-Barajas Apt	1 45	1015	1350	Boeing 737 Passenger	3
FR	3188	London Stansted Apt	Rijeka	5	0905	1220	Boeing 737 Passenger	1
FR	3188	London Stansted Apt	Rijeka	1	0855	1210	Boeing 737 Passenger	1
FR	3189	Rijeka	London Stansted Apt	5	1245	1400	Boeing 737 Passenger	1
FR	3189	Rijeka	London Stansted Apt	1	1235	1350	Boeing 737 Passenger	1
FR	32	London Stansted Apt	Oslo Sandefjord-Torp Arpt	5 7	1140	1435	Boeing 737 Passenger	2
FR	32	London Stansted Apt	Oslo Sandefjord-Torp Arpt	3	1635	1930	Boeing 737 Passenger	1
FR	32	London Stansted Apt	Oslo Sandefjord-Torp Arpt	1	1340	1635	Boeing 737 Passenger	1
FR	3202	Manchester (GB)	Rzeszow	7	0555	0940	Boeing 737 Passenger	1
FR	3202	Manchester (GB)	Rzeszow	3	0830	1215	Boeing 737 Passenger	1
FR	3203	Rzeszow	Manchester (GB)	7	1005	1155	Boeing 737 Passenger	1
FR	3203	Rzeszow	Manchester (GB)	3	1240	1430	Boeing 737 Passenger	1
FR	3204	Manchester (GB)	Rome Ciampino Apt	6	0610	0955	Boeing 737 Passenger	1
FR	3204	Manchester (GB)	Rome Ciampino Apt	2345 7	0715	1100	Boeing 737 Passenger	5
FR	3204	Manchester (GB)	Rome Ciampino Apt	1	0930	1315	Boeing 737 Passenger	1
FR	3205	Rome Ciampino Apt	Manchester (GB)	6	1020	1215	Boeing 737 Passenger	1
FR	3205	Rome Ciampino Apt	Manchester (GB)	2345 7	1125	1320	Boeing 737 Passenger	5
FR	3205	Rome Ciampino Apt	Manchester (GB)	1	0655	0850	Boeing 737 Passenger	1
FR	3206	Manchester (GB)	Rome Ciampino Apt	3 5 7	1745	2130	Boeing 737 Passenger	3
FR	3207	Rome Ciampino Apt	Manchester (GB)	3 5 7	2155	2350	Boeing 737 Passenger	3
FR	3208	Manchester (GB)	Malaga Airport	1234567	1955	2355	Boeing 737 Passenger	7
FR	3209	Malaga Airport	Manchester (GB)	1234567	1725	1930	Boeing 737 Passenger	7
FR	3212	Manchester (GB)	Girona Costa Brava Apt	2 4 6	0835	1150	Boeing 737 Passenger	3
FR	3213	Girona Costa Brava Apt	Manchester (GB)	2 4 6	0640	0810	Boeing 737 Passenger	3
FR	3216	Manchester (GB)	Milan Bergamo/orio al Serio Apt	7	0830	1145	Boeing 737 Passenger	1
FR	3216	Manchester (GB)	Milan Bergamo/orio al Serio Apt	4	0825	1140	Boeing 737 Passenger	1
FR	3217	Milan Bergamo/orio al Serio Apt	Manchester (GB)	7	1215	1330	Boeing 737 Passenger	1
FR	3217	Milan Bergamo/orio al Serio Apt	Manchester (GB)	4	1205	1325	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	6	1830	2145	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	45 7	1305	1620	Boeing 737 Passenger	3
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	3	1625	1940	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	2	0745	1100	Boeing 737 Passenger	1
FR	3218	Manchester (GB)	Milan Bergamo/orio al Serio Apt	1	1900	2215	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	6	2210	2325	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	45 7	1645	1805	Boeing 737 Passenger	3
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	3	2005	2125	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	2	1125	1245	Boeing 737 Passenger	1
FR	3219	Milan Bergamo/orio al Serio Apt	Manchester (GB)	1	2240	2359	Boeing 737 Passenger	1
FR	3222	Manchester (GB)	Brussels S. Charleroi Airport	12345 7	1830	2055	Boeing 737 Passenger	6
FR	3223	Brussels S. Charleroi Airport	Manchester (GB)	12345 7	2120	2145	Boeing 737 Passenger	6
FR	3226	Manchester (GB)	Oslo Sandefjord-Torp Arpt	5	0830	1125	Boeing 737 Passenger	1
FR	3226	Manchester (GB)	Oslo Sandefjord-Torp Arpt	4	1835	2130	Boeing 737 Passenger	1
FR	3226	Manchester (GB)	Oslo Sandefjord-Torp Arpt	1	1345	1640	Boeing 737 Passenger	1
FR	3227	Oslo Sandefjord-Torp Arpt	Manchester (GB)	5	1150	1300	Boeing 737 Passenger	1
FR	3227	Oslo Sandefjord-Torp Arpt	Manchester (GB)	4	2155	2305	Boeing 737 Passenger	1
FR	3227	Oslo Sandefjord-Torp Arpt	Manchester (GB)	1	1705	1805	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	6	1010	1410	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	4	1000	1400	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	3 5 7	1015	1415	Boeing 737 Passenger	3
FR	3232	Manchester (GB)	Malaga Airport	2	1535	1935	Boeing 737 Passenger	1
FR	3232	Manchester (GB)	Malaga Airport	1	0915	1315	Boeing 737 Passenger	1
FR	3233	Malaga Airport	Manchester (GB)	56	0740	0945	Boeing 737 Passenger	2
FR	3233	Malaga Airport	Manchester (GB)	4	0730	0935	Boeing 737 Passenger	1
FR	3233	Malaga Airport	Manchester (GB)	3 7	0745	0950	Boeing 737 Passenger	2
FR	3233	Malaga Airport	Manchester (GB)	2	2010	2215	Boeing 737 Passenger	1
FR	3233	Malaga Airport	Manchester (GB)	1	1350	1555	Boeing 737 Passenger	1
FR	3234	Manchester (GB)	Eindhoven Airport	7	0730	0945	Boeing 737 Passenger	1
FR	3234	Manchester (GB)	Eindhoven Airport	4	1415	1630	Boeing 737 Passenger	1
FR	3234	Manchester (GB)	Eindhoven Airport	1 5	1350	1605	Boeing 737 Passenger	2

FR	3235	Eindhoven Airport	Manchester (GB)	7	1010	1025	Boeing 737 Passenger	1
FR	3235	Eindhoven Airport	Manchester (GB)	4	1655	1710	Boeing 737 Passenger	1
FR	3235	Eindhoven Airport	Manchester (GB)	1 5	1630	1645	Boeing 737 Passenger	2
FR	3238	Manchester (GB)	Brussels S. Charleroi Airport	6	0715	0940	Boeing 737 Passenger	1
FR	3238	Manchester (GB)	Brussels S. Charleroi Airport	12345	0750	1015	Boeing 737 Passenger	5
FR	3239	Brussels S. Charleroi Airport	Manchester (GB)	6	1005	1030	Boeing 737 Passenger	1
FR	3239	Brussels S. Charleroi Airport	Manchester (GB)	12345	0700	0725	Boeing 737 Passenger	5
FR	3242	Manchester (GB)	Beziers	4	1100	1410	Boeing 737 Passenger	1
FR	3242	Manchester (GB)	Beziers	2 6	1320	1630	Boeing 737 Passenger	2
FR	3243	Beziers	Manchester (GB)	4	1435	1545	Boeing 737 Passenger	1
FR	3243	Beziers	Manchester (GB)	2 6	1655	1805	Boeing 737 Passenger	2
FR	3256	London Luton Apt	Nimes Garons Airport	2 4 6	0635	0930	Boeing 737 Passenger	3
FR	3257	Nimes Garons Airport	London Luton Apt	2 4 6	0955	1050	Boeing 737 Passenger	3
FR	33	Oslo Sandefjord-Torp Arpt	London Stansted Apt	5 7	1500	1600	Boeing 737 Passenger	2
FR	33	Oslo Sandefjord-Torp Arpt	London Stansted Apt	3	1955	2055	Boeing 737 Passenger	1
FR	33	Oslo Sandefjord-Torp Arpt	London Stansted Apt	1	1715	1815	Boeing 737 Passenger	1
FR	331	London Luton Apt	Dublin (IE)	1234567	0630	0750	Boeing 737 Passenger	7
FR	332	Dublin (IE)	London Luton Apt	1234567	0815	0930	Boeing 737 Passenger	7
FR	337	Dublin (IE)	London Luton Apt	123 567	1600	1715	Boeing 737 Passenger	6
FR	338	London Luton Apt	Dublin (IE)	1234567	1415	1535	Boeing 737 Passenger	7
FR	3385	Bristol	Limoges	1 5	1400	1635	Boeing 737 Passenger	2
FR	3386	Limoges	Bristol	1 5	1700	1740	Boeing 737 Passenger	2
FR	339	London Luton Apt	Dublin (IE)	5	1635	1755	Boeing 737 Passenger	1
FR	339	London Luton Apt	Dublin (IE)	1	1750	1910	Boeing 737 Passenger	1
FR	34	Manchester (GB)	Bratislava	7	1840	2210	Boeing 737 Passenger	1
FR	34	Manchester (GB)	Bratislava	5	2035	0005	Boeing 737 Passenger	1
FR	34	Manchester (GB)	Bratislava	3	1405	1735	Boeing 737 Passenger	1
FR	340	Dublin (IE)	London Luton Apt	5	1820	1935	Boeing 737 Passenger	1
FR	340	Dublin (IE)	London Luton Apt	1	1935	2050	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	7	1640	1955	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	6	1625	1940	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	5	1610	1925	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	4	1605	1920	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	3	1730	2045	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	2	1530	1845	Boeing 737 Passenger	1
FR	3406	London Luton Apt	Bologna Guglielmo Marconi	1	1705	2020	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	7	1455	1615	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	6	1440	1600	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	5	1425	1545	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	4	1415	1535	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	3	1545	1705	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	2	1345	1505	Boeing 737 Passenger	1
FR	3407	Bologna Guglielmo Marconi	London Luton Apt	1	1520	1640	Boeing 737 Passenger	1
FR	341	London Luton Apt	Dublin (IE)	1234567	2005	2125	Boeing 737 Passenger	7
FR	342	Dublin (IE)	London Luton Apt	123 567	2200	2315	Boeing 737 Passenger	6
FR	3441	Manchester (GB)	Palma de Mallorca	7	0755	1135	Boeing 737 Passenger	1
FR	3441	Manchester (GB)	Palma de Mallorca	6	0655	1035	Boeing 737 Passenger	1
FR	3441	Manchester (GB)	Palma de Mallorca	345	0620	1000	Boeing 737 Passenger	3
FR	3441	Manchester (GB)	Palma de Mallorca	2	0900	1240	Boeing 737 Passenger	1
FR	3441	Manchester (GB)	Palma de Mallorca	1	0715	1055	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	7	1210	1350	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	6	1110	1250	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	345	1035	1215	Boeing 737 Passenger	3
FR	3442	Palma de Mallorca	Manchester (GB)	2	1315	1455	Boeing 737 Passenger	1
FR	3442	Palma de Mallorca	Manchester (GB)	1	1130	1310	Boeing 737 Passenger	1
FR	3445	Manchester (GB)	Palma de Mallorca	234 67	1715	2055	Boeing 737 Passenger	5
FR	3445	Manchester (GB)	Palma de Mallorca	1 5	1710	2050	Boeing 737 Passenger	2
FR	3446	Palma de Mallorca	Manchester (GB)	234567	2130	2310	Boeing 737 Passenger	6
FR	3446	Palma de Mallorca	Manchester (GB)	1	2125	2305	Boeing 737 Passenger	1
FR	3452	London Luton Apt	Corvera	6	1545	1930	Boeing 737 Passenger	1
FR	3452	London Luton Apt	Corvera	345 7	1740	2125	Boeing 737 Passenger	4
FR	3452	London Luton Apt	Corvera	2	1655	2040	Boeing 737 Passenger	1
FR	3452	London Luton Apt	Corvera	1	1735	2120	Boeing 737 Passenger	1
FR	3453	Corvera	London Luton Apt	6	2005	2150	Boeing 737 Passenger	1
FR	3453	Corvera	London Luton Apt	345 7	2200	2345	Boeing 737 Passenger	4
FR	3453	Corvera	London Luton Apt	2	2120	2300	Boeing 737 Passenger	1
FR	3453	Corvera	London Luton Apt	1	2155	2340	Boeing 737 Passenger	1
FR	3456	London Luton Apt	Beziers	5	0630	0925	Boeing 737 Passenger	1
FR	3456	London Luton Apt	Beziers	1 3	0625	0920	Boeing 737 Passenger	2
FR	3457	Beziers	London Luton Apt	5	0950	1050	Boeing 737 Passenger	1

FR	3457	Beziers	London Luton Apt	1 3	0945	1045	Boeing 737 Passenger	2
FR	3466	London Luton Apt	Vilnius	4	1750	2230	Boeing 737 Passenger	1
FR	3466	London Luton Apt	Vilnius	3	0715	1155	Boeing 737 Passenger	1
FR	3466	London Luton Apt	Vilnius	2 6	1735	2215	Boeing 737 Passenger	2
FR	3466	London Luton Apt	Vilnius	1	1725	2205	Boeing 737 Passenger	1
FR	3467	Vilnius	London Luton Apt	4	2255	2345	Boeing 737 Passenger	1
FR	3467	Vilnius	London Luton Apt	3	1220	1310	Boeing 737 Passenger	1
FR	3467	Vilnius	London Luton Apt	2 6	2240	2330	Boeing 737 Passenger	2
FR	3467	Vilnius	London Luton Apt	1	2235	2325	Boeing 737 Passenger	1
FR	3472	London Luton Apt	Rzeszow	6	1805	2130	Boeing 737 Passenger	1
FR	3472	London Luton Apt	Rzeszow	4	1800	2125	Boeing 737 Passenger	1
FR	3472	London Luton Apt	Rzeszow	2	1755	2120	Boeing 737 Passenger	1
FR	3473	Rzeszow	London Luton Apt	6	2155	2330	Boeing 737 Passenger	1
FR	3473	Rzeszow	London Luton Apt	4	2150	2325	Boeing 737 Passenger	1
FR	3473	Rzeszow	London Luton Apt	2	2145	2320	Boeing 737 Passenger	1
FR	3491	Lanzarote	Newcastle	7	0710	1135	Boeing 737 Passenger	1
FR	3491	Lanzarote	Newcastle	3	1350	1815	Boeing 737 Passenger	1
FR	3492	Newcastle	Lanzarote	7	1200	1625	Boeing 737 Passenger	1
FR	3492	Newcastle	Lanzarote	3	1840	2305	Boeing 737 Passenger	1
FR	35	Bratislava	Manchester (GB)	7	1645	1815	Boeing 737 Passenger	1
FR	35	Bratislava	Manchester (GB)	5	1840	2010	Boeing 737 Passenger	1
FR	35	Bratislava	Manchester (GB)	3	1210	1340	Boeing 737 Passenger	1
FR	3501	Manchester (GB)	Hamburg Airport	7	1355	1630	Boeing 737 Passenger	1
FR	3501	Manchester (GB)	Hamburg Airport	4	0630	0905	Boeing 737 Passenger	1
FR	3501	Manchester (GB)	Hamburg Airport	123 56	0640	0915	Boeing 737 Passenger	5
FR	3502	Hamburg Airport	Manchester (GB)	7	1655	1740	Boeing 737 Passenger	1
FR	3502	Hamburg Airport	Manchester (GB)	4	0930	1015	Boeing 737 Passenger	1
FR	3502	Hamburg Airport	Manchester (GB)	123 56	0940	1025	Boeing 737 Passenger	5
FR	3506	London Luton Apt	Marrakech	6	0800	1135	Boeing 737 Passenger	1
FR	3506	London Luton Apt	Marrakech	12 4	0645	1020	Boeing 737 Passenger	3
FR	3507	Marrakech	London Luton Apt	6	1200	1535	Boeing 737 Passenger	1
FR	3507	Marrakech	London Luton Apt	12 4	1045	1420	Boeing 737 Passenger	3
FR	3511	London Luton Apt	Lanzarote	3 7	0630	1040	Boeing 737 Passenger	2
FR	3512	Lanzarote	London Luton Apt	3 7	1115	1525	Boeing 737 Passenger	2
FR	3513	London Luton Apt	Tenerife Sur Apt	7	0635	1110	Boeing 737 Passenger	1
FR	3513	London Luton Apt	Tenerife Sur Apt	3	0625	1100	Boeing 737 Passenger	1
FR	3514	Tenerife Sur Apt	London Luton Apt	7	1145	1605	Boeing 737 Passenger	1
FR	3514	Tenerife Sur Apt	London Luton Apt	3	1135	1555	Boeing 737 Passenger	1
FR	3515	London Luton Apt	Gran Canaria	1 5	0630	1100	Boeing 737 Passenger	2
FR	3516	Gran Canaria	London Luton Apt	5	1135	1550	Boeing 737 Passenger	1
FR	3516	Gran Canaria	London Luton Apt	1	1140	1555	Boeing 737 Passenger	1
FR	3523	Malaga Airport	Exeter	7	0700	0835	Boeing 737 Passenger	1
FR	3523	Malaga Airport	Exeter	3	0800	0935	Boeing 737 Passenger	1
FR	3524	Exeter	Malaga Airport	7	0900	1235	Boeing 737 Passenger	1
FR	3524	Exeter	Malaga Airport	3	1000	1335	Boeing 737 Passenger	1
FR	3525	London Luton Apt	Fuerteventura	2 6	0730	1150	Boeing 737 Passenger	2
FR	3526	Fuerteventura	London Luton Apt	2 6	1225	1635	Boeing 737 Passenger	2
FR	3543	Manchester (GB)	Nantes Atlantique Airport	7	1305	1535	Boeing 737 Passenger	1
FR	3543	Manchester (GB)	Nantes Atlantique Airport	3	1345	1615	Boeing 737 Passenger	1
FR	3544	Nantes Atlantique Airport	Manchester (GB)	7	1600	1630	Boeing 737 Passenger	1
FR	3544	Nantes Atlantique Airport	Manchester (GB)	3	1640	1710	Boeing 737 Passenger	1
FR	3545	Naples Capodichino Apt	Exeter	7	0615	0805	Boeing 737 Passenger	1
FR	3545	Naples Capodichino Apt	Exeter	3	1515	1705	Boeing 737 Passenger	1
FR	3546	Exeter	Naples Capodichino Apt	7	0840	1230	Boeing 737 Passenger	1
FR	3546	Exeter	Naples Capodichino Apt	3	1740	2130	Boeing 737 Passenger	1
FR	3556	London Stansted Apt	Marrakech	6	0700	1035	Boeing 737 Passenger	1
Data copy	3556	London Stansted Apt	Marrakech	5	0555	0930	Boeing 737 Passenger	1
FR	3556	London Stansted Apt	Marrakech	2	0715	1050	Boeing 737 Passenger	1
FR	3556	London Stansted Apt	Marrakech	1 34 7	0610	0945	Boeing 737 Passenger	4
FR	3557	Marrakech	London Stansted Apt	6	1100	1440	Boeing 737 Passenger	1
FR	3557	Marrakech	London Stansted Apt	5	0955	1335	Boeing 737 Passenger	1
FR	3557	Marrakech	London Stansted Apt	2	1115	1455	Boeing 737 Passenger	1
FR	3557	Marrakech	London Stansted Apt	1 34 7	1010	1350	Boeing 737 Passenger	4
FR	36	Manchester (GB)	Carcassonne	5	1325	1630	Boeing 737 Passenger	1
FR	36	Manchester (GB)	Carcassonne	1	1400	1705	Boeing 737 Passenger	1
FR	3626	Manchester (GB)	Cagliari	7	1815	2210	Boeing 737 Passenger	1
FR	3626	Manchester (GB)	Cagliari	3	0610	1005	Boeing 737 Passenger	1
FR	3627	Cagliari	Manchester (GB)	7	2240	0030	Boeing 737 Passenger	1
FR	3627	Cagliari	Manchester (GB)	3	1030	1220	Boeing 737 Passenger	1
FR	3636	London Stansted Apt	Pardubice	6	1735	2035	Boeing 737 Passenger	1

FR	3636	London Stansted Apt	Pardubice	4	0900	1200	Boeing 737 Passenger	1
FR	3636	London Stansted Apt	Pardubice	2	1420	1720	Boeing 737 Passenger	1
FR	3637	Pardubice	London Stansted Apt	6	2100	2200	Boeing 737 Passenger	1
FR	3637	Pardubice	London Stansted Apt	4	1225	1325	Boeing 737 Passenger	1
FR	3637	Pardubice	London Stansted Apt	2	1745	1845	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	7	1905	2130	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	6	0930	1155	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	5	1120	1345	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	3	1335	1600	Boeing 737 Passenger	1
FR	3675	London Stansted Apt	Bremen	12 4	1855	2120	Boeing 737 Passenger	3
FR	3676	Bremen	London Stansted Apt	7	2155	2220	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	6	1220	1245	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	5	1410	1435	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	3	1625	1650	Boeing 737 Passenger	1
FR	3676	Bremen	London Stansted Apt	12 4	2145	2210	Boeing 737 Passenger	3
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	7	0705	1225	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	6	0900	1420	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	5	0610	1130	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	3	0640	1200	Boeing 737 Passenger	1
FR	3677	London Stansted Apt	Kiev Borispol Intl Apt	1	0830	1350	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	7	1300	1420	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	6	1455	1615	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	5	1205	1325	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	3	1235	1355	Boeing 737 Passenger	1
FR	3678	Kiev Borispol Intl Apt	London Stansted Apt	1	1425	1545	Boeing 737 Passenger	1
FR	37	Carcassonne	Manchester (GB)	5	1655	1800	Boeing 737 Passenger	1
FR	37	Carcassonne	Manchester (GB)	1	1730	1835	Boeing 737 Passenger	1
FR	3701	Nottingham East Midlands Airport	Fuerteventura	3 7	1445	1900	Boeing 737 Passenger	2
FR	3702	Fuerteventura	Nottingham East Midlands Airport	3 7	1935	2340	Boeing 737 Passenger	2
FR	3711	Birmingham Airport	Faro	7	1510	1805	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	6	0710	1005	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	5	1640	1935	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	3	0800	1055	Boeing 737 Passenger	1
FR	3711	Birmingham Airport	Faro	2 4	1050	1345	Boeing 737 Passenger	2
FR	3711	Birmingham Airport	Faro	1	1740	2035	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	7	1830	2120	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	6	1030	1320	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	5	2000	2250	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	3	1120	1410	Boeing 737 Passenger	1
FR	3712	Faro	Birmingham Airport	2 4	0735	1025	Boeing 737 Passenger	2
FR	3712	Faro	Birmingham Airport	1	2100	2350	Boeing 737 Passenger	1
FR	3717	London Stansted Apt	Budapest	5	0625	0950	Boeing 737 Passenger	1
FR	3717	London Stansted Apt	Budapest	3	1635	2000	Boeing 737 Passenger	1
FR	3717	London Stansted Apt	Budapest	1	1255	1620	Boeing 737 Passenger	1
FR	3718	Budapest	London Stansted Apt	5	1015	1140	Boeing 737 Passenger	1
FR	3718	Budapest	London Stansted Apt	3	2025	2200	Boeing 737 Passenger	1
FR	3718	Budapest	London Stansted Apt	1	1645	1820	Boeing 737 Passenger	1
FR	372	London Stansted Apt	Biarritz	45 7	1355	1655	Boeing 737 Passenger	3
FR	372	London Stansted Apt	Biarritz	3	0640	0940	Boeing 737 Passenger	1
FR	372	London Stansted Apt	Biarritz	2	0835	1135	Boeing 737 Passenger	1
FR	372	London Stansted Apt	Biarritz	1 6	1405	1705	Boeing 737 Passenger	2
FR	373	Biarritz	London Stansted Apt	7	1725	1820	Boeing 737 Passenger	1
FR	373	Biarritz	London Stansted Apt	3	1005	1100	Boeing 737 Passenger	1
FR	373	Biarritz	London Stansted Apt	2	1200	1255	Boeing 737 Passenger	1
FR	373	Biarritz	London Stansted Apt	1 456	1730	1825	Boeing 737 Passenger	4
FR	3741	Birmingham Airport	Fuerteventura	1 5	0640	1100	Boeing 737 Passenger	2
FR	3742	Fuerteventura	Birmingham Airport	1 5	1135	1545	Boeing 737 Passenger	2
FR	3768	London Luton Apt	Girona Costa Brava Apt	5	2100	0005	Boeing 737 Passenger	1
FR	3768	London Luton Apt	Girona Costa Brava Apt	3	1855	2200	Boeing 737 Passenger	1
FR	3768	London Luton Apt	Girona Costa Brava Apt	1	1525	1830	Boeing 737 Passenger	1
FR	3769	Girona Costa Brava Apt	London Luton Apt	5	1915	2030	Boeing 737 Passenger	1
FR	3769	Girona Costa Brava Apt	London Luton Apt	3	1710	1825	Boeing 737 Passenger	1
FR	3769	Girona Costa Brava Apt	London Luton Apt	1	1345	1500	Boeing 737 Passenger	1
FR	3774	Bristol	Malta	2 4 7	1010	1420	Boeing 737 Passenger	3
FR	3775	Malta	Bristol	2 4 7	0720	0945	Boeing 737 Passenger	3
FR	38	Manchester (GB)	Limoges	7	1300	1545	Boeing 737 Passenger	1
FR	38	Manchester (GB)	Limoges	5	1125	1410	Boeing 737 Passenger	1
FR	38	Manchester (GB)	Limoges	2	1220	1505	Boeing 737 Passenger	1
FR	3801	Liverpool	Gran Canaria	7	1845	2320	Boeing 737 Passenger	1
FR	3801	Liverpool	Gran Canaria	3	1805	2235	Boeing 737 Passenger	1

FR	3802	Gran Canaria	Liverpool	7	1355	1815	Boeing 737 Passenger	1
FR	3802	Gran Canaria	Liverpool	3	1320	1740	Boeing 737 Passenger	1
FR	3803	Manchester (GB)	Gran Canaria	6	1810	2240	Boeing 737 Passenger	1
FR	3803	Manchester (GB)	Gran Canaria	4	1900	2330	Boeing 737 Passenger	1
FR	3803	Manchester (GB)	Gran Canaria	2	0610	1040	Boeing 737 Passenger	1
FR	3804	Gran Canaria	Manchester (GB)	6	1320	1745	Boeing 737 Passenger	1
FR	3804	Gran Canaria	Manchester (GB)	4	1405	1830	Boeing 737 Passenger	1
FR	3804	Gran Canaria	Manchester (GB)	2	1115	1540	Boeing 737 Passenger	1
FR	3805	Manchester (GB)	Fuerteventura	2 6	1430	1855	Boeing 737 Passenger	2
FR	3806	Fuerteventura	Manchester (GB)	2 6	1930	2350	Boeing 737 Passenger	2
FR	3811	Liverpool	Lanzarote	7	1840	2255	Boeing 737 Passenger	1
FR	3811	Liverpool	Lanzarote	3	1405	1820	Boeing 737 Passenger	1
FR	3812	Lanzarote	Liverpool	7	1410	1815	Boeing 737 Passenger	1
FR	3812	Lanzarote	Liverpool	3	1855	2300	Boeing 737 Passenger	1
FR	3842	London Stansted Apt	Reus	6	1140	1455	Boeing 737 Passenger	1
FR	3842	London Stansted Apt	Reus	4	0730	1045	Boeing 737 Passenger	1
FR	3842	London Stansted Apt	Reus	2	1145	1500	Boeing 737 Passenger	1
FR	3843	Reus	London Stansted Apt	6	1520	1635	Boeing 737 Passenger	1
FR	3843	Reus	London Stansted Apt	4	1110	1225	Boeing 737 Passenger	1
FR	3843	Reus	London Stansted Apt	2	1525	1640	Boeing 737 Passenger	1
FR	3851	Rhodes	Nottingham East Midlands Airport	7	2145	0010	Boeing 737 Passenger	1
FR	3851	Rhodes	Nottingham East Midlands Airport	4	1355	1620	Boeing 737 Passenger	1
FR	3852	Nottingham East Midlands Airport	Rhodes	7	1510	2120	Boeing 737 Passenger	1
FR	3852	Nottingham East Midlands Airport	Rhodes	4	0720	1330	Boeing 737 Passenger	1
FR	3853	Kerkyra	Nottingham East Midlands Airport	7	1225	1345	Boeing 737 Passenger	1
FR	3853	Kerkyra	Nottingham East Midlands Airport	4	1450	1610	Boeing 737 Passenger	1
FR	3854	Nottingham East Midlands Airport	Kerkyra	7	0645	1200	Boeing 737 Passenger	1
FR	3854	Nottingham East Midlands Airport	Kerkyra	4	0910	1425	Boeing 737 Passenger	1
FR	3855	Chania	Nottingham East Midlands Airport	6	1915	2125	Boeing 737 Passenger	1
FR	3856	Nottingham East Midlands Airport	Chania	6	1250	1850	Boeing 737 Passenger	1
FR	3872	London Stansted Apt	Pula	7	0650	1005	Boeing 737 Passenger	1
FR	3872	London Stansted Apt	Pula	4	1645	2000	Boeing 737 Passenger	1
FR	3872	London Stansted Apt	Pula	3	1720	2035	Boeing 737 Passenger	1
FR	3873	Pula	London Stansted Apt	7	1030	1145	Boeing 737 Passenger	1
FR	3873	Pula	London Stansted Apt	4	2025	2140	Boeing 737 Passenger	1
FR	3873	Pula	London Stansted Apt	3	2100	2215	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	7	0625	1045	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	5	0805	1225	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	4	1835	2255	Boeing 737 Passenger	1
FR	3882	London Luton Apt	Malta	123 6	1935	2355	Boeing 737 Passenger	4
FR	3883	Malta	London Luton Apt	7	1140	1405	Boeing 737 Passenger	1
FR	3883	Malta	London Luton Apt	5	1250	1515	Boeing 737 Passenger	1
FR	3883	Malta	London Luton Apt	4	1545	1810	Boeing 737 Passenger	1
FR	3883	Malta	London Luton Apt	123 6	1645	1910	Boeing 737 Passenger	4
FR	3884	London Luton Apt	Malta	4	0625	1040	Boeing 737 Passenger	1
FR	3885	Malta	London Luton Apt	4	1105	1330	Boeing 737 Passenger	1
FR	39	Limoges	Manchester (GB)	7	1610	1655	Boeing 737 Passenger	1
FR	39	Limoges	Manchester (GB)	5	1435	1520	Boeing 737 Passenger	1
FR	39	Limoges	Manchester (GB)	2	1530	1615	Boeing 737 Passenger	1
FR	3901	Birmingham Airport	Malta	7	1935	2355	Boeing 737 Passenger	1
FR	3901	Birmingham Airport	Malta	4	0625	1055	Boeing 737 Passenger	1
FR	3901	Birmingham Airport	Malta	2	1615	2035	Boeing 737 Passenger	1
FR	3902	Malta	Birmingham Airport	7	1640	1910	Boeing 737 Passenger	1
FR	3902	Malta	Birmingham Airport	4	1120	1400	Boeing 737 Passenger	1
FR	3902	Malta	Birmingham Airport	2	2100	2330	Boeing 737 Passenger	1
FR	3918	London Stansted Apt	Palermo	6	1720	2120	Boeing 737 Passenger	1
FR	3918	London Stansted Apt	Palermo	2	1715	2115	Boeing 737 Passenger	1
FR	3918	London Stansted Apt	Palermo	1 345 7	1710	2110	Boeing 737 Passenger	5
FR	3919	Palermo	London Stansted Apt	6	2145	2355	Boeing 737 Passenger	1
FR	3919	Palermo	London Stansted Apt	2	2140	2350	Boeing 737 Passenger	1
FR	3919	Palermo	London Stansted Apt	1 345 7	2135	2345	Boeing 737 Passenger	5
FR	4000	Nottingham East Midlands Airport	Shannon	5	1930	2045	Boeing 737 Passenger	1
FR	4000	Nottingham East Midlands Airport	Shannon	1	0640	0755	Boeing 737 Passenger	1
FR	4006	Alicante Airport	Manchester (GB)	6	1140	1330	Boeing 737 Passenger	1
FR	4006	Alicante Airport	Manchester (GB)	12345 7	1050	1240	Boeing 737 Passenger	6
FR	4007	Manchester (GB)	Alicante Airport	6	0720	1105	Boeing 737 Passenger	1
FR	4007	Manchester (GB)	Alicante Airport	12345 7	0630	1015	Boeing 737 Passenger	6
FR	4031	Liverpool	Faro	7	1120	1415	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	6	1410	1705	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	45	1715	2010	Boeing 737 Passenger	2

FR	4031	Liverpool	Faro	3	0830	1125	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	2	1935	2230	Boeing 737 Passenger	1
FR	4031	Liverpool	Faro	1	1735	2030	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	7	0800	1055	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	6	1730	2025	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	45	2035	2330	Boeing 737 Passenger	2
FR	4032	Faro	Liverpool	3	1150	1445	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	2	1615	1910	Boeing 737 Passenger	1
FR	4032	Faro	Liverpool	1	2055	2350	Boeing 737 Passenger	1
FR	4043	Liverpool	Nowy Dwor Mazowiecki	6	1720	2045	Boeing 737 Passenger	1
FR	4043	Liverpool	Nowy Dwor Mazowiecki	4	1630	1955	Boeing 737 Passenger	1
FR	4043	Liverpool	Nowy Dwor Mazowiecki	2	0730	1055	Boeing 737 Passenger	1
FR	4044	Nowy Dwor Mazowiecki	Liverpool	6	2110	2250	Boeing 737 Passenger	1
FR	4044	Nowy Dwor Mazowiecki	Liverpool	4	2020	2155	Boeing 737 Passenger	1
FR	4044	Nowy Dwor Mazowiecki	Liverpool	2	1120	1300	Boeing 737 Passenger	1
FR	4051	Faro	Manchester (GB)	1234567	1705	2005	Boeing 737 Passenger	7
FR	4052	Manchester (GB)	Faro	1234567	2030	2330	Boeing 737 Passenger	7
FR	4053	Nottingham East Midlands Airport	Nowy Dwor Mazowiecki	6	1810	2130	Boeing 737 Passenger	1
FR	4053	Nottingham East Midlands Airport	Nowy Dwor Mazowiecki	2	0625	0945	Boeing 737 Passenger	1
FR	4054	Nowy Dwor Mazowiecki	Nottingham East Midlands Airport	6	2155	2330	Boeing 737 Passenger	1
FR	4054	Nowy Dwor Mazowiecki	Nottingham East Midlands Airport	2	1010	1145	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	7	0855	1055	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	5	0650	0850	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	34 6	0830	1030	Boeing 737 Passenger	3
FR	4079	Alicante Airport	Newcastle	2	1555	1755	Boeing 737 Passenger	1
FR	4079	Alicante Airport	Newcastle	1	1700	1900	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	7	1120	1520	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	5	0915	1315	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	34 6	1055	1455	Boeing 737 Passenger	3
FR	4080	Newcastle	Alicante Airport	2	1820	2220	Boeing 737 Passenger	1
FR	4080	Newcastle	Alicante Airport	1	1925	2325	Boeing 737 Passenger	1
FR	4081	Liverpool	Fuerteventura	7	1535	1950	Boeing 737 Passenger	1
FR	4082	Fuerteventura	Liverpool	7	2025	0030	Boeing 737 Passenger	1
FR	4087	Faro	Manchester (GB)	7	0835	1135	Boeing 737 Passenger	1
FR	4087	Faro	Manchester (GB)	2345	0900	1200	Boeing 737 Passenger	3
FR	4087	Faro	Manchester (GB)	1	0855	1155	Boeing 737 Passenger	1
FR	4088	Manchester (GB)	Faro	7	1200	1500	Boeing 737 Passenger	1
FR	4088	Manchester (GB)	Faro	2345	1225	1525	Boeing 737 Passenger	3
FR	4088	Manchester (GB)	Faro	1	1220	1520	Boeing 737 Passenger	1
FR	4094	Manchester (GB)	Gdansk Lech Walesa	5	0555	0910	Boeing 737 Passenger	1
FR	4094	Manchester (GB)	Gdansk Lech Walesa	1	1315	1630	Boeing 737 Passenger	1
FR	4095	Gdansk Lech Walesa	Manchester (GB)	5	0935	1100	Boeing 737 Passenger	1
FR	4095	Gdansk Lech Walesa	Manchester (GB)	1	1125	1250	Boeing 737 Passenger	1
FR	4096	Manchester (GB)	Riga	6	1720	2155	Boeing 737 Passenger	1
FR	4096	Manchester (GB)	Riga	4	0955	1430	Boeing 737 Passenger	1
FR	4096	Manchester (GB)	Riga	2	0620	1055	Boeing 737 Passenger	1
FR	4097	Riga	Manchester (GB)	6	2220	2310	Boeing 737 Passenger	1
FR	4097	Riga	Manchester (GB)	4	1520	1610	Boeing 737 Passenger	1
FR	4097	Riga	Manchester (GB)	2	1120	1210	Boeing 737 Passenger	1
FR	4107	Leeds Bradford	Wroclaw	7	0825	1140	Boeing 737 Passenger	1
FR	4107	Leeds Bradford	Wroclaw	4	1410	1725	Boeing 737 Passenger	1
FR	4108	Wroclaw	Leeds Bradford	7	0645	0800	Boeing 737 Passenger	1
FR	4108	Wroclaw	Leeds Bradford	4	1230	1345	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	7	1530	1920	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	6	1320	1710	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	5	1725	2115	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	4	1355	1745	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	3	1330	1720	Boeing 737 Passenger	1
FR	4116	Manchester (GB)	Corvera	1	1715	2105	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	7	1955	2145	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	6	1745	1935	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	5	2150	2335	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	4	1820	2010	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	3	1755	1945	Boeing 737 Passenger	1
FR	4117	Corvera	Manchester (GB)	1	2140	2330	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	6	1410	1740	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	4	1115	1445	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	2	1930	2300	Boeing 737 Passenger	1
FR	4135	Bristol	Nowy Dwor Mazowiecki	1	0840	1210	Boeing 737 Passenger	1
FR	4136	Nowy Dwor Mazowiecki	Bristol	6	1805	1945	Boeing 737 Passenger	1

FR	4136	Nowy Dwor Mazowiecki	Bristol	4	1510	1650	Boeing 737 Passenger	1
FR	4136	Nowy Dwor Mazowiecki	Bristol	2	1725	1905	Boeing 737 Passenger	1
FR	4136	Nowy Dwor Mazowiecki	Bristol	1	0635	0815	Boeing 737 Passenger	1
FR	4191	Milan Bergamo/orio al Serio Apt	London Stansted Apt	1234567	0630	0740	Boeing 737 Passenger	7
FR	4192	London Stansted Apt	Milan Bergamo/orio al Serio Apt	1234567	0805	1105	Boeing 737 Passenger	7
FR	4194	London Stansted Apt	Milan Bergamo/orio al Serio Apt	67	1335	1635	Boeing 737 Passenger	2
FR	4194	London Stansted Apt	Milan Bergamo/orio al Serio Apt	12345	1340	1640	Boeing 737 Passenger	5
FR	4195	Milan Bergamo/orio al Serio Apt	London Stansted Apt	12345 7	1425	1535	Boeing 737 Passenger	6
FR	4196	London Stansted Apt	Milan Bergamo/orio al Serio Apt	1234567	1600	1900	Boeing 737 Passenger	7
FR	4197	Milan Bergamo/orio al Serio Apt	London Stansted Apt	7	1845	1955	Boeing 737 Passenger	1
FR	4197	Milan Bergamo/orio al Serio Apt	London Stansted Apt	12345	1830	1940	Boeing 737 Passenger	5
FR	4198	London Stansted Apt	Milan Bergamo/orio al Serio Apt	7	2020	2320	Boeing 737 Passenger	1
FR	4198	London Stansted Apt	Milan Bergamo/orio al Serio Apt	123456	2005	2305	Boeing 737 Passenger	6
FR	4199	Milan Bergamo/orio al Serio Apt	London Stansted Apt	12345 7	1150	1300	Boeing 737 Passenger	6
FR	4203	Krakow John Paul II - Balice	Glasgow International Airport	7	0700	0850	Boeing 737 Passenger	1
FR	4203	Krakow John Paul II - Balice	Glasgow International Airport	3	1600	1750	Boeing 737 Passenger	1
FR	4204	Glasgow International Airport	Krakow John Paul II - Balice	7	0915	1300	Boeing 737 Passenger	1
FR	4204	Glasgow International Airport	Krakow John Paul II - Balice	3	1815	2200	Boeing 737 Passenger	1
FR	4205	Liverpool	Kerkyra	7	1510	2040	Boeing 737 Passenger	1
FR	4205	Liverpool	Kerkyra	4	0630	1200	Boeing 737 Passenger	1
FR	4206	Kerkyra	Liverpool	7	2105	2235	Boeing 737 Passenger	1
FR	4206	Kerkyra	Liverpool	4	1245	1415	Boeing 737 Passenger	1
FR	4207	Liverpool	Copenhagen Kastrup Apt	5	1650	1945	Boeing 737 Passenger	1
FR	4207	Liverpool	Copenhagen Kastrup Apt	1	1340	1635	Boeing 737 Passenger	1
FR	4208	Copenhagen Kastrup Apt	Liverpool	5	2010	2105	Boeing 737 Passenger	1
FR	4208	Copenhagen Kastrup Apt	Liverpool	1	1700	1755	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	5	2000	2125	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	4	1400	1525	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	2	1115	1240	Boeing 737 Passenger	1
FR	423	London Luton Apt	Cork	1 3 67	1350	1515	Boeing 737 Passenger	4
FR	424	Cork	London Luton Apt	6	1540	1705	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	5	2150	2315	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	4	1550	1715	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	2	1305	1430	Boeing 737 Passenger	1
FR	424	Cork	London Luton Apt	1 3 7	1545	1710	Boeing 737 Passenger	3
FR	4331	Tenerife Sur Apt	Manchester (GB)	1234567	1920	2350	Boeing 737 Passenger	7
FR	4332	Manchester (GB)	Tenerife Sur Apt	1234567	1410	1845	Boeing 737 Passenger	7
FR	4346	Liverpool	Tenerife Sur Apt	5	0625	1100	Boeing 737 Passenger	1
FR	4346	Liverpool	Tenerife Sur Apt	3	1910	2345	Boeing 737 Passenger	1
FR	4346	Liverpool	Tenerife Sur Apt	1	1720	2155	Boeing 737 Passenger	1
FR	4347	Tenerife Sur Apt	Liverpool	5	1135	1600	Boeing 737 Passenger	1
FR	4347	Tenerife Sur Apt	Liverpool	3	1420	1845	Boeing 737 Passenger	1
FR	4347	Tenerife Sur Apt	Liverpool	1	1230	1655	Boeing 737 Passenger	1
FR	4370	Manchester (GB)	Sevilla Airport	5	1900	2250	Boeing 737 Passenger	1
FR	4370	Manchester (GB)	Sevilla Airport	3	0655	1045	Boeing 737 Passenger	1
FR	4370	Manchester (GB)	Sevilla Airport	1	1525	1915	Boeing 737 Passenger	1
FR	4371	Sevilla Airport	Manchester (GB)	5	1635	1835	Boeing 737 Passenger	1
FR	4371	Sevilla Airport	Manchester (GB)	3	1115	1315	Boeing 737 Passenger	1
FR	4371	Sevilla Airport	Manchester (GB)	1	1945	2145	Boeing 737 Passenger	1
FR	442	Dublin (IE)	Liverpool	7	0710	0805	Boeing 737 Passenger	1
FR	442	Dublin (IE)	Liverpool	2 456	0705	0800	Boeing 737 Passenger	4
FR	442	Dublin (IE)	Liverpool	1 3	0710	0800	Boeing 737 Passenger	2
FR	443	Liverpool	Dublin (IE)	7	0830	0920	Boeing 737 Passenger	1
FR	443	Liverpool	Dublin (IE)	123456	0825	0920	Boeing 737 Passenger	6
FR	4440	Bristol	Valencia Airport	5	0635	0950	Boeing 737 Passenger	1
FR	4440	Bristol	Valencia Airport	1	2050	0005	Boeing 737 Passenger	1
FR	4441	Valencia Airport	Bristol	5	1020	1150	Boeing 737 Passenger	1
FR	4441	Valencia Airport	Bristol	1	1855	2025	Boeing 737 Passenger	1
FR	4458	Nottingham East Midlands Airport	Malaga Airport	7	1650	2045	Boeing 737 Passenger	1
FR	4458	Nottingham East Midlands Airport	Malaga Airport	56	1700	2055	Boeing 737 Passenger	2
FR	4458	Nottingham East Midlands Airport	Malaga Airport	234	1640	2035	Boeing 737 Passenger	3
FR	4459	Malaga Airport	Nottingham East Midlands Airport	7	2120	2320	Boeing 737 Passenger	1
FR	4459	Malaga Airport	Nottingham East Midlands Airport	56	2130	2330	Boeing 737 Passenger	2
FR	4459	Malaga Airport	Nottingham East Midlands Airport	234	2110	2310	Boeing 737 Passenger	3
FR	446	Dublin (IE)	Liverpool	6	1810	1900	Boeing 737 Passenger	1
FR	446	Dublin (IE)	Liverpool	5	1810	1905	Boeing 737 Passenger	1
FR	446	Dublin (IE)	Liverpool	1234 7	1750	1845	Boeing 737 Passenger	5
FR	4468	Nottingham East Midlands Airport	Malaga Airport	7	0830	1225	Boeing 737 Passenger	1
FR	4468	Nottingham East Midlands Airport	Malaga Airport	5	1815	2210	Boeing 737 Passenger	1
FR	4468	Nottingham East Midlands Airport	Malaga Airport	2	0905	1300	Boeing 737 Passenger	1

FR	4468	Nottingham East Midlands Airport	Malaga Airport	1 34 6	0640	1035	Boeing 737 Passenger	4
FR	4469	Malaga Airport	Nottingham East Midlands Airport	7	1300	1500	Boeing 737 Passenger	1
FR	4469	Malaga Airport	Nottingham East Midlands Airport	5	1550	1750	Boeing 737 Passenger	1
FR	4469	Malaga Airport	Nottingham East Midlands Airport	2	1335	1535	Boeing 737 Passenger	1
FR	4469	Malaga Airport	Nottingham East Midlands Airport	1 34 6	1110	1310	Boeing 737 Passenger	4
FR	447	Liverpool	Dublin (IE)	6	1925	2015	Boeing 737 Passenger	1
FR	447	Liverpool	Dublin (IE)	5	1930	2025	Boeing 737 Passenger	1
FR	447	Liverpool	Dublin (IE)	1234 7	1910	2005	Boeing 737 Passenger	5
FR	448	Dublin (IE)	Liverpool	1 567	2055	2150	Boeing 737 Passenger	4
FR	449	Liverpool	Dublin (IE)	6	2215	2310	Boeing 737 Passenger	1
FR	449	Liverpool	Dublin (IE)	1 5 7	2225	2320	Boeing 737 Passenger	3
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	7	0810	1140	Boeing 737 Passenger	1
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	6	1535	1905	Boeing 737 Passenger	1
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	4	0745	1115	Boeing 737 Passenger	1
FR	4524	Edinburgh	Nowy Dwor Mazowiecki	2	1755	2125	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	7	0600	0745	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	6	1325	1510	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	4	1140	1325	Boeing 737 Passenger	1
FR	4525	Nowy Dwor Mazowiecki	Edinburgh	2	2150	2335	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	7	1030	1330	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	5	0610	0910	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	3	0905	1205	Boeing 737 Passenger	1
FR	4541	London Stansted Apt	Verona Villafranca Airport	1 4	0645	0945	Boeing 737 Passenger	2
FR	4542	Verona Villafranca Airport	London Stansted Apt	7	1355	1510	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	5	0940	1055	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	4	1025	1140	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	3	1235	1350	Boeing 737 Passenger	1
FR	4542	Verona Villafranca Airport	London Stansted Apt	1	1010	1125	Boeing 737 Passenger	1
FR	4551	Nowy Dwor Mazowiecki	Belfast International Apt	2 6	0700	0850	Boeing 737 Passenger	2
FR	4552	Belfast International Apt	Nowy Dwor Mazowiecki	2 6	0915	1255	Boeing 737 Passenger	2
FR	4571	Faro	Belfast International Apt	6	2040	2350	Boeing 737 Passenger	1
FR	4571	Faro	Belfast International Apt	2	1225	1535	Boeing 737 Passenger	1
FR	4572	Belfast International Apt	Faro	6	1705	2015	Boeing 737 Passenger	1
FR	4572	Belfast International Apt	Faro	2	0850	1200	Boeing 737 Passenger	1
FR	4573	Milan Malpensa Apt	Bristol	7	1350	1510	Boeing 737 Passenger	1
FR	4573	Milan Malpensa Apt	Bristol	3	1340	1500	Boeing 737 Passenger	1
FR	4574	Bristol	Milan Malpensa Apt	7	1535	1845	Boeing 737 Passenger	1
FR	4574	Bristol	Milan Malpensa Apt	3	1525	1835	Boeing 737 Passenger	1
FR	4588	Barcelona Apt	Cardiff	6	0740	0845	Boeing 737 Passenger	1
FR	4588	Barcelona Apt	Cardiff	2	0825	0930	Boeing 737 Passenger	1
FR	4589	Cardiff	Barcelona Apt	6	0910	1215	Boeing 737 Passenger	1
FR	4589	Cardiff	Barcelona Apt	2	0955	1300	Boeing 737 Passenger	1
FR	464	London Stansted Apt	Turin Caselle Airport	7	0655	0950	Boeing 737 Passenger	1
FR	464	London Stansted Apt	Turin Caselle Airport	123456	0645	0940	Boeing 737 Passenger	6
FR	465	Turin Caselle Airport	London Stansted Apt	1234567	1015	1115	Boeing 737 Passenger	7
FR	4741	Glasgow International Airport	Nowy Dwor Mazowiecki	5	1925	2300	Boeing 737 Passenger	1
FR	4741	Glasgow International Airport	Nowy Dwor Mazowiecki	1	2055	0030	Boeing 737 Passenger	1
FR	4742	Nowy Dwor Mazowiecki	Glasgow International Airport	5	1715	1900	Boeing 737 Passenger	1
FR	4742	Nowy Dwor Mazowiecki	Glasgow International Airport	1	1845	2030	Boeing 737 Passenger	1
FR	4753	Bristol	Tenerife Sur Apt	6	0625	1035	Boeing 737 Passenger	1
FR	4753	Bristol	Tenerife Sur Apt	4	0835	1245	Boeing 737 Passenger	1
FR	4753	Bristol	Tenerife Sur Apt	2	0615	1025	Boeing 737 Passenger	1
FR	4754	Tenerife Sur Apt	Bristol	4	1320	1725	Boeing 737 Passenger	1
FR	4754	Tenerife Sur Apt	Bristol	2 6	1110	1515	Boeing 737 Passenger	2
FR	4755	Bristol	Lanzarote	4	0640	1035	Boeing 737 Passenger	1
FR	4755	Bristol	Lanzarote	2 6	0745	1140	Boeing 737 Passenger	2
FR	4756	Lanzarote	Bristol	4	1110	1505	Boeing 737 Passenger	1
FR	4756	Lanzarote	Bristol	2 6	1215	1610	Boeing 737 Passenger	2
FR	4757	Bristol	Gran Canaria	1 5	0625	1040	Boeing 737 Passenger	2
FR	4758	Gran Canaria	Bristol	5	1115	1515	Boeing 737 Passenger	1
FR	4758	Gran Canaria	Bristol	1	1115	1520	Boeing 737 Passenger	1
FR	4760	Cardiff	Tenerife Sur Apt	4	2005	0010	Boeing 737 Passenger	1
FR	4761	Tenerife Sur Apt	Cardiff	4	1545	1940	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	7	2120	2230	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	4	1230	1340	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	3	1505	1615	Boeing 737 Passenger	1
FR	4776	Manchester (GB)	Shannon	1 5	0845	0955	Boeing 737 Passenger	2
FR	4777	Shannon	Manchester (GB)	7	2255	0005	Boeing 737 Passenger	1
FR	4777	Shannon	Manchester (GB)	4	1055	1205	Boeing 737 Passenger	1
FR	4777	Shannon	Manchester (GB)	3	1650	1800	Boeing 737 Passenger	1

FR	4777	Shannon	Manchester (GB)	1 5	0710	0820	Boeing 737 Passenger	2
FR	4950	Malaga Airport	Cardiff	1 3 5	1740	1920	Boeing 737 Passenger	3
FR	4951	Cardiff	Malaga Airport	1 3 5	1945	2325	Boeing 737 Passenger	3
FR	4952	London Stansted Apt	Perugia	2	0930	1305	Boeing 737 Passenger	1
FR	4952	London Stansted Apt	Perugia	1 345 7	0730	1105	Boeing 737 Passenger	5
FR	4953	Perugia	London Stansted Apt	2	1330	1500	Boeing 737 Passenger	1
FR	4953	Perugia	London Stansted Apt	1 345 7	1130	1300	Boeing 737 Passenger	5
FR	4966	London Stansted Apt	Lamezia Terme	4	0915	1315	Boeing 737 Passenger	1
FR	4966	London Stansted Apt	Lamezia Terme	3	0955	1355	Boeing 737 Passenger	1
FR	4966	London Stansted Apt	Lamezia Terme	2 6	0630	1030	Boeing 737 Passenger	2
FR	4967	Lamezia Terme	London Stansted Apt	4	1340	1550	Boeing 737 Passenger	1
FR	4967	Lamezia Terme	London Stansted Apt	3	0720	0930	Boeing 737 Passenger	1
FR	4967	Lamezia Terme	London Stansted Apt	2 6	1055	1305	Boeing 737 Passenger	2
FR	4976	London Stansted Apt	Brindisi	234 67	0620	1010	Boeing 737 Passenger	5
FR	4977	Brindisi	London Stansted Apt	7	1045	1250	Boeing 737 Passenger	1
FR	4977	Brindisi	London Stansted Apt	234 6	1035	1240	Boeing 737 Passenger	4
FR	4999	Shannon	Nottingham East Midlands Airport	5	2110	2215	Boeing 737 Passenger	1
FR	4999	Shannon	Nottingham East Midlands Airport	1	0820	0925	Boeing 737 Passenger	1
FR	504	Dublin (IE)	Bristol	23456	0635	0740	Boeing 737 Passenger	5
FR	504	Dublin (IE)	Bristol	1	0650	0755	Boeing 737 Passenger	1
FR	5041	Leeds Bradford	Bratislava	5	1630	1955	Boeing 737 Passenger	1
FR	5041	Leeds Bradford	Bratislava	1	1655	2020	Boeing 737 Passenger	1
FR	5042	Bratislava	Leeds Bradford	5	2020	2145	Boeing 737 Passenger	1
FR	5042	Bratislava	Leeds Bradford	1	2045	2210	Boeing 737 Passenger	1
FR	5043	Leeds Bradford	Vilnius	5	0635	1120	Boeing 737 Passenger	1
FR	5043	Leeds Bradford	Vilnius	1	0825	1310	Boeing 737 Passenger	1
FR	5044	Vilnius	Leeds Bradford	5	1145	1230	Boeing 737 Passenger	1
FR	5044	Vilnius	Leeds Bradford	1	0715	0800	Boeing 737 Passenger	1
FR	505	Bristol	Dublin (IE)	23456	0805	0905	Boeing 737 Passenger	5
FR	505	Bristol	Dublin (IE)	1	0820	0920	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	7	1445	1550	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	6	1505	1610	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	2	1345	1450	Boeing 737 Passenger	1
FR	506	Dublin (IE)	Bristol	1 345	1455	1600	Boeing 737 Passenger	4
FR	5062	London Stansted Apt	Poznan Lawica Apt	5	0820	1125	Boeing 737 Passenger	1
FR	5062	London Stansted Apt	Poznan Lawica Apt	1	1950	2255	Boeing 737 Passenger	1
FR	5063	Poznan Lawica Apt	London Stansted Apt	5	1150	1255	Boeing 737 Passenger	1
FR	5063	Poznan Lawica Apt	London Stansted Apt	1	1820	1925	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	7	1615	1715	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	6	1635	1735	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	2	1535	1635	Boeing 737 Passenger	1
FR	507	Bristol	Dublin (IE)	1 345	1625	1725	Boeing 737 Passenger	4
FR	508	Dublin (IE)	Bristol	1234567	1940	2045	Boeing 737 Passenger	7
FR	509	Bristol	Dublin (IE)	1234567	2110	2210	Boeing 737 Passenger	7
FR	514	London Stansted Apt	Dinard/St-Malo	7	0715	0930	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	6	0935	1150	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	5	1230	1445	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	4	1330	1545	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	3	1500	1715	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	2	0950	1205	Boeing 737 Passenger	1
FR	514	London Stansted Apt	Dinard/St-Malo	1	1140	1355	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	7	0955	1005	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	6	1220	1230	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	5	1510	1520	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	4	1610	1620	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	3	1740	1750	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	2	1230	1240	Boeing 737 Passenger	1
FR	515	Dinard/St-Malo	London Stansted Apt	1	1420	1430	Boeing 737 Passenger	1
FR	5158	Malaga Airport	Newcastle	4 67	0655	0905	Boeing 737 Passenger	3
FR	5158	Malaga Airport	Newcastle	2	0650	0900	Boeing 737 Passenger	1
FR	5159	Newcastle	Malaga Airport	4 67	0930	1340	Boeing 737 Passenger	3
FR	5159	Newcastle	Malaga Airport	2	0925	1335	Boeing 737 Passenger	1
FR	5160	Edinburgh	Sofia	7	1830	0010	Boeing 737 Passenger	1
FR	5160	Edinburgh	Sofia	4	0715	1255	Boeing 737 Passenger	1
FR	5161	Sofia	Edinburgh	7	1620	1805	Boeing 737 Passenger	1
FR	5161	Sofia	Edinburgh	4	1320	1505	Boeing 737 Passenger	1
FR	5170	Manchester (GB)	Poitiers Biard Airport	7	1910	2145	Boeing 737 Passenger	1
FR	5170	Manchester (GB)	Poitiers Biard Airport	3	1430	1705	Boeing 737 Passenger	1
FR	5171	Poitiers Biard Airport	Manchester (GB)	7	2210	2255	Boeing 737 Passenger	1
FR	5171	Poitiers Biard Airport	Manchester (GB)	3	1730	1815	Boeing 737 Passenger	1

FR	5172	London Stansted Apt	Billund	123456	0720	0955	Boeing 737 Passenger	6
FR	5173	Billund	London Stansted Apt	123456	1020	1055	Boeing 737 Passenger	6
FR	5178	London Stansted Apt	Billund	1234567	1935	2210	Boeing 737 Passenger	7
FR	5179	Billund	London Stansted Apt	3	2245	2320	Boeing 737 Passenger	1
FR	5179	Billund	London Stansted Apt	12 4567	2235	2310	Boeing 737 Passenger	6
FR	52	London Stansted Apt	Stockholm Skavsta Airport	7	0820	1135	Boeing 737 Passenger	1
FR	52	London Stansted Apt	Stockholm Skavsta Airport	5	0840	1155	Boeing 737 Passenger	1
FR	52	London Stansted Apt	Stockholm Skavsta Airport	1234 6	0830	1145	Boeing 737 Passenger	5
FR	5209	Manchester (GB)	Malta	3 5	1920	2340	Boeing 737 Passenger	2
FR	5209	Manchester (GB)	Malta	1	0625	1045	Boeing 737 Passenger	1
FR	5210	Malta	Manchester (GB)	3 5	1615	1855	Boeing 737 Passenger	2
FR	5210	Malta	Manchester (GB)	1	1120	1400	Boeing 737 Passenger	1
FR	522	London Stansted Apt	Lourdes/Tarbes	6	0745	1045	Boeing 737 Passenger	1
FR	522	London Stansted Apt	Lourdes/Tarbes	3 5	1410	1710	Boeing 737 Passenger	2
FR	522	London Stansted Apt	Lourdes/Tarbes	1	1355	1655	Boeing 737 Passenger	1
FR	523	Lourdes/Tarbes	London Stansted Apt	6	1110	1210	Boeing 737 Passenger	1
FR	523	Lourdes/Tarbes	London Stansted Apt	1 3 5	1735	1835	Boeing 737 Passenger	3
FR	53	Stockholm Skavsta Airport	London Stansted Apt	2 5	0645	0805	Boeing 737 Passenger	2
FR	53	Stockholm Skavsta Airport	London Stansted Apt	1 34 67	0635	0755	Boeing 737 Passenger	5
FR	534	Dublin (IE)	Nottingham East Midlands Airport	1234567	0805	0910	Boeing 737 Passenger	7
FR	5341	Bristol	Bucharest Henri Coanda Apt	6	1700	2225	Boeing 737 Passenger	1
FR	5341	Bristol	Bucharest Henri Coanda Apt	2	1600	2125	Boeing 737 Passenger	1
FR	5342	Bucharest Henri Coanda Apt	Bristol	6	1500	1635	Boeing 737 Passenger	1
FR	5342	Bucharest Henri Coanda Apt	Bristol	2	2150	2325	Boeing 737 Passenger	1
FR	535	Nottingham East Midlands Airport	Dublin (IE)	1234567	0630	0740	Boeing 737 Passenger	7
FR	536	Dublin (IE)	Nottingham East Midlands Airport	1 45 7	1940	2045	Boeing 737 Passenger	4
FR	537	Nottingham East Midlands Airport	Dublin (IE)	45 7	2110	2215	Boeing 737 Passenger	3
FR	537	Nottingham East Midlands Airport	Dublin (IE)	1	2125	2230	Boeing 737 Passenger	1
FR	552	Dublin (IE)	Manchester (GB)	1234567	0630	0735	Boeing 737 Passenger	7
FR	5523	Bournemouth	Krakow John Paul II - Balice	5	2040	2359	Boeing 737 Passenger	1
FR	5523	Bournemouth	Krakow John Paul II - Balice	1	1340	1700	Boeing 737 Passenger	1
FR	5524	Krakow John Paul II - Balice	Bournemouth	5	1840	2015	Boeing 737 Passenger	1
FR	5524	Krakow John Paul II - Balice	Bournemouth	1	1140	1315	Boeing 737 Passenger	1
FR	553	Manchester (GB)	Dublin (IE)	1234567	0800	0900	Boeing 737 Passenger	7
FR	554	Dublin (IE)	Manchester (GB)	1234567	1035	1135	Boeing 737 Passenger	7
FR	555	Manchester (GB)	Dublin (IE)	1234567	1200	1300	Boeing 737 Passenger	7
FR	556	Dublin (IE)	Manchester (GB)	1 5	1640	1745	Boeing 737 Passenger	2
FR	557	Manchester (GB)	Dublin (IE)	1 5	1810	1910	Boeing 737 Passenger	2
FR	5578	Alicante Airport	Edinburgh	7	1215	1420	Boeing 737 Passenger	1
FR	5578	Alicante Airport	Edinburgh	12345	2140	2345	Boeing 737 Passenger	5
FR	5579	Edinburgh	Alicante Airport	7	0730	1140	Boeing 737 Passenger	1
FR	5579	Edinburgh	Alicante Airport	12345	1655	2105	Boeing 737 Passenger	5
FR	558	Dublin (IE)	Manchester (GB)	6	2040	2140	Boeing 737 Passenger	1
FR	558	Dublin (IE)	Manchester (GB)	12345 7	2030	2130	Boeing 737 Passenger	6
FR	559	Manchester (GB)	Dublin (IE)	6	2205	2300	Boeing 737 Passenger	1
FR	559	Manchester (GB)	Dublin (IE)	12345 7	2200	2300	Boeing 737 Passenger	6
FR	5592	Shannon	Bristol	6	2150	2305	Boeing 737 Passenger	1
FR	5592	Shannon	Bristol	2	1515	1630	Boeing 737 Passenger	1
FR	5593	Bristol	Shannon	6	2010	2125	Boeing 737 Passenger	1
FR	5593	Bristol	Shannon	2	1335	1450	Boeing 737 Passenger	1
FR	561	Manchester (GB)	Dublin (IE)	1234567	1515	1615	Boeing 737 Passenger	7
FR	562	Dublin (IE)	Manchester (GB)	1234567	1350	1450	Boeing 737 Passenger	7
FR	567	London Stansted Apt	Alicante Airport	5	1615	1955	Boeing 737 Passenger	1
FR	568	Alicante Airport	London Stansted Apt	5	2030	2215	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	7	1615	1820	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	6	1425	1630	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	5	1535	1740	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	4	1305	1510	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	3	1355	1600	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	2	1330	1535	Boeing 737 Passenger	1
FR	5681	London Stansted Apt	Eindhoven Airport	1	1555	1800	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	7	1845	1855	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	6	1655	1705	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	5	1805	1815	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	4	1535	1545	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	3	1625	1635	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	2	1600	1610	Boeing 737 Passenger	1
FR	5682	Eindhoven Airport	London Stansted Apt	1	1825	1835	Boeing 737 Passenger	1
FR	5771	Glasgow International Airport	Dublin (IE)	5	0845	0945	Boeing 737 Passenger	1
FR	5771	Glasgow International Airport	Dublin (IE)	1234 67	0840	0940	Boeing 737 Passenger	6

FR	5772	Dublin (IE)	Glasgow International Airport	5	0720	0820	Boeing 737 Passenger	1
FR	5772	Dublin (IE)	Glasgow International Airport	1234 67	0715	0815	Boeing 737 Passenger	6
FR	5773	Glasgow International Airport	Dublin (IE)	12345 7	1525	1625	Boeing 737 Passenger	5
FR	5774	Dublin (IE)	Glasgow International Airport	12345 7	1400	1500	Boeing 737 Passenger	6
FR	5775	Glasgow International Airport	Dublin (IE)	1234567	2155	2255	Boeing 737 Passenger	6
FR	5776	Dublin (IE)	Glasgow International Airport	1234567	2030	2130	Boeing 737 Passenger	7
FR	58	London Stansted Apt	Stockholm Skavsta Airport	7	1710	2025	Boeing 737 Passenger	1
FR	58	London Stansted Apt	Stockholm Skavsta Airport	456	1750	2105	Boeing 737 Passenger	3
FR	58	London Stansted Apt	Stockholm Skavsta Airport	1	1740	2055	Boeing 737 Passenger	1
FR	5812	Bournemouth	Paphos	6	0630	1315	Boeing 737 Passenger	1
FR	5812	Bournemouth	Paphos	2	1710	0005	Boeing 737 Passenger	1
FR	5813	Paphos	Bournemouth	6	1340	1625	Boeing 737 Passenger	1
FR	5813	Paphos	Bournemouth	2	1350	1645	Boeing 737 Passenger	1
FR	5833	Milan Bergamo/orio al Serio Apt	Edinburgh	5	1035	1200	Boeing 737 Passenger	1
FR	5833	Milan Bergamo/orio al Serio Apt	Edinburgh	2	1815	1950	Boeing 737 Passenger	1
FR	5833	Milan Bergamo/orio al Serio Apt	Edinburgh	1 3	1750	1925	Boeing 737 Passenger	2
FR	5834	Edinburgh	Milan Bergamo/orio al Serio Apt	5	1225	1550	Boeing 737 Passenger	1
FR	5834	Edinburgh	Milan Bergamo/orio al Serio Apt	2	2015	2340	Boeing 737 Passenger	1
FR	5834	Edinburgh	Milan Bergamo/orio al Serio Apt	1 3	1950	2315	Boeing 737 Passenger	2
FR	584	London Stansted Apt	Pisa	1234567	0850	1205	Boeing 737 Passenger	7
FR	585	Pisa	London Stansted Apt	1234567	0640	0805	Boeing 737 Passenger	7
FR	586	London Stansted Apt	Pisa	7	1315	1630	Boeing 737 Passenger	1
FR	586	London Stansted Apt	Pisa	123456	1445	1800	Boeing 737 Passenger	6
FR	587	Pisa	London Stansted Apt	7	1125	1250	Boeing 737 Passenger	1
FR	587	Pisa	London Stansted Apt	123456	1255	1420	Boeing 737 Passenger	6
FR	588	London Stansted Apt	Pisa	6	1955	2310	Boeing 737 Passenger	1
FR	588	London Stansted Apt	Pisa	4	2015	2330	Boeing 737 Passenger	1
FR	588	London Stansted Apt	Pisa	123 5 7	2005	2320	Boeing 737 Passenger	5
FR	5880	Belfast International Apt	Manchester (GB)	67	1335	1440	Boeing 737 Passenger	2
FR	5880	Belfast International Apt	Manchester (GB)	4	1225	1330	Boeing 737 Passenger	1
FR	5880	Belfast International Apt	Manchester (GB)	3	1220	1325	Boeing 737 Passenger	1
FR	5881	Manchester (GB)	Belfast International Apt	67	1505	1610	Boeing 737 Passenger	2
FR	5881	Manchester (GB)	Belfast International Apt	4	1400	1505	Boeing 737 Passenger	1
FR	5881	Manchester (GB)	Belfast International Apt	3	1350	1455	Boeing 737 Passenger	1
FR	589	Pisa	London Stansted Apt	345 7	1815	1940	Boeing 737 Passenger	4
FR	589	Pisa	London Stansted Apt	12 6	1800	1925	Boeing 737 Passenger	3
FR	59	Stockholm Skavsta Airport	London Stansted Apt	7	2050	2210	Boeing 737 Passenger	1
FR	59	Stockholm Skavsta Airport	London Stansted Apt	456	2130	2250	Boeing 737 Passenger	3
FR	59	Stockholm Skavsta Airport	London Stansted Apt	1	2120	2240	Boeing 737 Passenger	1
FR	5942	Bournemouth	Palma de Mallorca	7	0840	1155	Boeing 737 Passenger	1
FR	5942	Bournemouth	Palma de Mallorca	345	0855	1210	Boeing 737 Passenger	3
FR	5942	Bournemouth	Palma de Mallorca	2 6	1125	1440	Boeing 737 Passenger	2
FR	5942	Bournemouth	Palma de Mallorca	1	0900	1215	Boeing 737 Passenger	1
FR	5943	Palma de Mallorca	Bournemouth	7	0655	0810	Boeing 737 Passenger	1
FR	5943	Palma de Mallorca	Bournemouth	2 6	0940	1100	Boeing 737 Passenger	2
FR	5943	Palma de Mallorca	Bournemouth	1 345	0715	0830	Boeing 737 Passenger	4
FR	5944	Bournemouth	Malaga Airport	56	0845	1220	Boeing 737 Passenger	2
FR	5944	Bournemouth	Malaga Airport	4	1545	1920	Boeing 737 Passenger	1
FR	5944	Bournemouth	Malaga Airport	3 7	0905	1240	Boeing 737 Passenger	2
FR	5944	Bournemouth	Malaga Airport	2	0835	1210	Boeing 737 Passenger	1
FR	5945	Malaga Airport	Bournemouth	56	0640	0820	Boeing 737 Passenger	2
FR	5945	Malaga Airport	Bournemouth	4	1955	2135	Boeing 737 Passenger	1
FR	5945	Malaga Airport	Bournemouth	3 7	0700	0840	Boeing 737 Passenger	2
FR	5945	Malaga Airport	Bournemouth	2	0630	0810	Boeing 737 Passenger	1
FR	5946	Bournemouth	Corvera	2	1655	2025	Boeing 737 Passenger	1
FR	5946	Bournemouth	Corvera	1 3 5	0630	1000	Boeing 737 Passenger	3
FR	5947	Corvera	Bournemouth	2	2130	2255	Boeing 737 Passenger	1
FR	5947	Corvera	Bournemouth	1 3 5	1035	1200	Boeing 737 Passenger	3
FR	5953	Bournemouth	Faro	7	1030	1310	Boeing 737 Passenger	1
FR	5953	Bournemouth	Faro	1 3 5	1705	1945	Boeing 737 Passenger	3
FR	5954	Faro	Bournemouth	7	0730	1005	Boeing 737 Passenger	1
FR	5954	Faro	Bournemouth	1 3 5	1405	1640	Boeing 737 Passenger	3
FR	5991	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	7	1135	1305	Boeing 737 Passenger	1
FR	5991	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	123456	1035	1205	Boeing 737 Passenger	6
FR	5992	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	7	0725	1100	Boeing 737 Passenger	1
FR	5992	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	123456	0625	1000	Boeing 737 Passenger	6
FR	5993	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	234567	0615	0745	Boeing 737 Passenger	6
FR	5993	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	1	0630	0800	Boeing 737 Passenger	1
FR	5994	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	234567	0825	1200	Boeing 737 Passenger	6
FR	5994	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	1	0840	1215	Boeing 737 Passenger	1

FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	7	1335	1505	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	6	1610	1740	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	5	1650	1820	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	4	1540	1710	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	3	1605	1735	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	2	1310	1440	Boeing 737 Passenger	1
FR	5995	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	1	1710	1840	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	7	1530	1905	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	6	1140	1515	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	5	1240	1615	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	4	1130	1505	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	3	1155	1530	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	2	0900	1235	Boeing 737 Passenger	1
FR	5996	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	1	1300	1635	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	7	1815	1945	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	56	2210	2340	Boeing 737 Passenger	2
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	4	2230	2359	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	3	2140	2310	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	2	2235	0005	Boeing 737 Passenger	1
FR	5997	Madrid Adolfo Suarez-Barajas Apt	London Stansted Apt	1	2055	2225	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	7	2015	2350	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	6	1800	2135	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	5	1755	2130	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	4	1815	2145	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	3	1730	2105	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	2	1810	2145	Boeing 737 Passenger	1
FR	5998	London Stansted Apt	Madrid Adolfo Suarez-Barajas Apt	1	1645	2020	Boeing 737 Passenger	1
FR	6022	Bristol	Beziers	3	0930	1225	Boeing 737 Passenger	1
FR	6022	Bristol	Beziers	1 5	1300	1555	Boeing 737 Passenger	2
FR	6023	Beziers	Bristol	3	1250	1350	Boeing 737 Passenger	1
FR	6023	Beziers	Bristol	1 5	1620	1720	Boeing 737 Passenger	2
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	7	0740	1110	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	6	0855	1225	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	45	0700	1030	Boeing 737 Passenger	2
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	3	0920	1250	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	2	0815	1145	Boeing 737 Passenger	1
FR	6031	Nottingham East Midlands Airport	Palma de Mallorca	1	0805	1135	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	7	1145	1325	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	6	1330	1505	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	5	1105	1245	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	4	1105	1240	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	3	1325	1505	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	2	1220	1400	Boeing 737 Passenger	1
FR	6032	Palma de Mallorca	Nottingham East Midlands Airport	1	1210	1345	Boeing 737 Passenger	1
FR	6035	London Stansted Apt	Rimini	6	1715	2025	Boeing 737 Passenger	1
FR	6035	London Stansted Apt	Rimini	2	1005	1315	Boeing 737 Passenger	1
FR	6036	Rimini	London Stansted Apt	6	2050	2200	Boeing 737 Passenger	1
FR	6036	Rimini	London Stansted Apt	2	1340	1450	Boeing 737 Passenger	1
FR	6080	London Stansted Apt	Kalamata	6	1245	1820	Boeing 737 Passenger	1
FR	6081	Kalamata	London Stansted Apt	6	1845	2030	Boeing 737 Passenger	1
FR	6153	Glasgow Prestwick Apt	Lanzarote	6	1900	2335	Boeing 737 Passenger	1
FR	6153	Glasgow Prestwick Apt	Lanzarote	2	0640	1115	Boeing 737 Passenger	1
FR	6154	Lanzarote	Glasgow Prestwick Apt	6	1410	1835	Boeing 737 Passenger	1
FR	6154	Lanzarote	Glasgow Prestwick Apt	2	1150	1615	Boeing 737 Passenger	1
FR	6241	Duesseldorf Weeze Airport	Edinburgh	4	1435	1515	Boeing 737 Passenger	1
FR	6241	Duesseldorf Weeze Airport	Edinburgh	2 6	1545	1625	Boeing 737 Passenger	2
FR	6242	Edinburgh	Duesseldorf Weeze Airport	4	1130	1410	Boeing 737 Passenger	1
FR	6242	Edinburgh	Duesseldorf Weeze Airport	2 6	1240	1520	Boeing 737 Passenger	2
FR	6253	Glasgow Prestwick Apt	Gran Canaria	6	1330	1805	Boeing 737 Passenger	1
FR	6253	Glasgow Prestwick Apt	Gran Canaria	2	0700	1135	Boeing 737 Passenger	1
FR	6254	Gran Canaria	Glasgow Prestwick Apt	6	1845	2315	Boeing 737 Passenger	1
FR	6254	Gran Canaria	Glasgow Prestwick Apt	2	1210	1640	Boeing 737 Passenger	1
FR	6266	Edinburgh	Barcelona Apt	7	0700	1050	Boeing 737 Passenger	1
FR	6266	Edinburgh	Barcelona Apt	123456	0630	1020	Boeing 737 Passenger	6
FR	6267	Barcelona Apt	Edinburgh	7	1125	1325	Boeing 737 Passenger	1
FR	6267	Barcelona Apt	Edinburgh	123456	1055	1255	Boeing 737 Passenger	6
FR	6335	Sofia	Birmingham Airport	2 4 6	1645	1810	Boeing 737 Passenger	3
FR	6336	Birmingham Airport	Sofia	2 4 6	1835	2350	Boeing 737 Passenger	3
FR	6337	Sofia	Liverpool	6	0740	0915	Boeing 737 Passenger	1
FR	6337	Sofia	Liverpool	2	1645	1820	Boeing 737 Passenger	1

FR	6338	Liverpool	Sofia	6	0940	1505	Boeing 737 Passenger	1
FR	6338	Liverpool	Sofia	2	1845	0010	Boeing 737 Passenger	1
FR	6339	Edinburgh	Tallinn	7	0715	1200	Boeing 737 Passenger	1
FR	6339	Edinburgh	Tallinn	3	0730	1215	Boeing 737 Passenger	1
FR	6340	Tallinn	Edinburgh	7	1230	1315	Boeing 737 Passenger	1
FR	6340	Tallinn	Edinburgh	3	1240	1325	Boeing 737 Passenger	1
FR	6432	Ibiza	Liverpool	6	1445	1630	Boeing 737 Passenger	1
FR	6432	Ibiza	Liverpool	3	2130	2315	Boeing 737 Passenger	1
FR	6432	Ibiza	Liverpool	1	2040	2225	Boeing 737 Passenger	1
FR	6433	Liverpool	Ibiza	6	1025	1410	Boeing 737 Passenger	1
FR	6433	Liverpool	Ibiza	3	1710	2055	Boeing 737 Passenger	1
FR	6433	Liverpool	Ibiza	1	1620	2005	Boeing 737 Passenger	1
FR	6460	Lisbon	Edinburgh	6	1740	2050	Boeing 737 Passenger	1
FR	6460	Lisbon	Edinburgh	2	1155	1505	Boeing 737 Passenger	1
FR	6461	Edinburgh	Lisbon	6	1405	1715	Boeing 737 Passenger	1
FR	6461	Edinburgh	Lisbon	2	0745	1055	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	7	0910	1220	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	6	0830	1140	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	3	0820	1130	Boeing 737 Passenger	1
FR	651	Glasgow Prestwick Apt	Faro	1 5	0720	1030	Boeing 737 Passenger	2
FR	652	Faro	Glasgow Prestwick Apt	7	1300	1605	Boeing 737 Passenger	1
FR	652	Faro	Glasgow Prestwick Apt	6	1205	1510	Boeing 737 Passenger	1
FR	652	Faro	Glasgow Prestwick Apt	3	1155	1500	Boeing 737 Passenger	1
FR	652	Faro	Glasgow Prestwick Apt	1 5	1055	1400	Boeing 737 Passenger	2
FR	653	Glasgow Prestwick Apt	Tenerife Sur Apt	6	1845	2325	Boeing 737 Passenger	1
FR	653	Glasgow Prestwick Apt	Tenerife Sur Apt	1234 7	0610	1050	Boeing 737 Passenger	5
FR	654	Tenerife Sur Apt	Glasgow Prestwick Apt	7	1150	1620	Boeing 737 Passenger	1
FR	654	Tenerife Sur Apt	Glasgow Prestwick Apt	6	1350	1820	Boeing 737 Passenger	1
FR	654	Tenerife Sur Apt	Glasgow Prestwick Apt	1234	1140	1610	Boeing 737 Passenger	4
FR	6541	London Stansted Apt	Marseille Provence Apt	123456	0800	1105	Boeing 737 Passenger	6
FR	6542	Marseille Provence Apt	London Stansted Apt	123456	0630	0735	Boeing 737 Passenger	6
FR	6543	London Stansted Apt	Marseille Provence Apt	7	1740	2045	Boeing 737 Passenger	1
FR	6543	London Stansted Apt	Marseille Provence Apt	45	1930	2235	Boeing 737 Passenger	2
FR	6543	London Stansted Apt	Marseille Provence Apt	2 6	1940	2245	Boeing 737 Passenger	2
FR	6543	London Stansted Apt	Marseille Provence Apt	1	2000	2305	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	7	2110	2215	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	5	1800	1905	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	4	1755	1900	Boeing 737 Passenger	1
FR	6544	Marseille Provence Apt	London Stansted Apt	12 6	1810	1915	Boeing 737 Passenger	3
FR	655	Glasgow Prestwick Apt	Malaga Airport	6	1600	2010	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	4	0605	1015	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	3	1015	1425	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	2	1750	2200	Boeing 737 Passenger	1
FR	655	Glasgow Prestwick Apt	Malaga Airport	1 5	0700	1110	Boeing 737 Passenger	2
FR	656	Malaga Airport	Glasgow Prestwick Apt	6	2100	2320	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	5	1200	1420	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	4	1050	1310	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	3	0730	0950	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	2	1505	1725	Boeing 737 Passenger	1
FR	656	Malaga Airport	Glasgow Prestwick Apt	1	1145	1405	Boeing 737 Passenger	1
FR	6571	Nottingham East Midlands Airport	Venice Treviso/Sant'Angelo Apt	7	1350	1700	Boeing 737 Passenger	1
FR	6571	Nottingham East Midlands Airport	Venice Treviso/Sant'Angelo Apt	5	1150	1500	Boeing 737 Passenger	1
FR	6571	Nottingham East Midlands Airport	Venice Treviso/Sant'Angelo Apt	1	1245	1555	Boeing 737 Passenger	1
FR	6572	Venice Treviso/Sant'Angelo Apt	Nottingham East Midlands Airport	7	1725	1840	Boeing 737 Passenger	1
FR	6572	Venice Treviso/Sant'Angelo Apt	Nottingham East Midlands Airport	5	1525	1640	Boeing 737 Passenger	1
FR	6572	Venice Treviso/Sant'Angelo Apt	Nottingham East Midlands Airport	1	1620	1735	Boeing 737 Passenger	1
FR	6601	Nottingham East Midlands Airport	Palma de Mallorca	7	1655	2025	Boeing 737 Passenger	1
FR	6601	Nottingham East Midlands Airport	Palma de Mallorca	6	1620	1950	Boeing 737 Passenger	1
FR	6601	Nottingham East Midlands Airport	Palma de Mallorca	12345	1710	2040	Boeing 737 Passenger	5
FR	6602	Palma de Mallorca	Nottingham East Midlands Airport	7	2105	2245	Boeing 737 Passenger	1
FR	6602	Palma de Mallorca	Nottingham East Midlands Airport	6	2025	2205	Boeing 737 Passenger	1
FR	6602	Palma de Mallorca	Nottingham East Midlands Airport	12345	2115	2255	Boeing 737 Passenger	5
FR	6603	Edinburgh	Porto	6	1750	2035	Boeing 737 Passenger	1
FR	6603	Edinburgh	Porto	2	1740	2025	Boeing 737 Passenger	1
FR	6604	Ibiza	Edinburgh	7	1950	2150	Boeing 737 Passenger	1
FR	6604	Ibiza	Edinburgh	3	1535	1735	Boeing 737 Passenger	1
FR	6605	Edinburgh	Ibiza	7	1515	1915	Boeing 737 Passenger	1
FR	6605	Edinburgh	Ibiza	3	1100	1500	Boeing 737 Passenger	1
FR	6606	Porto	Edinburgh	6	2100	2345	Boeing 737 Passenger	1
FR	6606	Porto	Edinburgh	2	2050	2335	Boeing 737 Passenger	1

FR	6610	Kefallinia	London Stansted Apt	5	2040	2205	Boeing 737 Passenger	1
FR	6610	Kefallinia	London Stansted Apt	1	2230	2355	Boeing 737 Passenger	1
FR	6611	London Stansted Apt	Kefallinia	5	1450	2015	Boeing 737 Passenger	1
FR	6611	London Stansted Apt	Kefallinia	1	1640	2205	Boeing 737 Passenger	1
FR	6618	Edinburgh	Poznan Lawica Apt	5	0825	1150	Boeing 737 Passenger	1
FR	6618	Edinburgh	Poznan Lawica Apt	1	1755	2120	Boeing 737 Passenger	1
FR	6619	Poznan Lawica Apt	Edinburgh	5	0635	0800	Boeing 737 Passenger	1
FR	6619	Poznan Lawica Apt	Edinburgh	1	2145	2310	Boeing 737 Passenger	1
FR	662	Dublin (IE)	Birmingham Airport	7	0640	0750	Boeing 737 Passenger	1
FR	662	Dublin (IE)	Birmingham Airport	123456	0625	0735	Boeing 737 Passenger	6
FR	6621	Edinburgh	Tenerife Sur Apt	1 3 56	1345	1830	Boeing 737 Passenger	4
FR	6622	Tenerife Sur Apt	Edinburgh	1 3 56	1905	2340	Boeing 737 Passenger	4
FR	6624	Edinburgh	Krakow John Paul II - Balice	6	1745	2130	Boeing 737 Passenger	1
FR	6624	Edinburgh	Krakow John Paul II - Balice	2 4	1605	1950	Boeing 737 Passenger	2
FR	6624	Edinburgh	Krakow John Paul II - Balice	1	1735	2120	Boeing 737 Passenger	1
FR	6625	Krakow John Paul II - Balice	Edinburgh	6	2155	2340	Boeing 737 Passenger	1
FR	6625	Krakow John Paul II - Balice	Edinburgh	2 4	2015	2200	Boeing 737 Passenger	2
FR	6625	Krakow John Paul II - Balice	Edinburgh	1	2145	2330	Boeing 737 Passenger	1
FR	6626	Edinburgh	Lanzarote	1 5	0610	1045	Boeing 737 Passenger	2
FR	6627	Lanzarote	Edinburgh	1 5	1120	1550	Boeing 737 Passenger	2
FR	663	Birmingham Airport	Dublin (IE)	7	0815	0925	Boeing 737 Passenger	1
FR	663	Birmingham Airport	Dublin (IE)	123456	0800	0910	Boeing 737 Passenger	6
FR	664	Dublin (IE)	Birmingham Airport	6	1135	1240	Boeing 737 Passenger	1
FR	664	Dublin (IE)	Birmingham Airport	5	1040	1145	Boeing 737 Passenger	1
FR	664	Dublin (IE)	Birmingham Airport	3	1035	1140	Boeing 737 Passenger	1
FR	664	Dublin (IE)	Birmingham Airport	12 4 7	1045	1150	Boeing 737 Passenger	4
FR	6642	Edinburgh	Bratislava	7	0640	1020	Boeing 737 Passenger	1
FR	6642	Edinburgh	Bratislava	4	2040	0020	Boeing 737 Passenger	1
FR	6643	Bratislava	Edinburgh	7	1045	1225	Boeing 737 Passenger	1
FR	6643	Bratislava	Edinburgh	4	1835	2015	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	6	1305	1415	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	5	1210	1320	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	3	1205	1315	Boeing 737 Passenger	1
FR	665	Birmingham Airport	Dublin (IE)	12 4 7	1215	1325	Boeing 737 Passenger	4
FR	6652	Edinburgh	Malaga Airport	1234567	1640	2100	Boeing 737 Passenger	7
FR	6653	Malaga Airport	Edinburgh	1234567	2135	2355	Boeing 737 Passenger	7
FR	6654	Edinburgh	Bordeaux Merignac Apt	4	0850	1210	Boeing 737 Passenger	1
FR	6654	Edinburgh	Bordeaux Merignac Apt	2 6	0715	1035	Boeing 737 Passenger	2
FR	6655	Bordeaux Merignac Apt	Edinburgh	4	0710	0825	Boeing 737 Passenger	1
FR	6655	Bordeaux Merignac Apt	Edinburgh	2 6	1100	1215	Boeing 737 Passenger	2
FR	6656	Edinburgh	Palma de Mallorca	7	0715	1115	Boeing 737 Passenger	1
FR	6656	Edinburgh	Palma de Mallorca	6	0745	1145	Boeing 737 Passenger	1
FR	6656	Edinburgh	Palma de Mallorca	2	1920	2320	Boeing 737 Passenger	1
FR	6656	Edinburgh	Palma de Mallorca	1 345	0735	1135	Boeing 737 Passenger	4
FR	6657	Palma de Mallorca	Edinburgh	7	1150	1400	Boeing 737 Passenger	1
FR	6657	Palma de Mallorca	Edinburgh	6	1300	1510	Boeing 737 Passenger	1
FR	6657	Palma de Mallorca	Edinburgh	2	1645	1855	Boeing 737 Passenger	1
FR	6657	Palma de Mallorca	Edinburgh	1 345	1210	1420	Boeing 737 Passenger	4
FR	666	Dublin (IE)	Birmingham Airport	2 5 7	2035	2140	Boeing 737 Passenger	3
FR	666	Dublin (IE)	Birmingham Airport	1 34	2045	2150	Boeing 737 Passenger	3
FR	667	Birmingham Airport	Dublin (IE)	2 5 7	1900	2010	Boeing 737 Passenger	3
FR	667	Birmingham Airport	Dublin (IE)	1 34	1910	2020	Boeing 737 Passenger	3
FR	6673	Liverpool	Knock	7	1150	1255	Boeing 737 Passenger	1
FR	6673	Liverpool	Knock	56	1410	1515	Boeing 737 Passenger	2
FR	6673	Liverpool	Knock	2	0815	0920	Boeing 737 Passenger	1
FR	6673	Liverpool	Knock	1	1335	1440	Boeing 737 Passenger	1
FR	6674	Knock	Liverpool	7	1320	1425	Boeing 737 Passenger	1
FR	6674	Knock	Liverpool	56	1540	1645	Boeing 737 Passenger	2
FR	6674	Knock	Liverpool	2	0945	1050	Boeing 737 Passenger	1
FR	6674	Knock	Liverpool	1	1505	1610	Boeing 737 Passenger	1
FR	668	Dublin (IE)	Birmingham Airport	2345 7	2155	2300	Boeing 737 Passenger	5
FR	668	Dublin (IE)	Birmingham Airport	1 6	2225	2330	Boeing 737 Passenger	2
FR	6681	Edinburgh	Rome Ciampino Apt	7	0635	1030	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	6	0645	1040	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	5	0915	1310	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	3	0625	1020	Boeing 737 Passenger	1
FR	6681	Edinburgh	Rome Ciampino Apt	1	0615	1010	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	7	1055	1310	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	6	1105	1315	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	5	0635	0850	Boeing 737 Passenger	1

FR	6682	Rome Ciampino Apt	Edinburgh	3	1045	1300	Boeing 737 Passenger	1
FR	6682	Rome Ciampino Apt	Edinburgh	1	1035	1250	Boeing 737 Passenger	1
FR	6689	Sevilla Airport	Bristol	6	1715	1855	Boeing 737 Passenger	1
FR	6689	Sevilla Airport	Bristol	2	1130	1310	Boeing 737 Passenger	1
FR	669	Birmingham Airport	Dublin (IE)	2345 7	2025	2130	Boeing 737 Passenger	5
FR	669	Birmingham Airport	Dublin (IE)	1 6	2055	2200	Boeing 737 Passenger	2
FR	6690	Bristol	Sevilla Airport	6	1920	2240	Boeing 737 Passenger	1
FR	6690	Bristol	Sevilla Airport	2	0740	1100	Boeing 737 Passenger	1
FR	6695	Edinburgh	Malta	6	1805	2255	Boeing 737 Passenger	1
FR	6695	Edinburgh	Malta	4	0730	1220	Boeing 737 Passenger	1
FR	6695	Edinburgh	Malta	23	0700	1150	Boeing 737 Passenger	2
FR	6696	Malta	Edinburgh	6	1440	1740	Boeing 737 Passenger	1
FR	6696	Malta	Edinburgh	4	1245	1545	Boeing 737 Passenger	1
FR	6696	Malta	Edinburgh	23	1215	1515	Boeing 737 Passenger	2
FR	6698	Edinburgh	Gran Canaria	6	1400	1850	Boeing 737 Passenger	1
FR	6698	Edinburgh	Gran Canaria	2	1900	2350	Boeing 737 Passenger	1
FR	6699	Gran Canaria	Edinburgh	6	1925	2359	Boeing 737 Passenger	1
FR	6699	Gran Canaria	Edinburgh	2	1400	1835	Boeing 737 Passenger	1
FR	670	Dublin (IE)	Birmingham Airport	1234567	1325	1435	Boeing 737 Passenger	7
FR	671	Birmingham Airport	Dublin (IE)	1234567	1500	1610	Boeing 737 Passenger	7
FR	672	Dublin (IE)	Birmingham Airport	7	1550	1700	Boeing 737 Passenger	1
FR	672	Dublin (IE)	Birmingham Airport	1 5	1615	1725	Boeing 737 Passenger	2
FR	673	Birmingham Airport	Dublin (IE)	7	1725	1835	Boeing 737 Passenger	1
FR	673	Birmingham Airport	Dublin (IE)	1 5	1750	1900	Boeing 737 Passenger	2
FR	6760	Edinburgh	Sevilla Airport	6	0910	1325	Boeing 737 Passenger	1
FR	6760	Edinburgh	Sevilla Airport	2	1810	2225	Boeing 737 Passenger	1
FR	6761	Sevilla Airport	Edinburgh	6	1355	1610	Boeing 737 Passenger	1
FR	6761	Sevilla Airport	Edinburgh	2	1530	1745	Boeing 737 Passenger	1
FR	6762	Bournemouth	Tenerife Sur Apt	2	0710	1120	Boeing 737 Passenger	1
FR	6763	Tenerife Sur Apt	Bournemouth	2	1155	1550	Boeing 737 Passenger	1
FR	6764	Bournemouth	Gran Canaria	6	1030	1435	Boeing 737 Passenger	1
FR	6765	Gran Canaria	Bournemouth	6	0600	1005	Boeing 737 Passenger	1
FR	682	London Stansted Apt	Stockholm Vasteras Apt	7	1640	1955	Boeing 737 Passenger	1
FR	682	London Stansted Apt	Stockholm Vasteras Apt	3	1325	1640	Boeing 737 Passenger	1
FR	682	London Stansted Apt	Stockholm Vasteras Apt	1 5	1140	1455	Boeing 737 Passenger	2
FR	6826	Edinburgh	Faro	7	1955	2315	Boeing 737 Passenger	1
FR	6826	Edinburgh	Faro	5	0840	1200	Boeing 737 Passenger	1
FR	6826	Edinburgh	Faro	3	1600	1920	Boeing 737 Passenger	1
FR	6826	Edinburgh	Faro	1	0635	0955	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	7	1610	1930	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	5	1225	1545	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	3	1945	2305	Boeing 737 Passenger	1
FR	6827	Faro	Edinburgh	1	1020	1340	Boeing 737 Passenger	1
FR	683	Stockholm Vasteras Apt	London Stansted Apt	7	2020	2140	Boeing 737 Passenger	1
FR	683	Stockholm Vasteras Apt	London Stansted Apt	3	1705	1825	Boeing 737 Passenger	1
FR	683	Stockholm Vasteras Apt	London Stansted Apt	1 5	1520	1640	Boeing 737 Passenger	2
FR	6834	Naples Capodichino Apt	Manchester (GB)	6	0600	0805	Boeing 737 Passenger	1
FR	6834	Naples Capodichino Apt	Manchester (GB)	4	0805	1010	Boeing 737 Passenger	1
FR	6834	Naples Capodichino Apt	Manchester (GB)	2	1425	1630	Boeing 737 Passenger	1
FR	6835	Manchester (GB)	Naples Capodichino Apt	6	0830	1225	Boeing 737 Passenger	1
FR	6835	Manchester (GB)	Naples Capodichino Apt	4	1035	1430	Boeing 737 Passenger	1
FR	6835	Manchester (GB)	Naples Capodichino Apt	2	1005	1400	Boeing 737 Passenger	1
FR	691	Glasgow Prestwick Apt	Alicante Airport	5	1520	1920	Boeing 737 Passenger	1
FR	691	Glasgow Prestwick Apt	Alicante Airport	4 7	1655	2055	Boeing 737 Passenger	2
FR	691	Glasgow Prestwick Apt	Alicante Airport	3	1625	2025	Boeing 737 Passenger	1
FR	691	Glasgow Prestwick Apt	Alicante Airport	1	1530	1930	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	7	2130	2340	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	5	1955	2205	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	4	2140	2350	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	3	2100	2310	Boeing 737 Passenger	1
FR	692	Alicante Airport	Glasgow Prestwick Apt	1	2005	2215	Boeing 737 Passenger	1
FR	694	Glasgow Prestwick Apt	Ibiza	3 7	1450	1850	Boeing 737 Passenger	2
FR	695	Ibiza	Glasgow Prestwick Apt	3 7	1925	2130	Boeing 737 Passenger	2
FR	696	Glasgow Prestwick Apt	Palma de Mallorca	6	1500	1850	Boeing 737 Passenger	1
FR	696	Glasgow Prestwick Apt	Palma de Mallorca	345 7	0700	1050	Boeing 737 Passenger	4
FR	696	Glasgow Prestwick Apt	Palma de Mallorca	2	1705	2055	Boeing 737 Passenger	1
FR	697	Palma de Mallorca	Glasgow Prestwick Apt	6	1925	2130	Boeing 737 Passenger	1
FR	697	Palma de Mallorca	Glasgow Prestwick Apt	345 7	1125	1330	Boeing 737 Passenger	4
FR	697	Palma de Mallorca	Glasgow Prestwick Apt	2	2130	2335	Boeing 737 Passenger	1
FR	701	London Stansted Apt	Kerry	3 7	1355	1525	Boeing 737 Passenger	2

FR	701	London Stansted Apt	Kerry	1 45	1410	1540	Boeing 737 Passenger	3
FR	702	Kerry	London Stansted Apt	1 345 7	1605	1735	Boeing 737 Passenger	5
FR	703	Gdansk Lech Walesa	Manchester (GB)	3	1710	1845	Boeing 737 Passenger	1
FR	704	Manchester (GB)	Gdansk Lech Walesa	3	1910	2225	Boeing 737 Passenger	1
FR	7111	Liverpool	Szczecin	7	0645	0950	Boeing 737 Passenger	1
FR	7111	Liverpool	Szczecin	4	0620	0925	Boeing 737 Passenger	1
FR	7112	Szczecin	Liverpool	7	1015	1120	Boeing 737 Passenger	1
FR	7112	Szczecin	Liverpool	4	0950	1055	Boeing 737 Passenger	1
FR	7117	London Stansted Apt	Strasbourg	7	0755	1020	Boeing 737 Passenger	1
FR	7117	London Stansted Apt	Strasbourg	3	1500	1725	Boeing 737 Passenger	1
FR	7118	Strasbourg	London Stansted Apt	7	1045	1110	Boeing 737 Passenger	1
FR	7118	Strasbourg	London Stansted Apt	3	1750	1815	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	7	0840	1120	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	6	1425	1705	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	4	1130	1410	Boeing 737 Passenger	1
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	23 5	1125	1405	Boeing 737 Passenger	3
FR	712	London Stansted Apt	Aarhus Tirstrup Airport	1	1120	1400	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	7	1150	1230	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	6	1730	1810	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	4	1435	1515	Boeing 737 Passenger	1
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	23 5	1430	1510	Boeing 737 Passenger	3
FR	713	Aarhus Tirstrup Airport	London Stansted Apt	1	1425	1505	Boeing 737 Passenger	1
FR	72	London Stansted Apt	Carcassonne	7	1455	1755	Boeing 737 Passenger	1
FR	72	London Stansted Apt	Carcassonne	6	1430	1730	Boeing 737 Passenger	1
FR	72	London Stansted Apt	Carcassonne	2345	1410	1710	Boeing 737 Passenger	4
FR	72	London Stansted Apt	Carcassonne	1	1140	1440	Boeing 737 Passenger	1
FR	7226	Bristol	Krakow John Paul II - Balice	5	0930	1255	Boeing 737 Passenger	1
FR	7226	Bristol	Krakow John Paul II - Balice	3	0850	1215	Boeing 737 Passenger	1
FR	7226	Bristol	Krakow John Paul II - Balice	1	0905	1230	Boeing 737 Passenger	1
FR	7227	Krakow John Paul II - Balice	Bristol	5	0725	0905	Boeing 737 Passenger	1
FR	7227	Krakow John Paul II - Balice	Bristol	3	0645	0825	Boeing 737 Passenger	1
FR	7227	Krakow John Paul II - Balice	Bristol	1	0700	0840	Boeing 737 Passenger	1
FR	7275	Belfast International Apt	Manchester (GB)	1234567	0800	0905	Boeing 737 Passenger	7
FR	7276	Manchester (GB)	Belfast International Apt	1234567	0630	0735	Boeing 737 Passenger	7
FR	73	Carcassonne	London Stansted Apt	7	1820	1920	Boeing 737 Passenger	1
FR	73	Carcassonne	London Stansted Apt	6	1755	1855	Boeing 737 Passenger	1
FR	73	Carcassonne	London Stansted Apt	2345	1735	1835	Boeing 737 Passenger	4
FR	73	Carcassonne	London Stansted Apt	1	1505	1605	Boeing 737 Passenger	1
FR	734	Birmingham Airport	Bratislava	4 6	1935	2300	Boeing 737 Passenger	2
FR	734	Birmingham Airport	Bratislava	2	1035	1400	Boeing 737 Passenger	1
FR	7342	Glasgow Prestwick Apt	Rome Ciampino Apt	6	0655	1055	Boeing 737 Passenger	1
FR	7342	Glasgow Prestwick Apt	Rome Ciampino Apt	2	1705	2105	Boeing 737 Passenger	1
FR	7343	Rome Ciampino Apt	Glasgow Prestwick Apt	6	1120	1330	Boeing 737 Passenger	1
FR	7343	Rome Ciampino Apt	Glasgow Prestwick Apt	2	2130	2340	Boeing 737 Passenger	1
FR	735	Bratislava	Birmingham Airport	4 6	1745	1910	Boeing 737 Passenger	2
FR	735	Bratislava	Birmingham Airport	2	0845	1010	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	7	1845	2130	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	5	1130	1415	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	4	1950	2235	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	3	1415	1700	Boeing 737 Passenger	1
FR	7352	Edinburgh	Brussels S. Charleroi Airport	1	1340	1625	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	7	2155	2235	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	5	1440	1520	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	4	1845	1925	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	3	1725	1805	Boeing 737 Passenger	1
FR	7353	Brussels S. Charleroi Airport	Edinburgh	1	1650	1730	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	6	1710	1810	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	5	1740	1840	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	4	1620	1720	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	3	1720	1820	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	2	1730	1825	Boeing 737 Passenger	1
FR	7381	Copenhagen Kastrup Apt	London Stansted Apt	1 7	1730	1830	Boeing 737 Passenger	2
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	6	1400	1645	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	5	1430	1715	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	4	1310	1555	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	3	1410	1655	Boeing 737 Passenger	1
FR	7382	London Stansted Apt	Copenhagen Kastrup Apt	12 7	1420	1705	Boeing 737 Passenger	3
FR	7383	Copenhagen Kastrup Apt	London Stansted Apt	1234567	0715	0815	Boeing 737 Passenger	7
FR	7384	London Stansted Apt	Copenhagen Kastrup Apt	34567	0900	1145	Boeing 737 Passenger	5
FR	7384	London Stansted Apt	Copenhagen Kastrup Apt	2	0855	1140	Boeing 737 Passenger	1

FR	7384	London Stansted Apt	Copenhagen Kastrup Apt	1	0840	1125	Boeing 737 Passenger	1
FR	7385	Copenhagen Kastrup Apt	London Stansted Apt	2 567	2215	2315	Boeing 737 Passenger	4
FR	7385	Copenhagen Kastrup Apt	London Stansted Apt	1 34	2210	2310	Boeing 737 Passenger	3
FR	7386	London Stansted Apt	Copenhagen Kastrup Apt	567	1905	2150	Boeing 737 Passenger	3
FR	7386	London Stansted Apt	Copenhagen Kastrup Apt	1234	1900	2145	Boeing 737 Passenger	4
FR	7407	Copenhagen Kastrup Apt	London Luton Apt	7	2140	2230	Boeing 737 Passenger	1
FR	7407	Copenhagen Kastrup Apt	London Luton Apt	1 3456	1435	1525	Boeing 737 Passenger	5
FR	7408	London Luton Apt	Copenhagen Kastrup Apt	7	1825	2115	Boeing 737 Passenger	1
FR	7408	London Luton Apt	Copenhagen Kastrup Apt	6	1115	1405	Boeing 737 Passenger	1
FR	7408	London Luton Apt	Copenhagen Kastrup Apt	1 345	1115	1410	Boeing 737 Passenger	4
FR	748	Birmingham Airport	Gdansk Lech Walesa	7	1955	2315	Boeing 737 Passenger	1
FR	748	Birmingham Airport	Gdansk Lech Walesa	3	1700	2020	Boeing 737 Passenger	1
FR	749	Gdansk Lech Walesa	Birmingham Airport	7	1800	1930	Boeing 737 Passenger	1
FR	749	Gdansk Lech Walesa	Birmingham Airport	3	1510	1635	Boeing 737 Passenger	1
FR	7542	Manchester (GB)	Barcelona Apt	1234567	0625	0945	Boeing 737 Passenger	7
FR	7543	Barcelona Apt	Manchester (GB)	1234567	1020	1155	Boeing 737 Passenger	7
FR	7544	Manchester (GB)	Barcelona Apt	1234567	1810	2130	Boeing 737 Passenger	7
FR	7545	Barcelona Apt	Manchester (GB)	6	2205	2340	Boeing 737 Passenger	1
FR	7545	Barcelona Apt	Manchester (GB)	5	1600	1740	Boeing 737 Passenger	1
FR	7545	Barcelona Apt	Manchester (GB)	234 7	2205	2345	Boeing 737 Passenger	4
FR	7545	Barcelona Apt	Manchester (GB)	1	1605	1745	Boeing 737 Passenger	1
FR	7608	London Stansted Apt	Chania	7	1255	1850	Boeing 737 Passenger	1
FR	7608	London Stansted Apt	Chania	5	0715	1310	Boeing 737 Passenger	1
FR	7608	London Stansted Apt	Chania	1	0640	1235	Boeing 737 Passenger	1
FR	7609	Chania	London Stansted Apt	7	1935	2145	Boeing 737 Passenger	1
FR	7609	Chania	London Stansted Apt	5	1335	1545	Boeing 737 Passenger	1
FR	7609	Chania	London Stansted Apt	1	1300	1510	Boeing 737 Passenger	1
FR	7616	Edinburgh	Santander	7	0655	1020	Boeing 737 Passenger	1
FR	7616	Edinburgh	Santander	3	1830	2155	Boeing 737 Passenger	1
FR	7617	Santander	Edinburgh	7	1045	1205	Boeing 737 Passenger	1
FR	7617	Santander	Edinburgh	3	2220	2340	Boeing 737 Passenger	1
FR	7622	Nottingham East Midlands Airport	Rzeszow	4	1410	1750	Boeing 737 Passenger	1
FR	7622	Nottingham East Midlands Airport	Rzeszow	2 6	0610	0950	Boeing 737 Passenger	2
FR	7623	Rzeszow	Nottingham East Midlands Airport	4	1815	2000	Boeing 737 Passenger	1
FR	7623	Rzeszow	Nottingham East Midlands Airport	2 6	1015	1200	Boeing 737 Passenger	2
FR	7624	Glasgow Prestwick Apt	Bydgoszcz	6	0720	1040	Boeing 737 Passenger	1
FR	7624	Glasgow Prestwick Apt	Bydgoszcz	2	1730	2050	Boeing 737 Passenger	1
FR	7625	Bydgoszcz	Glasgow Prestwick Apt	6	1105	1235	Boeing 737 Passenger	1
FR	7625	Bydgoszcz	Glasgow Prestwick Apt	2	2115	2245	Boeing 737 Passenger	1
FR	7672	Glasgow International Airport	Wroclaw	1 5	1305	1630	Boeing 737 Passenger	2
FR	7673	Wroclaw	Glasgow International Airport	1 5	1105	1240	Boeing 737 Passenger	2
FR	7784	London Luton Apt	Malaga Airport	4	0715	1105	Boeing 737 Passenger	1
FR	7784	London Luton Apt	Malaga Airport	3	1650	2045	Boeing 737 Passenger	1
FR	7784	London Luton Apt	Malaga Airport	2	0655	1050	Boeing 737 Passenger	1
FR	7784	London Luton Apt	Malaga Airport	1 567	0650	1045	Boeing 737 Passenger	4
FR	7785	Malaga Airport	London Luton Apt	7	1120	1310	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	5	1140	1330	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	4	1200	1350	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	3	2140	2330	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	2	1210	1400	Boeing 737 Passenger	1
FR	7785	Malaga Airport	London Luton Apt	1 6	1125	1315	Boeing 737 Passenger	2
FR	7786	Bristol	Chania	7	0915	1515	Boeing 737 Passenger	1
FR	7786	Bristol	Chania	3	0630	1230	Boeing 737 Passenger	1
FR	7787	Chania	Bristol	7	1540	1800	Boeing 737 Passenger	1
FR	7787	Chania	Bristol	3	1255	1515	Boeing 737 Passenger	1
FR	7805	London Luton Apt	Athens (GR)	7	0805	1355	Boeing 737 Passenger	1
FR	7805	London Luton Apt	Athens (GR)	56	0645	1235	Boeing 737 Passenger	2
FR	7805	London Luton Apt	Athens (GR)	1234	0800	1350	Boeing 737 Passenger	4
FR	7806	Athens (GR)	London Luton Apt	7	1420	1610	Boeing 737 Passenger	1
FR	7806	Athens (GR)	London Luton Apt	6	1300	1450	Boeing 737 Passenger	1
FR	7806	Athens (GR)	London Luton Apt	5	1315	1505	Boeing 737 Passenger	1
FR	7806	Athens (GR)	London Luton Apt	1234	1415	1605	Boeing 737 Passenger	4
FR	7807	London Luton Apt	Barcelona Apt	7	1655	2010	Boeing 737 Passenger	1
FR	7807	London Luton Apt	Barcelona Apt	3 6	1645	2000	Boeing 737 Passenger	2
FR	7807	London Luton Apt	Barcelona Apt	2 45	1600	1915	Boeing 737 Passenger	3
FR	7807	London Luton Apt	Barcelona Apt	1	1550	1905	Boeing 737 Passenger	1
FR	7808	Barcelona Apt	London Luton Apt	7	2045	2200	Boeing 737 Passenger	1
FR	7808	Barcelona Apt	London Luton Apt	3 6	2035	2150	Boeing 737 Passenger	2
FR	7808	Barcelona Apt	London Luton Apt	12 45	1950	2105	Boeing 737 Passenger	4
FR	7823	Glasgow Prestwick Apt	Barcelona Apt	6	1910	2250	Boeing 737 Passenger	1

FR	7823	Glasgow Prestwick Apt	Barcelona Apt	3 7	1730	2110	Boeing 737 Passenger	2
FR	7823	Glasgow Prestwick Apt	Barcelona Apt	1 45	1735	2115	Boeing 737 Passenger	3
FR	7824	Barcelona Apt	Glasgow Prestwick Apt	6	1650	1845	Boeing 737 Passenger	1
FR	7824	Barcelona Apt	Glasgow Prestwick Apt	1 345 7	2150	2345	Boeing 737 Passenger	5
FR	7834	Edinburgh	Beziers	7	1255	1625	Boeing 737 Passenger	1
FR	7834	Edinburgh	Beziers	3	1135	1505	Boeing 737 Passenger	1
FR	7835	Beziers	Edinburgh	7	1650	1820	Boeing 737 Passenger	1
FR	7835	Beziers	Edinburgh	3	1530	1700	Boeing 737 Passenger	1
FR	7842	Glasgow Prestwick Apt	Corvera	5	1505	1905	Boeing 737 Passenger	1
FR	7842	Glasgow Prestwick Apt	Corvera	1	1510	1910	Boeing 737 Passenger	1
FR	7843	Corvera	Glasgow Prestwick Apt	5	1940	2145	Boeing 737 Passenger	1
FR	7843	Corvera	Glasgow Prestwick Apt	1	1945	2150	Boeing 737 Passenger	1
FR	7844	Edinburgh	Kerkyra	6	0745	1325	Boeing 737 Passenger	1
FR	7844	Edinburgh	Kerkyra	4	1600	2140	Boeing 737 Passenger	1
FR	7845	Kerkyra	Edinburgh	6	1350	1535	Boeing 737 Passenger	1
FR	7845	Kerkyra	Edinburgh	4	2205	2350	Boeing 737 Passenger	1
FR	7846	Glasgow Prestwick Apt	Pisa	7	0840	1220	Boeing 737 Passenger	1
FR	7846	Glasgow Prestwick Apt	Pisa	3	1240	1620	Boeing 737 Passenger	1
FR	7847	Pisa	Glasgow Prestwick Apt	7	0630	0815	Boeing 737 Passenger	1
FR	7847	Pisa	Glasgow Prestwick Apt	3	1030	1215	Boeing 737 Passenger	1
FR	7892	Edinburgh	Goteborg Landvetter Apt	1 5	1250	1540	Boeing 737 Passenger	2
FR	7893	Goteborg Landvetter Apt	Edinburgh	1 5	1130	1225	Boeing 737 Passenger	2
FR	792	London Stansted Apt	Venice Marco Polo Apt	1234567	0620	0920	Boeing 737 Passenger	7
FR	7921	Edinburgh	Gdansk Lech Walesa	6	1930	2250	Boeing 737 Passenger	1
FR	7921	Edinburgh	Gdansk Lech Walesa	4	1850	2210	Boeing 737 Passenger	1
FR	7921	Edinburgh	Gdansk Lech Walesa	2	1945	2305	Boeing 737 Passenger	1
FR	7922	Gdansk Lech Walesa	Edinburgh	6	1740	1905	Boeing 737 Passenger	1
FR	7922	Gdansk Lech Walesa	Edinburgh	4	1700	1825	Boeing 737 Passenger	1
FR	7922	Gdansk Lech Walesa	Edinburgh	2	1755	1920	Boeing 737 Passenger	1
FR	793	Venice Marco Polo Apt	London Stansted Apt	1234567	0945	1055	Boeing 737 Passenger	7
FR	794	London Stansted Apt	Venice Marco Polo Apt	7	1410	1710	Boeing 737 Passenger	1
FR	794	London Stansted Apt	Venice Marco Polo Apt	456	1310	1610	Boeing 737 Passenger	3
FR	794	London Stansted Apt	Venice Marco Polo Apt	3	1230	1530	Boeing 737 Passenger	1
FR	794	London Stansted Apt	Venice Marco Polo Apt	2	1040	1340	Boeing 737 Passenger	1
FR	794	London Stansted Apt	Venice Marco Polo Apt	1	1245	1545	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	7	1735	1845	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	3	1555	1705	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	2	1405	1515	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	1	1610	1720	Boeing 737 Passenger	1
FR	795	Venice Marco Polo Apt	London Stansted Apt	1 456	1635	1745	Boeing 737 Passenger	3
FR	7961	London Stansted Apt	Podgorica	7	0645	1035	Boeing 737 Passenger	1
FR	7961	London Stansted Apt	Podgorica	3	0715	1105	Boeing 737 Passenger	1
FR	7962	Podgorica	London Stansted Apt	7	1100	1255	Boeing 737 Passenger	1
FR	7962	Podgorica	London Stansted Apt	3	1130	1325	Boeing 737 Passenger	1
FR	7963	London Stansted Apt	Brive-La-Gaillarde	6	0730	1010	Boeing 737 Passenger	1
FR	7963	London Stansted Apt	Brive-La-Gaillarde	3	0930	1210	Boeing 737 Passenger	1
FR	7964	Brive-La-Gaillarde	London Stansted Apt	6	1035	1120	Boeing 737 Passenger	1
FR	7964	Brive-La-Gaillarde	London Stansted Apt	3	1235	1320	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	7	1615	1835	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	6	1610	1830	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	5	1320	1540	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	3	1540	1800	Boeing 737 Passenger	1
FR	7965	London Stansted Apt	Porto	1	1650	1910	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	7	1320	1550	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	6	1315	1545	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	5	1035	1255	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	3	1250	1510	Boeing 737 Passenger	1
FR	7966	Porto	London Stansted Apt	1	1400	1620	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	7	1755	2055	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	6	1830	2130	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	5	1805	2105	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	3	1815	2115	Boeing 737 Passenger	1
FR	798	London Stansted Apt	Venice Marco Polo Apt	2	1800	2100	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	7	2120	2230	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	6	2155	2305	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	5	2130	2240	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	2	2125	2235	Boeing 737 Passenger	1
FR	799	Venice Marco Polo Apt	London Stansted Apt	23	2140	2250	Boeing 737 Passenger	1
FR	8005	Alicante Airport	Aberdeen (GB)	4 7	0745	1010	Boeing 737 Passenger	2
FR	8006	Aberdeen (GB)	Alicante Airport	4 7	1035	1450	Boeing 737 Passenger	2

FR	8007	Malaga Airport	Aberdeen (GB)	7	0805	1030	Boeing 737 Passenger	1
FR	8007	Malaga Airport	Aberdeen (GB)	4	0625	0850	Boeing 737 Passenger	1
FR	8008	Aberdeen (GB)	Malaga Airport	7	1055	1525	Boeing 737 Passenger	1
FR	8008	Aberdeen (GB)	Malaga Airport	4	0915	1345	Boeing 737 Passenger	1
FR	8025	Corvera	London Stansted Apt	3	1120	1305	Boeing 737 Passenger	1
FR	8025	Corvera	London Stansted Apt	1 5	1145	1330	Boeing 737 Passenger	2
FR	8026	London Stansted Apt	Corvera	3	0700	1045	Boeing 737 Passenger	1
FR	8026	London Stansted Apt	Corvera	1 5	0725	1110	Boeing 737 Passenger	2
FR	8027	Corvera	London Stansted Apt	5	2120	2305	Boeing 737 Passenger	1
FR	8027	Corvera	London Stansted Apt	2 4	2115	2300	Boeing 737 Passenger	2
FR	8027	Corvera	London Stansted Apt	1 3 67	2110	2255	Boeing 737 Passenger	4
FR	8028	London Stansted Apt	Corvera	5	1700	2045	Boeing 737 Passenger	1
FR	8028	London Stansted Apt	Corvera	4	1655	2040	Boeing 737 Passenger	1
FR	8028	London Stansted Apt	Corvera	123 67	1650	2035	Boeing 737 Passenger	5
FR	8044	Birmingham Airport	Chania	6	1445	2040	Boeing 737 Passenger	1
FR	8044	Birmingham Airport	Chania	2	1530	2125	Boeing 737 Passenger	1
FR	8045	Chania	Birmingham Airport	6	2105	2315	Boeing 737 Passenger	1
FR	8045	Chania	Birmingham Airport	2	2150	2359	Boeing 737 Passenger	1
FR	8046	Birmingham Airport	Girona Costa Brava Apt	5	1950	2300	Boeing 737 Passenger	1
FR	8046	Birmingham Airport	Girona Costa Brava Apt	3	0625	0935	Boeing 737 Passenger	1
FR	8046	Birmingham Airport	Girona Costa Brava Apt	1	0630	0940	Boeing 737 Passenger	1
FR	8047	Girona Costa Brava Apt	Birmingham Airport	5	1815	1925	Boeing 737 Passenger	1
FR	8047	Girona Costa Brava Apt	Birmingham Airport	3	1015	1125	Boeing 737 Passenger	1
FR	8047	Girona Costa Brava Apt	Birmingham Airport	1	1005	1115	Boeing 737 Passenger	1
FR	805	London Stansted Apt	Knock	6	0805	0935	Boeing 737 Passenger	1
FR	805	London Stansted Apt	Knock	34	0800	0930	Boeing 737 Passenger	2
FR	805	London Stansted Apt	Knock	12 5 7	0755	0925	Boeing 737 Passenger	4
FR	806	Knock	London Stansted Apt	6	1000	1130	Boeing 737 Passenger	1
FR	806	Knock	London Stansted Apt	34	0955	1125	Boeing 737 Passenger	2
FR	806	Knock	London Stansted Apt	12 5 7	0950	1120	Boeing 737 Passenger	4
FR	8061	Kerkyra	Birmingham Airport	6	1540	1705	Boeing 737 Passenger	1
FR	8061	Kerkyra	Birmingham Airport	2	1300	1425	Boeing 737 Passenger	1
FR	8062	Birmingham Airport	Kerkyra	6	0925	1440	Boeing 737 Passenger	1
FR	8062	Birmingham Airport	Kerkyra	2	0710	1225	Boeing 737 Passenger	1
FR	807	London Stansted Apt	Knock	5 7	1510	1640	Boeing 737 Passenger	2
FR	807	London Stansted Apt	Knock	1	1515	1645	Boeing 737 Passenger	1
FR	808	Knock	London Stansted Apt	5 7	1705	1835	Boeing 737 Passenger	2
FR	808	Knock	London Stansted Apt	1	1710	1840	Boeing 737 Passenger	1
FR	8083	Birmingham Airport	Nowy Dwor Mazowiecki	7	1925	2255	Boeing 737 Passenger	1
FR	8083	Birmingham Airport	Nowy Dwor Mazowiecki	4	1955	2325	Boeing 737 Passenger	1
FR	8083	Birmingham Airport	Nowy Dwor Mazowiecki	2	0950	1320	Boeing 737 Passenger	1
FR	8084	Nowy Dwor Mazowiecki	Birmingham Airport	7	1720	1900	Boeing 737 Passenger	1
FR	8084	Nowy Dwor Mazowiecki	Birmingham Airport	4	1750	1930	Boeing 737 Passenger	1
FR	8084	Nowy Dwor Mazowiecki	Birmingham Airport	2	0745	0925	Boeing 737 Passenger	1
FR	8087	Birmingham Airport	Reus	7	1350	1700	Boeing 737 Passenger	1
FR	8087	Birmingham Airport	Reus	3	1155	1505	Boeing 737 Passenger	1
FR	8088	Reus	Birmingham Airport	7	1725	1835	Boeing 737 Passenger	1
FR	8088	Reus	Birmingham Airport	3	1530	1640	Boeing 737 Passenger	1
FR	8108	Malaga Airport	Bristol	7	0855	1040	Boeing 737 Passenger	1
FR	8109	Bristol	Malaga Airport	7	1105	1445	Boeing 737 Passenger	1
FR	8116	Nuremberg, Nuremberg	London Stansted Apt	7	2250	2340	Boeing 737 Passenger	1
FR	8116	Nuremberg, Nuremberg	London Stansted Apt	6	2140	2230	Boeing 737 Passenger	1
FR	8116	Nuremberg, Nuremberg	London Stansted Apt	12345	2235	2325	Boeing 737 Passenger	5
FR	8117	London Stansted Apt	Nuremberg, Nuremberg	7	1945	2225	Boeing 737 Passenger	1
FR	8117	London Stansted Apt	Nuremberg, Nuremberg	6	1835	2115	Boeing 737 Passenger	1
FR	8117	London Stansted Apt	Nuremberg, Nuremberg	12345	1930	2210	Boeing 737 Passenger	5
FR	8119	London Stansted Apt	Nuremberg, Nuremberg	12345	0735	1015	Boeing 737 Passenger	5
FR	812	Dublin (IE)	Edinburgh	2 5	0640	0750	Boeing 737 Passenger	2
FR	812	Dublin (IE)	Edinburgh	1 34 67	0625	0735	Boeing 737 Passenger	5
FR	8120	Nuremberg, Nuremberg	London Stansted Apt	12345	0630	0710	Boeing 737 Passenger	5
FR	8121	Bristol	Malaga Airport	6	2010	2350	Boeing 737 Passenger	1
FR	8121	Bristol	Malaga Airport	5	1735	2115	Boeing 737 Passenger	1
FR	8121	Bristol	Malaga Airport	1234 7	1730	2110	Boeing 737 Passenger	5
FR	8122	Malaga Airport	Bristol	6	1800	1945	Boeing 737 Passenger	1
FR	8122	Malaga Airport	Bristol	5	1530	1710	Boeing 737 Passenger	1
FR	8122	Malaga Airport	Bristol	1234 7	2145	2325	Boeing 737 Passenger	5
FR	813	Edinburgh	Dublin (IE)	2 5	0815	0920	Boeing 737 Passenger	2
FR	813	Edinburgh	Dublin (IE)	1 34 67	0800	0905	Boeing 737 Passenger	5
FR	8132	London Stansted Apt	Gran Canaria	4	0610	1045	Boeing 737 Passenger	1
FR	8132	London Stansted Apt	Gran Canaria	23 67	0705	1140	Boeing 737 Passenger	4

FR	8133	Gran Canaria	London Stansted Apt	4	1120	1545	Boeing 737 Passenger	1
FR	8133	Gran Canaria	London Stansted Apt	23 67	1215	1640	Boeing 737 Passenger	4
FR	814	Dublin (IE)	Edinburgh	1 5	1710	1820	Boeing 737 Passenger	2
FR	8142	London Luton Apt	Knock	1234567	1000	1125	Boeing 737 Passenger	7
FR	8143	Knock	London Luton Apt	2 4	1200	1315	Boeing 737 Passenger	2
FR	8143	Knock	London Luton Apt	1 3 567	1150	1305	Boeing 737 Passenger	5
FR	8144	London Luton Apt	Knock	7	1455	1620	Boeing 737 Passenger	1
FR	8144	London Luton Apt	Knock	5	1355	1520	Boeing 737 Passenger	1
FR	8145	Knock	London Luton Apt	7	1645	1800	Boeing 737 Passenger	1
FR	8145	Knock	London Luton Apt	5	1545	1700	Boeing 737 Passenger	1
FR	815	Edinburgh	Dublin (IE)	5	1540	1645	Boeing 737 Passenger	1
FR	815	Edinburgh	Dublin (IE)	1	1530	1635	Boeing 737 Passenger	1
FR	8156	London Stansted Apt	Tenerife Sur Apt	7	1355	1830	Boeing 737 Passenger	1
FR	8157	Tenerife Sur Apt	London Stansted Apt	7	1905	2330	Boeing 737 Passenger	1
FR	816	Dublin (IE)	Edinburgh	1234567	1235	1345	Boeing 737 Passenger	7
FR	8162	London Stansted Apt	Malaga Airport	5	0730	1120	Boeing 737 Passenger	1
FR	8162	London Stansted Apt	Malaga Airport	1234 67	0725	1120	Boeing 737 Passenger	6
FR	8163	Malaga Airport	London Stansted Apt	1234567	1155	1355	Boeing 737 Passenger	7
FR	8164	London Stansted Apt	Malaga Airport	1234567	1725	2120	Boeing 737 Passenger	7
FR	8165	Malaga Airport	London Stansted Apt	1234567	2155	2359	Boeing 737 Passenger	7
FR	8166	London Stansted Apt	Tenerife Sur Apt	5	0555	1030	Boeing 737 Passenger	1
FR	8166	London Stansted Apt	Tenerife Sur Apt	1234 67	0615	1050	Boeing 737 Passenger	6
FR	8167	Tenerife Sur Apt	London Stansted Apt	5	1105	1525	Boeing 737 Passenger	1
FR	8167	Tenerife Sur Apt	London Stansted Apt	1234 67	1125	1545	Boeing 737 Passenger	6
FR	817	Edinburgh	Dublin (IE)	1234567	1410	1515	Boeing 737 Passenger	7
FR	818	Dublin (IE)	Edinburgh	7	2110	2220	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	5	2055	2205	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	4 6	1935	2045	Boeing 737 Passenger	2
FR	818	Dublin (IE)	Edinburgh	3	2035	2145	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	2	2025	2135	Boeing 737 Passenger	1
FR	818	Dublin (IE)	Edinburgh	1	2010	2120	Boeing 737 Passenger	1
FR	8182	London Stansted Apt	Fuerteventura	2 4 67	0610	1035	Boeing 737 Passenger	4
FR	8183	Fuerteventura	London Stansted Apt	2 4 67	1110	1525	Boeing 737 Passenger	4
FR	819	Edinburgh	Dublin (IE)	7	2245	2350	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	5	2230	2335	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	4 6	2110	2215	Boeing 737 Passenger	2
FR	819	Edinburgh	Dublin (IE)	3	2210	2315	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	2	2205	2310	Boeing 737 Passenger	1
FR	819	Edinburgh	Dublin (IE)	1	2145	2250	Boeing 737 Passenger	1
FR	8202	Bristol	Knock	7	1410	1525	Boeing 737 Passenger	1
FR	8202	Bristol	Knock	5	1215	1330	Boeing 737 Passenger	1
FR	8202	Bristol	Knock	3	1415	1530	Boeing 737 Passenger	1
FR	8203	Knock	Bristol	7	1550	1705	Boeing 737 Passenger	1
FR	8203	Knock	Bristol	5	1355	1510	Boeing 737 Passenger	1
FR	8203	Knock	Bristol	3	1555	1710	Boeing 737 Passenger	1
FR	8206	Bristol	Budapest	2 4 6	1950	2330	Boeing 737 Passenger	3
FR	8207	Budapest	Bristol	2 4 6	1740	1925	Boeing 737 Passenger	3
FR	8208	Prague Ruzyne	Bournemouth	7	1455	1555	Boeing 737 Passenger	1
FR	8208	Prague Ruzyne	Bournemouth	4	0730	0830	Boeing 737 Passenger	1
FR	8209	Bournemouth	Prague Ruzyne	7	1620	1920	Boeing 737 Passenger	1
FR	8209	Bournemouth	Prague Ruzyne	4	0855	1155	Boeing 737 Passenger	1
FR	8212	Bristol	Wroclaw	7	1535	1855	Boeing 737 Passenger	1
FR	8212	Bristol	Wroclaw	3	0910	1230	Boeing 737 Passenger	1
FR	8213	Wroclaw	Bristol	7	1350	1510	Boeing 737 Passenger	1
FR	8213	Wroclaw	Bristol	3	0725	0845	Boeing 737 Passenger	1
FR	8216	Bristol	Poznan Lawica Apt	3 7	0645	1000	Boeing 737 Passenger	2
FR	8217	Poznan Lawica Apt	Bristol	3 7	1025	1145	Boeing 737 Passenger	2
FR	8224	Bristol	Rzeszow	5	1600	1945	Boeing 737 Passenger	1
FR	8224	Bristol	Rzeszow	1	0630	1015	Boeing 737 Passenger	1
FR	8225	Rzeszow	Bristol	5	2010	2200	Boeing 737 Passenger	1
FR	8225	Rzeszow	Bristol	1	1040	1230	Boeing 737 Passenger	1
FR	8234	Bristol	Palma de Mallorca	4	0820	1145	Boeing 737 Passenger	1
FR	8234	Bristol	Palma de Mallorca	2 6	0845	1210	Boeing 737 Passenger	2
FR	8235	Palma de Mallorca	Bristol	4	0625	0755	Boeing 737 Passenger	1
FR	8235	Palma de Mallorca	Bristol	2 6	0650	0820	Boeing 737 Passenger	2
FR	8240	Bristol	Venice Marco Polo Apt	7	1850	2205	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	6	0655	1010	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	5	1700	2015	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	4	0700	1015	Boeing 737 Passenger	1
FR	8240	Bristol	Venice Marco Polo Apt	2	1805	2120	Boeing 737 Passenger	1

FR	8241	Venice Marco Polo Apt	Bristol	7	2230	2350	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	6	1035	1155	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	5	2040	2200	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	4	1040	1200	Boeing 737 Passenger	1
FR	8241	Venice Marco Polo Apt	Bristol	2	2145	2305	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	7	0755	1120	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	6	1800	2125	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	4	1755	2120	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	3	0845	1210	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	2	1145	1510	Boeing 737 Passenger	1
FR	8244	Bristol	Palma de Mallorca	1 5	1745	2110	Boeing 737 Passenger	2
FR	8245	Palma de Mallorca	Bristol	7	1155	1325	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	6	2200	2335	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	4	2155	2325	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	3	0650	0820	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	2	1545	1715	Boeing 737 Passenger	1
FR	8245	Palma de Mallorca	Bristol	1 5	2145	2320	Boeing 737 Passenger	2
FR	8248	Bristol	Faro	6	1805	2045	Boeing 737 Passenger	1
FR	8248	Bristol	Faro	5	1035	1315	Boeing 737 Passenger	1
FR	8248	Bristol	Faro	234 7	1755	2035	Boeing 737 Passenger	4
FR	8248	Bristol	Faro	1	1730	2010	Boeing 737 Passenger	1
FR	8249	Faro	Bristol	6	2110	2350	Boeing 737 Passenger	1
FR	8249	Faro	Bristol	5	0730	1010	Boeing 737 Passenger	1
FR	8249	Faro	Bristol	234 7	2100	2340	Boeing 737 Passenger	4
FR	8249	Faro	Bristol	1	2035	2315	Boeing 737 Passenger	1
FR	8254	Bristol	Gdansk Lech Walesa	5	0755	1115	Boeing 737 Passenger	1
FR	8254	Bristol	Gdansk Lech Walesa	1	0635	0955	Boeing 737 Passenger	1
FR	8255	Gdansk Lech Walesa	Bristol	5	1140	1305	Boeing 737 Passenger	1
FR	8255	Gdansk Lech Walesa	Bristol	1	1020	1145	Boeing 737 Passenger	1
FR	8262	Bristol	Milan Bergamo/orio al Serio Apt	6	1220	1530	Boeing 737 Passenger	1
FR	8262	Bristol	Milan Bergamo/orio al Serio Apt	4	1225	1535	Boeing 737 Passenger	1
FR	8262	Bristol	Milan Bergamo/orio al Serio Apt	2	2050	2359	Boeing 737 Passenger	1
FR	8263	Milan Bergamo/orio al Serio Apt	Bristol	6	1555	1705	Boeing 737 Passenger	1
FR	8263	Milan Bergamo/orio al Serio Apt	Bristol	4	1600	1710	Boeing 737 Passenger	1
FR	8263	Milan Bergamo/orio al Serio Apt	Bristol	2	1915	2025	Boeing 737 Passenger	1
FR	8264	Bristol	Ibiza	3	1610	1940	Boeing 737 Passenger	1
FR	8264	Bristol	Ibiza	1 5	0630	1000	Boeing 737 Passenger	2
FR	8265	Ibiza	Bristol	3	2015	2145	Boeing 737 Passenger	1
FR	8265	Ibiza	Bristol	1 5	1035	1205	Boeing 737 Passenger	2
FR	8266	London Stansted Apt	Katowice	7	1210	1525	Boeing 737 Passenger	1
FR	8266	London Stansted Apt	Katowice	6	1730	2045	Boeing 737 Passenger	1
FR	8266	London Stansted Apt	Katowice	3 5	1120	1435	Boeing 737 Passenger	2
FR	8266	London Stansted Apt	Katowice	2	0750	1105	Boeing 737 Passenger	1
FR	8266	London Stansted Apt	Katowice	1 4	1810	2125	Boeing 737 Passenger	2
FR	8267	Katowice	London Stansted Apt	7	1550	1710	Boeing 737 Passenger	1
FR	8267	Katowice	London Stansted Apt	6	2110	2230	Boeing 737 Passenger	1
FR	8267	Katowice	London Stansted Apt	3 5	1500	1620	Boeing 737 Passenger	2
FR	8267	Katowice	London Stansted Apt	2	1130	1250	Boeing 737 Passenger	1
FR	8267	Katowice	London Stansted Apt	1 4	2150	2310	Boeing 737 Passenger	2
FR	8270	Malta	Exeter	6	1655	1915	Boeing 737 Passenger	1
FR	8270	Malta	Exeter	2	0630	0850	Boeing 737 Passenger	1
FR	8271	Exeter	Malta	6	1940	2359	Boeing 737 Passenger	1
FR	8271	Exeter	Malta	2	0915	1335	Boeing 737 Passenger	1
FR	828	Palma de Mallorca	Bournemouth	4	1700	1815	Boeing 737 Passenger	1
FR	8286	Bristol	Alicante Airport	7	0840	1210	Boeing 737 Passenger	1
FR	8286	Bristol	Alicante Airport	5	1110	1440	Boeing 737 Passenger	1
FR	8286	Bristol	Alicante Airport	3	0900	1230	Boeing 737 Passenger	1
FR	8287	Alicante Airport	Bristol	7	0640	0815	Boeing 737 Passenger	1
FR	8287	Alicante Airport	Bristol	5	0910	1045	Boeing 737 Passenger	1
FR	8287	Alicante Airport	Bristol	3	0700	0835	Boeing 737 Passenger	1
FR	8288	London Stansted Apt	Lanzarote	345 7	0705	1125	Boeing 737 Passenger	4
FR	8288	London Stansted Apt	Lanzarote	2	1330	1750	Boeing 737 Passenger	1
FR	8288	London Stansted Apt	Lanzarote	1	0750	1210	Boeing 737 Passenger	1
FR	8289	Lanzarote	London Stansted Apt	345 7	1200	1610	Boeing 737 Passenger	4
FR	8289	Lanzarote	London Stansted Apt	2	1825	2235	Boeing 737 Passenger	1
FR	8289	Lanzarote	London Stansted Apt	1	1245	1655	Boeing 737 Passenger	1
FR	829	Bournemouth	Palma de Mallorca	4	1840	2155	Boeing 737 Passenger	1
FR	8296	Bristol	Alicante Airport	4	1815	2145	Boeing 737 Passenger	1
FR	8296	Bristol	Alicante Airport	2	1110	1440	Boeing 737 Passenger	1
FR	8296	Bristol	Alicante Airport	1 3 567	1805	2135	Boeing 737 Passenger	5

FR	8297	Alicante Airport	Bristol	4	2220	2355	Boeing 737 Passenger	1
FR	8297	Alicante Airport	Bristol	2	0905	1040	Boeing 737 Passenger	1
FR	8297	Alicante Airport	Bristol	1 3 567	2210	2345	Boeing 737 Passenger	5
FR	8307	Wroclaw	Manchester (GB)	3 5	1335	1500	Boeing 737 Passenger	2
FR	8307	Wroclaw	Manchester (GB)	1	1920	2045	Boeing 737 Passenger	1
FR	8308	Manchester (GB)	Wroclaw	3 5	1525	1840	Boeing 737 Passenger	2
FR	8308	Manchester (GB)	Wroclaw	1	2110	0025	Boeing 737 Passenger	1
FR	8309	Wroclaw	Newcastle	7	1410	1525	Boeing 737 Passenger	1
FR	8309	Wroclaw	Newcastle	4	1750	1905	Boeing 737 Passenger	1
FR	8310	Newcastle	Wroclaw	7	1550	1905	Boeing 737 Passenger	1
FR	8310	Newcastle	Wroclaw	4	1930	2245	Boeing 737 Passenger	1
FR	8313	Gdansk Lech Walesa	Newcastle	5	1820	1935	Boeing 737 Passenger	1
FR	8313	Gdansk Lech Walesa	Newcastle	1	1720	1835	Boeing 737 Passenger	1
FR	8314	Newcastle	Gdansk Lech Walesa	5	2000	2315	Boeing 737 Passenger	1
FR	8314	Newcastle	Gdansk Lech Walesa	1	1900	2215	Boeing 737 Passenger	1
FR	8321	London Stansted Apt	Valencia Airport	2 567	0710	1040	Boeing 737 Passenger	4
FR	8321	London Stansted Apt	Valencia Airport	1 34	0715	1045	Boeing 737 Passenger	3
FR	8322	Valencia Airport	London Stansted Apt	2 567	1110	1240	Boeing 737 Passenger	4
FR	8322	Valencia Airport	London Stansted Apt	1 34	1115	1245	Boeing 737 Passenger	3
FR	8323	London Stansted Apt	Valencia Airport	6	1655	2025	Boeing 737 Passenger	1
FR	8323	London Stansted Apt	Valencia Airport	3	1400	1730	Boeing 737 Passenger	1
FR	8323	London Stansted Apt	Valencia Airport	2	1745	2115	Boeing 737 Passenger	1
FR	8324	Valencia Airport	London Stansted Apt	6	2055	2225	Boeing 737 Passenger	1
FR	8324	Valencia Airport	London Stansted Apt	3	1820	1950	Boeing 737 Passenger	1
FR	8324	Valencia Airport	London Stansted Apt	2	2145	2315	Boeing 737 Passenger	1
FR	8343	London Stansted Apt	Porto	1234567	0925	1150	Boeing 737 Passenger	7
FR	8344	Porto	London Stansted Apt	1234567	0635	0900	Boeing 737 Passenger	7
FR	8347	London Stansted Apt	Porto	5	2120	2345	Boeing 737 Passenger	1
FR	8347	London Stansted Apt	Porto	2	1720	1945	Boeing 737 Passenger	1
FR	8347	London Stansted Apt	Porto	1 34 67	2055	2320	Boeing 737 Passenger	5
FR	8348	Porto	London Stansted Apt	5	1830	2055	Boeing 737 Passenger	1
FR	8348	Porto	London Stansted Apt	2	2010	2235	Boeing 737 Passenger	1
FR	8348	Porto	London Stansted Apt	1 34 67	1805	2030	Boeing 737 Passenger	5
FR	8351	London Stansted Apt	Almeria	1 5	0650	1050	Boeing 737 Passenger	2
FR	8352	Almeria	London Stansted Apt	1 5	1115	1310	Boeing 737 Passenger	2
FR	8353	London Stansted Apt	Budapest	1234567	0830	1155	Boeing 737 Passenger	7
FR	8354	Budapest	London Stansted Apt	1234567	0630	0805	Boeing 737 Passenger	7
FR	8357	Budapest	Manchester (GB)	4	0645	0835	Boeing 737 Passenger	1
FR	8357	Budapest	Manchester (GB)	2 67	0625	0815	Boeing 737 Passenger	3
FR	8358	Manchester (GB)	Budapest	67	0845	1225	Boeing 737 Passenger	2
FR	8358	Manchester (GB)	Budapest	4	0900	1240	Boeing 737 Passenger	1
FR	8358	Manchester (GB)	Budapest	2	0840	1220	Boeing 737 Passenger	1
FR	8361	London Stansted Apt	Sevilla Airport	7	0555	0945	Boeing 737 Passenger	1
FR	8361	London Stansted Apt	Sevilla Airport	4	0730	1120	Boeing 737 Passenger	1
FR	8362	Sevilla Airport	London Stansted Apt	7	1015	1205	Boeing 737 Passenger	1
FR	8362	Sevilla Airport	London Stansted Apt	4	1200	1350	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	7	0935	1325	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	6	1315	1705	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	5	0940	1330	Boeing 737 Passenger	1
FR	8363	London Stansted Apt	Sevilla Airport	234	1225	1615	Boeing 737 Passenger	3
FR	8363	London Stansted Apt	Sevilla Airport	1	0555	0945	Boeing 737 Passenger	1
FR	8364	Sevilla Airport	London Stansted Apt	6	1735	1925	Boeing 737 Passenger	1
FR	8364	Sevilla Airport	London Stansted Apt	5 7	1400	1550	Boeing 737 Passenger	2
FR	8364	Sevilla Airport	London Stansted Apt	234	1645	1835	Boeing 737 Passenger	3
FR	8364	Sevilla Airport	London Stansted Apt	1	1015	1200	Boeing 737 Passenger	1
FR	8369	Budapest	London Stansted Apt	3	2155	2330	Boeing 737 Passenger	1
FR	8369	Budapest	London Stansted Apt	2	1820	1955	Boeing 737 Passenger	1
FR	8369	Budapest	London Stansted Apt	1 4567	2150	2325	Boeing 737 Passenger	5
FR	8371	London Stansted Apt	Budapest	3	1805	2130	Boeing 737 Passenger	1
FR	8371	London Stansted Apt	Budapest	2	2020	2345	Boeing 737 Passenger	1
FR	8371	London Stansted Apt	Budapest	1 4567	1800	2125	Boeing 737 Passenger	5
FR	8378	London Stansted Apt	Santiago de Compostela	7	1445	1755	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	6	1920	2230	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	4	1340	1650	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	3	1215	1525	Boeing 737 Passenger	1
FR	8378	London Stansted Apt	Santiago de Compostela	12 5	1210	1520	Boeing 737 Passenger	3
FR	8379	Santiago de Compostela	London Stansted Apt	7	1310	1420	Boeing 737 Passenger	1
FR	8379	Santiago de Compostela	London Stansted Apt	6	2255	0005	Boeing 737 Passenger	1
FR	8379	Santiago de Compostela	London Stansted Apt	4	1715	1825	Boeing 737 Passenger	1
FR	8379	Santiago de Compostela	London Stansted Apt	123 5	1035	1145	Boeing 737 Passenger	4

FR	8380	London Stansted Apt	Santiago de Compostela	6	1125	1435	Boeing 737 Passenger	1
FR	8380	London Stansted Apt	Santiago de Compostela	2	0800	1110	Boeing 737 Passenger	1
FR	8381	Santiago de Compostela	London Stansted Apt	6	1520	1630	Boeing 737 Passenger	1
FR	8381	Santiago de Compostela	London Stansted Apt	2	1135	1245	Boeing 737 Passenger	1
FR	8382	London Stansted Apt	Alicante Airport	7	0715	1055	Boeing 737 Passenger	1
FR	8382	London Stansted Apt	Alicante Airport	6	0610	0950	Boeing 737 Passenger	1
FR	8382	London Stansted Apt	Alicante Airport	12345	0635	1015	Boeing 737 Passenger	5
FR	8383	Alicante Airport	London Stansted Apt	7	1130	1315	Boeing 737 Passenger	1
FR	8383	Alicante Airport	London Stansted Apt	6	1030	1215	Boeing 737 Passenger	1
FR	8383	Alicante Airport	London Stansted Apt	12345	1050	1235	Boeing 737 Passenger	5
FR	8386	London Stansted Apt	Palma de Mallorca	1234567	1335	1700	Boeing 737 Passenger	7
FR	8387	Palma de Mallorca	London Stansted Apt	1234567	1735	1910	Boeing 737 Passenger	7
FR	8388	London Stansted Apt	Zadar	6	0705	1030	Boeing 737 Passenger	1
FR	8388	London Stansted Apt	Zadar	4	1220	1545	Boeing 737 Passenger	1
FR	8388	London Stansted Apt	Zadar	2	1125	1450	Boeing 737 Passenger	1
FR	8388	London Stansted Apt	Zadar	1	1720	2045	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	6	1055	1220	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	4	1610	1735	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	2	1515	1640	Boeing 737 Passenger	1
FR	8389	Zadar	London Stansted Apt	1	2110	2235	Boeing 737 Passenger	1
FR	8396	London Stansted Apt	Jerez	5	0640	1035	Boeing 737 Passenger	1
FR	8396	London Stansted Apt	Jerez	3	0645	1040	Boeing 737 Passenger	1
FR	8396	London Stansted Apt	Jerez	1 7	0655	1050	Boeing 737 Passenger	2
FR	8397	Jerez	London Stansted Apt	5	1135	1330	Boeing 737 Passenger	1
FR	8397	Jerez	London Stansted Apt	3	1105	1300	Boeing 737 Passenger	1
FR	8397	Jerez	London Stansted Apt	1 7	1115	1310	Boeing 737 Passenger	2
FR	8403	London Stansted Apt	Brno	2 4567	1350	1700	Boeing 737 Passenger	5
FR	8403	London Stansted Apt	Brno	1 3	1355	1705	Boeing 737 Passenger	2
FR	8404	Brno	London Stansted Apt	4	1725	1835	Boeing 737 Passenger	1
FR	8404	Brno	London Stansted Apt	123 567	1730	1840	Boeing 737 Passenger	6
FR	8405	London Stansted Apt	Wroclaw	5	0900	1155	Boeing 737 Passenger	1
FR	8405	London Stansted Apt	Wroclaw	2	1930	2225	Boeing 737 Passenger	1
FR	8405	London Stansted Apt	Wroclaw	1 34 67	0835	1130	Boeing 737 Passenger	5
FR	8406	Wroclaw	London Stansted Apt	2	2250	2359	Boeing 737 Passenger	1
FR	8406	Wroclaw	London Stansted Apt	1 34567	0700	0810	Boeing 737 Passenger	6
FR	8407	London Stansted Apt	Wroclaw	7	1925	2220	Boeing 737 Passenger	1
FR	8407	London Stansted Apt	Wroclaw	1 3 56	2040	2335	Boeing 737 Passenger	4
FR	8408	Wroclaw	London Stansted Apt	7	2245	2355	Boeing 737 Passenger	1
FR	8408	Wroclaw	London Stansted Apt	1 3 56	1905	2015	Boeing 737 Passenger	4
FR	842	London Luton Apt	Kerry	1234567	1615	1745	Boeing 737 Passenger	7
FR	8421	Edinburgh	Fuerteventura	7	1350	1830	Boeing 737 Passenger	1
FR	8421	Edinburgh	Fuerteventura	4	0700	1140	Boeing 737 Passenger	1
FR	8422	Fuerteventura	Edinburgh	7	1905	2340	Boeing 737 Passenger	1
FR	8422	Fuerteventura	Edinburgh	4	1215	1650	Boeing 737 Passenger	1
FR	8425	London Luton Apt	Alicante Airport	6	1725	2105	Boeing 737 Passenger	1
FR	8425	London Luton Apt	Alicante Airport	3 7	1655	2035	Boeing 737 Passenger	2
FR	8425	London Luton Apt	Alicante Airport	2 45	1640	2020	Boeing 737 Passenger	3
FR	8425	London Luton Apt	Alicante Airport	1	1645	2025	Boeing 737 Passenger	1
FR	8426	Alicante Airport	London Luton Apt	6	2140	2325	Boeing 737 Passenger	1
FR	8426	Alicante Airport	London Luton Apt	5	2055	2240	Boeing 737 Passenger	1
FR	8426	Alicante Airport	London Luton Apt	1234 7	2110	2255	Boeing 737 Passenger	5
FR	843	Kerry	London Luton Apt	1234567	1810	1940	Boeing 737 Passenger	7
FR	8445	London Stansted Apt	Budapest	2	1515	1840	Boeing 737 Passenger	1
FR	8445	London Stansted Apt	Budapest	1 34567	1145	1510	Boeing 737 Passenger	6
FR	8446	Budapest	London Stansted Apt	2	1315	1450	Boeing 737 Passenger	1
FR	8446	Budapest	London Stansted Apt	1 34567	1535	1710	Boeing 737 Passenger	6
FR	8474	London Stansted Apt	Poitiers Biard Airport	3	1230	1500	Boeing 737 Passenger	1
FR	8474	London Stansted Apt	Poitiers Biard Airport	1 5 7	1405	1635	Boeing 737 Passenger	3
FR	8475	Poitiers Biard Airport	London Stansted Apt	3	1525	1600	Boeing 737 Passenger	1
FR	8475	Poitiers Biard Airport	London Stansted Apt	1 5 7	1700	1735	Boeing 737 Passenger	3
FR	8503	London Stansted Apt	Nantes Atlantique Airport	5 7	1305	1525	Boeing 737 Passenger	2
FR	8503	London Stansted Apt	Nantes Atlantique Airport	3	1310	1530	Boeing 737 Passenger	1
FR	8503	London Stansted Apt	Nantes Atlantique Airport	1	1330	1550	Boeing 737 Passenger	1
FR	8504	Nantes Atlantique Airport	London Stansted Apt	5 7	1550	1610	Boeing 737 Passenger	2
FR	8504	Nantes Atlantique Airport	London Stansted Apt	3	1555	1615	Boeing 737 Passenger	1
FR	8504	Nantes Atlantique Airport	London Stansted Apt	1	1615	1635	Boeing 737 Passenger	1
FR	8513	Porto	Birmingham Airport	7	1720	1940	Boeing 737 Passenger	1
FR	8513	Porto	Birmingham Airport	3	1030	1250	Boeing 737 Passenger	1
FR	8514	Birmingham Airport	Porto	7	2005	2225	Boeing 737 Passenger	1
FR	8514	Birmingham Airport	Porto	3	0745	1005	Boeing 737 Passenger	1

FR	8520	Malta	Cardiff	7	0700	0935	Boeing 737 Passenger	1
FR	8520	Malta	Cardiff	3	0700	0925	Boeing 737 Passenger	1
FR	8521	Cardiff	Malta	7	1000	1435	Boeing 737 Passenger	1
FR	8521	Cardiff	Malta	3	0950	1415	Boeing 737 Passenger	1
FR	8542	London Stansted Apt	Berlin Schoenefeld Apt	3 5	0630	0930	Boeing 737 Passenger	2
FR	8542	London Stansted Apt	Berlin Schoenefeld Apt	12 4 67	0635	0935	Boeing 737 Passenger	5
FR	8543	Berlin Schoenefeld Apt	London Stansted Apt	3	0955	1055	Boeing 737 Passenger	1
FR	8543	Berlin Schoenefeld Apt	London Stansted Apt	12 4567	1000	1100	Boeing 737 Passenger	6
FR	8544	London Stansted Apt	Berlin Schoenefeld Apt	123456	1900	2200	Boeing 737 Passenger	6
FR	8545	Berlin Schoenefeld Apt	London Stansted Apt	123456	2225	2325	Boeing 737 Passenger	6
FR	8554	Castellon de la Plana	London Stansted Apt	6	2225	2350	Boeing 737 Passenger	1
FR	8554	Castellon de la Plana	London Stansted Apt	2 4	1820	1945	Boeing 737 Passenger	2
FR	8555	London Stansted Apt	Castellon de la Plana	6	1830	2155	Boeing 737 Passenger	1
FR	8555	London Stansted Apt	Castellon de la Plana	2 4	1415	1740	Boeing 737 Passenger	2
FR	8561	Liverpool	Prague Ruzyne	3	1825	2130	Boeing 737 Passenger	1
FR	8561	Liverpool	Prague Ruzyne	1 5	1550	1900	Boeing 737 Passenger	2
FR	8562	Prague Ruzyne	Liverpool	3	1650	1800	Boeing 737 Passenger	1
FR	8562	Prague Ruzyne	Liverpool	1 5	1415	1525	Boeing 737 Passenger	2
FR	8582	London Stansted Apt	Thessaloniki	2 7	1700	2210	Boeing 737 Passenger	2
FR	8582	London Stansted Apt	Thessaloniki	1 3456	1655	2205	Boeing 737 Passenger	5
FR	8583	Thessaloniki	London Stansted Apt	1234567	2235	2359	Boeing 737 Passenger	7
FR	8584	London Stansted Apt	Rhodes	2 6	0635	1235	Boeing 737 Passenger	2
FR	8585	Rhodes	London Stansted Apt	2 6	1300	1510	Boeing 737 Passenger	2
FR	8592	London Stansted Apt	Bergerac	5	0715	1000	Boeing 737 Passenger	1
FR	8592	London Stansted Apt	Bergerac	234 67	1215	1500	Boeing 737 Passenger	5
FR	8592	London Stansted Apt	Bergerac	1	0825	1110	Boeing 737 Passenger	1
FR	8593	Bergerac	London Stansted Apt	5	1025	1110	Boeing 737 Passenger	1
FR	8593	Bergerac	London Stansted Apt	234 67	1525	1610	Boeing 737 Passenger	5
FR	8593	Bergerac	London Stansted Apt	1	1135	1220	Boeing 737 Passenger	1
FR	8681	Bristol	Kaunas	6	0700	1150	Boeing 737 Passenger	1
FR	8681	Bristol	Kaunas	2	1715	2205	Boeing 737 Passenger	1
FR	8682	Kaunas	Bristol	6	1215	1310	Boeing 737 Passenger	1
FR	8682	Kaunas	Bristol	2	1555	1650	Boeing 737 Passenger	1
FR	8728	Milan Malpensa Apt	London Stansted Apt	1234567	0710	0815	Boeing 737 Passenger	7
FR	8729	London Stansted Apt	Milan Malpensa Apt	1234567	0845	1140	Boeing 737 Passenger	7
FR	8736	London Stansted Apt	Milan Malpensa Apt	6	1750	2050	Boeing 737 Passenger	1
FR	8736	London Stansted Apt	Milan Malpensa Apt	345 7	1825	2125	Boeing 737 Passenger	4
FR	8736	London Stansted Apt	Milan Malpensa Apt	2	1925	2225	Boeing 737 Passenger	1
FR	8736	London Stansted Apt	Milan Malpensa Apt	1	1820	2120	Boeing 737 Passenger	1
FR	8737	Milan Malpensa Apt	London Stansted Apt	6	2115	2220	Boeing 737 Passenger	1
FR	8737	Milan Malpensa Apt	London Stansted Apt	345 7	2150	2255	Boeing 737 Passenger	4
FR	8737	Milan Malpensa Apt	London Stansted Apt	2	2255	2359	Boeing 737 Passenger	1
FR	8737	Milan Malpensa Apt	London Stansted Apt	1	2145	2250	Boeing 737 Passenger	1
FR	8742	Malta	Bournemouth	7	1110	1335	Boeing 737 Passenger	1
FR	8742	Malta	Bournemouth	4	1140	1405	Boeing 737 Passenger	1
FR	8743	Bournemouth	Malta	7	0630	1045	Boeing 737 Passenger	1
FR	8743	Bournemouth	Malta	4	0700	1115	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	7	1400	1635	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	6	1435	1710	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	4	1230	1505	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	2	1405	1640	Boeing 737 Passenger	1
FR	8746	London Stansted Apt	La Rochelle	1	1520	1755	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	7	1700	1730	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	6	1735	1805	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	4	1530	1600	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	2	1705	1735	Boeing 737 Passenger	1
FR	8747	La Rochelle	London Stansted Apt	1	1820	1850	Boeing 737 Passenger	1
FR	876	London Stansted Apt	Beziers	7	1420	1710	Boeing 737 Passenger	1
FR	876	London Stansted Apt	Beziers	5	1205	1455	Boeing 737 Passenger	1
FR	876	London Stansted Apt	Beziers	3	1125	1415	Boeing 737 Passenger	1
FR	877	Beziers	London Stansted Apt	7	1735	1835	Boeing 737 Passenger	1
FR	877	Beziers	London Stansted Apt	5	1520	1620	Boeing 737 Passenger	1
FR	877	Beziers	London Stansted Apt	3	1440	1540	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	7	1410	1650	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	5	1500	1740	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	4	1450	1730	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	2	0950	1230	Boeing 737 Passenger	1
FR	8776	London Stansted Apt	Limoges	1 3 6	1205	1445	Boeing 737 Passenger	3
FR	8777	Limoges	London Stansted Apt	7	1715	1755	Boeing 737 Passenger	1
FR	8777	Limoges	London Stansted Apt	5	1805	1845	Boeing 737 Passenger	1

FR	8777	Limoges	London Stansted Apt	4	1800	1840	Boeing 737 Passenger	1
FR	8777	Limoges	London Stansted Apt	2	1255	1335	Boeing 737 Passenger	1
FR	8777	Limoges	London Stansted Apt	1 3 6	1510	1550	Boeing 737 Passenger	3
FR	8816	London Stansted Apt	Nimes Garons Airport	7	1200	1455	Boeing 737 Passenger	1
FR	8816	London Stansted Apt	Nimes Garons Airport	5	1305	1600	Boeing 737 Passenger	1
FR	8816	London Stansted Apt	Nimes Garons Airport	3	0730	1025	Boeing 737 Passenger	1
FR	8816	London Stansted Apt	Nimes Garons Airport	1	0900	1155	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	7	1520	1615	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	5	1625	1720	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	3	1050	1145	Boeing 737 Passenger	1
FR	8817	Nimes Garons Airport	London Stansted Apt	1	1220	1315	Boeing 737 Passenger	1
FR	8823	London Stansted Apt	Edinburgh	45 7	2125	2245	Boeing 737 Passenger	3
FR	8824	Edinburgh	London Stansted Apt	45 7	1935	2100	Boeing 737 Passenger	3
FR	8852	Malta	London Stansted Apt	7	2145	0015	Boeing 737 Passenger	1
FR	8852	Malta	London Stansted Apt	12 456	2125	2355	Boeing 737 Passenger	5
FR	8853	London Stansted Apt	Malta	7	1710	2120	Boeing 737 Passenger	1
FR	8853	London Stansted Apt	Malta	12 456	1650	2100	Boeing 737 Passenger	5
FR	8868	London Stansted Apt	Poitiers Biard Airport	4	1440	1700	Boeing 737 Passenger	1
FR	8868	London Stansted Apt	Poitiers Biard Airport	2	1355	1615	Boeing 737 Passenger	1
FR	8868	London Stansted Apt	Poitiers Biard Airport	1	0805	1025	Boeing 737 Passenger	1
FR	8868	London Stansted Apt	Tours Val de Loire Airport	6	0730	0950	Boeing 737 Passenger	1
FR	8869	Poitiers Biard Airport	London Stansted Apt	4	1725	1750	Boeing 737 Passenger	1
FR	8869	Poitiers Biard Airport	London Stansted Apt	2	1640	1705	Boeing 737 Passenger	1
FR	8869	Poitiers Biard Airport	London Stansted Apt	1	1050	1115	Boeing 737 Passenger	1
FR	8869	Tours Val de Loire Airport	London Stansted Apt	6	1015	1040	Boeing 737 Passenger	1
FR	8881	London Stansted Apt	Edinburgh	6	0855	1015	Boeing 737 Passenger	1
FR	8882	Edinburgh	London Stansted Apt	6	0650	0825	Boeing 737 Passenger	1
FR	8894	Manchester (GB)	Brindisi	5	1635	2045	Boeing 737 Passenger	1
FR	8894	Manchester (GB)	Brindisi	1	1610	2020	Boeing 737 Passenger	1
FR	8895	Brindisi	Manchester (GB)	5	2110	2325	Boeing 737 Passenger	1
FR	8895	Brindisi	Manchester (GB)	1	2045	2300	Boeing 737 Passenger	1
FR	8928	Liverpool	Malta	5	1530	1950	Boeing 737 Passenger	1
FR	8928	Liverpool	Malta	2	0955	1425	Boeing 737 Passenger	1
FR	8929	Malta	Liverpool	5	2015	2250	Boeing 737 Passenger	1
FR	8929	Malta	Liverpool	2	0645	0930	Boeing 737 Passenger	1
FR	8944	Malaga Airport	London Stansted Apt	7	1550	1745	Boeing 737 Passenger	1
FR	8944	Malaga Airport	London Stansted Apt	4	1445	1640	Boeing 737 Passenger	1
FR	8945	London Stansted Apt	Malaga Airport	7	1810	2210	Boeing 737 Passenger	1
FR	8945	London Stansted Apt	Malaga Airport	4	1705	2105	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	6	2115	2300	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	3	1545	1730	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	2	2100	2245	Boeing 737 Passenger	1
FR	8975	Alicante Airport	London Stansted Apt	1 45 7	1540	1725	Boeing 737 Passenger	4
FR	8976	London Stansted Apt	Alicante Airport	6	1700	2040	Boeing 737 Passenger	1
FR	8976	London Stansted Apt	Alicante Airport	3	1755	2135	Boeing 737 Passenger	1
FR	8976	London Stansted Apt	Alicante Airport	2	1645	2025	Boeing 737 Passenger	1
FR	8976	London Stansted Apt	Alicante Airport	1 45 7	1750	2130	Boeing 737 Passenger	4
FR	901	London Stansted Apt	Cork	7	0815	0940	Boeing 737 Passenger	1
FR	901	London Stansted Apt	Cork	123456	0820	0945	Boeing 737 Passenger	6
FR	9014	London Stansted Apt	Barcelona Apt	5	1555	1910	Boeing 737 Passenger	1
FR	9014	London Stansted Apt	Barcelona Apt	234 67	1610	1925	Boeing 737 Passenger	5
FR	9014	London Stansted Apt	Barcelona Apt	1	1615	1930	Boeing 737 Passenger	1
FR	9015	Barcelona Apt	London Stansted Apt	5	1400	1530	Boeing 737 Passenger	1
FR	9015	Barcelona Apt	London Stansted Apt	234 7	1405	1535	Boeing 737 Passenger	4
FR	9015	Barcelona Apt	London Stansted Apt	1	1420	1550	Boeing 737 Passenger	1
FR	902	Cork	London Stansted Apt	7	0615	0745	Boeing 737 Passenger	1
FR	902	Cork	London Stansted Apt	123456	0625	0755	Boeing 737 Passenger	6
FR	9032	Manchester (GB)	Ponta Delgada	5	0745	1040	Boeing 737 Passenger	1
FR	9033	Ponta Delgada	Manchester (GB)	5	1105	1555	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	7	1000	1340	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	6	1110	1450	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	4	1800	2140	Boeing 737 Passenger	1
FR	9036	Manchester (GB)	Palma de Mallorca	2	1625	2005	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	7	1415	1555	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	6	1530	1710	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	4	2220	2359	Boeing 737 Passenger	1
FR	9037	Palma de Mallorca	Manchester (GB)	2	2040	2220	Boeing 737 Passenger	1
FR	9044	London Stansted Apt	Barcelona Apt	1234567	1245	1600	Boeing 737 Passenger	7
FR	9045	Barcelona Apt	London Stansted Apt	12345 7	1050	1220	Boeing 737 Passenger	6
FR	9046	Manchester (GB)	Palermo	5	1625	2035	Boeing 737 Passenger	1

FR	9046	Manchester (GB)	Palermo	1	0815	1225	Boeing 737 Passenger	1
FR	9047	Palermo	Manchester (GB)	5	2100	2325	Boeing 737 Passenger	1
FR	9047	Palermo	Manchester (GB)	1	1255	1520	Boeing 737 Passenger	1
FR	905	London Stansted Apt	Cork	1234567	2035	2200	Boeing 737 Passenger	7
FR	9058	Manchester (GB)	Almeria	7	0715	1115	Boeing 737 Passenger	1
FR	9058	Manchester (GB)	Almeria	4	1655	2055	Boeing 737 Passenger	1
FR	9059	Almeria	Manchester (GB)	7	1140	1340	Boeing 737 Passenger	1
FR	9059	Almeria	Manchester (GB)	4	2120	2320	Boeing 737 Passenger	1
FR	906	Cork	London Stansted Apt	1234567	1840	2010	Boeing 737 Passenger	7
FR	9060	Manchester (GB)	Lisbon	6	1800	2050	Boeing 737 Passenger	1
FR	9063	Lisbon	Manchester (GB)	6	2120	0010	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	6	2235	0025	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	4	2140	2330	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	2	1710	1900	Boeing 737 Passenger	1
FR	9072	Alicante Airport	Manchester (GB)	1 3 5 7	1720	1910	Boeing 737 Passenger	4
FR	9073	Manchester (GB)	Alicante Airport	6	1815	2200	Boeing 737 Passenger	1
FR	9073	Manchester (GB)	Alicante Airport	4	1710	2055	Boeing 737 Passenger	1
FR	9073	Manchester (GB)	Alicante Airport	2	1925	2310	Boeing 737 Passenger	1
FR	9073	Manchester (GB)	Alicante Airport	1 3 5 7	1935	2320	Boeing 737 Passenger	4
FR	9074	Manchester (GB)	Naples Capodichino Apt	7	1430	1825	Boeing 737 Passenger	1
FR	9075	Naples Capodichino Apt	Manchester (GB)	7	1850	2055	Boeing 737 Passenger	1
FR	9076	Manchester (GB)	Rhodes	1 5	1430	2055	Boeing 737 Passenger	2
FR	9077	Rhodes	Manchester (GB)	1 5	2120	2355	Boeing 737 Passenger	2
FR	9078	Alicante Airport	Leeds Bradford	7	1200	1355	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	6	1750	1940	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	5	1600	1755	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	3	0655	0850	Boeing 737 Passenger	1
FR	9078	Alicante Airport	Leeds Bradford	12 4	2135	2330	Boeing 737 Passenger	3
FR	9079	Leeds Bradford	Alicante Airport	7	0735	1125	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	6	1325	1715	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	5	1820	2210	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	3	0915	1305	Boeing 737 Passenger	1
FR	9079	Leeds Bradford	Alicante Airport	12 4	1710	2100	Boeing 737 Passenger	3
FR	908	London Stansted Apt	Cork	6	1210	1335	Boeing 737 Passenger	1
FR	908	London Stansted Apt	Cork	12345 7	1650	1815	Boeing 737 Passenger	6
FR	9082	Alicante Airport	Bournemouth	7	1830	1955	Boeing 737 Passenger	1
FR	9082	Alicante Airport	Bournemouth	1 3 5	2140	2305	Boeing 737 Passenger	3
FR	9083	Bournemouth	Alicante Airport	7	1425	1755	Boeing 737 Passenger	1
FR	9083	Bournemouth	Alicante Airport	1 3 5	1735	2105	Boeing 737 Passenger	3
FR	9084	Alicante Airport	Nottingham East Midlands Airport	7	1235	1415	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	6	1245	1430	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	5	1015	1155	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	4	1045	1225	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	3	1130	1310	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	2	1245	1425	Boeing 737 Passenger	1
FR	9084	Alicante Airport	Nottingham East Midlands Airport	1	1115	1255	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	7	0820	1200	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	5	0600	0935	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	4	0630	1010	Boeing 737 Passenger	1
FR	9085	Nottingham East Midlands Airport	Alicante Airport	2 6	0830	1210	Boeing 737 Passenger	2
FR	9085	Nottingham East Midlands Airport	Alicante Airport	1 3	0700	1040	Boeing 737 Passenger	2
FR	909	Cork	London Stansted Apt	6	1015	1145	Boeing 737 Passenger	1
FR	909	Cork	London Stansted Apt	12345 7	1455	1625	Boeing 737 Passenger	6
FR	9094	Manchester (GB)	Alicante Airport	7	1515	1900	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	6	1555	1940	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	5	0825	1210	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	3	1615	2000	Boeing 737 Passenger	1
FR	9094	Manchester (GB)	Alicante Airport	1	1025	1410	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	7	1300	1450	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	6	2015	2205	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	5	1245	1435	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	3	2035	2225	Boeing 737 Passenger	1
FR	9095	Alicante Airport	Manchester (GB)	1	0810	1000	Boeing 737 Passenger	1
FR	9122	Manchester (GB)	Faro	7	0950	1250	Boeing 737 Passenger	1
FR	9122	Manchester (GB)	Faro	3	0945	1245	Boeing 737 Passenger	1
FR	9122	Manchester (GB)	Faro	1	1610	1910	Boeing 737 Passenger	1
FR	9125	Faro	Manchester (GB)	7	1315	1615	Boeing 737 Passenger	1
FR	9125	Faro	Manchester (GB)	3	1310	1610	Boeing 737 Passenger	1
FR	9125	Faro	Manchester (GB)	1	1935	2235	Boeing 737 Passenger	1
FR	9126	Manchester (GB)	Fuerteventura	4	1430	1925	Boeing 737 Passenger	1

FR	9127	Fuerteventura	Manchester (GB)	4	2000	0020	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	7	0715	1010	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	6	0735	1030	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	2	0655	0950	Boeing 737 Passenger	1
FR	9142	London Stansted Apt	Faro	1 345	0710	1005	Boeing 737 Passenger	4
FR	9143	Faro	London Stansted Apt	7	1035	1325	Boeing 737 Passenger	1
FR	9143	Faro	London Stansted Apt	6	1055	1345	Boeing 737 Passenger	1
FR	9143	Faro	London Stansted Apt	2	1015	1305	Boeing 737 Passenger	1
FR	9143	Faro	London Stansted Apt	1 345	1030	1320	Boeing 737 Passenger	4
FR	9145	Barcelona Apt	Liverpool	6	1120	1300	Boeing 737 Passenger	1
FR	9145	Barcelona Apt	Liverpool	4	0630	0810	Boeing 737 Passenger	1
FR	9145	Barcelona Apt	Liverpool	3 5	2030	2210	Boeing 737 Passenger	2
FR	9145	Barcelona Apt	Liverpool	2	1840	2020	Boeing 737 Passenger	1
FR	9145	Barcelona Apt	Liverpool	1	0830	1010	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	6	0725	1045	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	4	0835	1155	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	3 5	1635	1955	Boeing 737 Passenger	2
FR	9146	Liverpool	Barcelona Apt	2	1445	1805	Boeing 737 Passenger	1
FR	9146	Liverpool	Barcelona Apt	1	1035	1355	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	6	2145	2315	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	4	1240	1410	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	3	1405	1535	Boeing 737 Passenger	1
FR	9162	Barcelona Apt	Birmingham Airport	12 5 7	1350	1520	Boeing 737 Passenger	4
FR	9163	Birmingham Airport	Barcelona Apt	6	1755	2110	Boeing 737 Passenger	1
FR	9163	Birmingham Airport	Barcelona Apt	4	1435	1745	Boeing 737 Passenger	1
FR	9163	Birmingham Airport	Barcelona Apt	3	1600	1910	Boeing 737 Passenger	1
FR	9163	Birmingham Airport	Barcelona Apt	12 5 7	1545	1855	Boeing 737 Passenger	4
FR	9184	Alicante Airport	Nottingham East Midlands Airport	6	1525	1710	Boeing 737 Passenger	1
FR	9184	Alicante Airport	Nottingham East Midlands Airport	4	2230	0015	Boeing 737 Passenger	1
FR	9184	Alicante Airport	Nottingham East Midlands Airport	2	2155	2340	Boeing 737 Passenger	1
FR	9184	Alicante Airport	Nottingham East Midlands Airport	1 3 5 7	2200	2345	Boeing 737 Passenger	4
FR	9185	Nottingham East Midlands Airport	Alicante Airport	4	1815	2155	Boeing 737 Passenger	1
FR	9185	Nottingham East Midlands Airport	Alicante Airport	2 6	1740	2120	Boeing 737 Passenger	2
FR	9185	Nottingham East Midlands Airport	Alicante Airport	1 3 5 7	1745	2125	Boeing 737 Passenger	4
FR	9188	Palma de Mallorca	Edinburgh	6	0615	0825	Boeing 737 Passenger	1
FR	9188	Palma de Mallorca	Edinburgh	5	2155	0005	Boeing 737 Passenger	1
FR	9189	Edinburgh	Palma de Mallorca	6	0915	1315	Boeing 737 Passenger	1
FR	9189	Edinburgh	Palma de Mallorca	5	1720	2120	Boeing 737 Passenger	1
FR	9190	Palma de Mallorca	London Stansted Apt	3	0825	1000	Boeing 737 Passenger	1
FR	9190	Palma de Mallorca	London Stansted Apt	1	1500	1635	Boeing 737 Passenger	1
FR	9191	London Stansted Apt	Palma de Mallorca	3	1100	1425	Boeing 737 Passenger	1
FR	9191	London Stansted Apt	Palma de Mallorca	1	1700	2025	Boeing 737 Passenger	1
FR	9202	Liverpool	Porto	5	1215	1440	Boeing 737 Passenger	1
FR	9202	Liverpool	Porto	1	1820	2045	Boeing 737 Passenger	1
FR	9203	Porto	Liverpool	5	0930	1150	Boeing 737 Passenger	1
FR	9203	Porto	Liverpool	1	2115	2335	Boeing 737 Passenger	1
FR	9206	London Luton Apt	Faro	3	1735	2030	Boeing 737 Passenger	1
FR	9206	London Luton Apt	Faro	2 56	1930	2225	Boeing 737 Passenger	3
FR	9206	London Luton Apt	Faro	1	1820	2115	Boeing 737 Passenger	1
FR	9207	Faro	London Luton Apt	3	1420	1710	Boeing 737 Passenger	1
FR	9207	Faro	London Luton Apt	2 56	1615	1905	Boeing 737 Passenger	3
FR	9207	Faro	London Luton Apt	1	1505	1755	Boeing 737 Passenger	1
FR	9221	Faro	Aberdeen (GB)	2 6	0800	1130	Boeing 737 Passenger	2
FR	9222	Aberdeen (GB)	Faro	2 6	1155	1525	Boeing 737 Passenger	2
FR	9223	Faro	Cardiff	5	1620	1900	Boeing 737 Passenger	1
FR	9223	Faro	Cardiff	1	0845	1125	Boeing 737 Passenger	1
FR	9224	Cardiff	Faro	5	1925	2205	Boeing 737 Passenger	1
FR	9224	Cardiff	Faro	1	1150	1430	Boeing 737 Passenger	1
FR	9225	Faro	Newquay	2 6	1755	2025	Boeing 737 Passenger	2
FR	9226	Newquay	Faro	2 6	2050	2320	Boeing 737 Passenger	2
FR	9227	Manchester (GB)	Kiev Borispol Intl Apt	5	0605	1135	Boeing 737 Passenger	1
FR	9227	Manchester (GB)	Kiev Borispol Intl Apt	1	0735	1305	Boeing 737 Passenger	1
FR	9228	Kiev Borispol Intl Apt	Manchester (GB)	5	1210	1340	Boeing 737 Passenger	1
FR	9228	Kiev Borispol Intl Apt	Manchester (GB)	1	1340	1510	Boeing 737 Passenger	1
FR	9251	London Stansted Apt	Ibiza	1234567	1725	2105	Boeing 737 Passenger	7
FR	9252	Ibiza	London Stansted Apt	1234567	2140	2320	Boeing 737 Passenger	7
FR	9253	London Stansted Apt	Ibiza	7	0745	1125	Boeing 737 Passenger	1
FR	9253	London Stansted Apt	Ibiza	6	0715	1055	Boeing 737 Passenger	1
FR	9253	London Stansted Apt	Ibiza	2 4	0700	1040	Boeing 737 Passenger	2
FR	9253	London Stansted Apt	Ibiza	1	1520	1900	Boeing 737 Passenger	1

FR	9254	Ibiza	London Stansted Apt	7	1200	1340	Boeing 737 Passenger	1
FR	9254	Ibiza	London Stansted Apt	6	1130	1310	Boeing 737 Passenger	1
FR	9254	Ibiza	London Stansted Apt	2 4	1115	1255	Boeing 737 Passenger	2
FR	9254	Ibiza	London Stansted Apt	1	1935	2115	Boeing 737 Passenger	1
FR	9271	London Stansted Apt	Eindhoven Airport	5 7	0630	0835	Boeing 737 Passenger	2
FR	9271	London Stansted Apt	Eindhoven Airport	4 6	0620	0825	Boeing 737 Passenger	2
FR	9271	London Stansted Apt	Eindhoven Airport	3	0625	0830	Boeing 737 Passenger	1
FR	9271	London Stansted Apt	Eindhoven Airport	2	0645	0850	Boeing 737 Passenger	1
FR	9271	London Stansted Apt	Eindhoven Airport	1	0615	0820	Boeing 737 Passenger	1
FR	9272	Eindhoven Airport	London Stansted Apt	5 7	0900	0910	Boeing 737 Passenger	2
FR	9272	Eindhoven Airport	London Stansted Apt	4 6	0850	0900	Boeing 737 Passenger	2
FR	9272	Eindhoven Airport	London Stansted Apt	3	0855	0905	Boeing 737 Passenger	1
FR	9272	Eindhoven Airport	London Stansted Apt	2	0915	0925	Boeing 737 Passenger	1
FR	9272	Eindhoven Airport	London Stansted Apt	1	0845	0855	Boeing 737 Passenger	1
FR	9273	London Stansted Apt	Eindhoven Airport	6	1855	2100	Boeing 737 Passenger	1
FR	9273	London Stansted Apt	Eindhoven Airport	3	1805	2010	Boeing 737 Passenger	1
FR	9273	London Stansted Apt	Eindhoven Airport	2 7	1845	2050	Boeing 737 Passenger	2
FR	9273	London Stansted Apt	Eindhoven Airport	1 45	1825	2030	Boeing 737 Passenger	3
FR	9274	Eindhoven Airport	London Stansted Apt	6	2125	2135	Boeing 737 Passenger	1
FR	9274	Eindhoven Airport	London Stansted Apt	5	2105	2115	Boeing 737 Passenger	1
FR	9274	Eindhoven Airport	London Stansted Apt	3	2035	2045	Boeing 737 Passenger	1
FR	9274	Eindhoven Airport	London Stansted Apt	2 7	2115	2125	Boeing 737 Passenger	2
FR	9274	Eindhoven Airport	London Stansted Apt	1 4	2100	2110	Boeing 737 Passenger	2
FR	9282	London Stansted Apt	Faro	7	1050	1345	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	5	1715	2010	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	4 6	1915	2210	Boeing 737 Passenger	2
FR	9282	London Stansted Apt	Faro	3	1500	1755	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	2	1600	1855	Boeing 737 Passenger	1
FR	9282	London Stansted Apt	Faro	1	1505	1800	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	7	0710	1000	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	5	2050	2340	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	4 6	1535	1825	Boeing 737 Passenger	2
FR	9283	Faro	London Stansted Apt	3	1845	2135	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	2	1935	2225	Boeing 737 Passenger	1
FR	9283	Faro	London Stansted Apt	1	1850	2140	Boeing 737 Passenger	1
FR	9284	Alicante Airport	Nottingham East Midlands Airport	3 5	1830	2015	Boeing 737 Passenger	2
FR	9284	Alicante Airport	Nottingham East Midlands Airport	1	0825	1010	Boeing 737 Passenger	1
FR	9285	Nottingham East Midlands Airport	Alicante Airport	3 5	1415	1755	Boeing 737 Passenger	2
FR	9285	Nottingham East Midlands Airport	Alicante Airport	1	1035	1415	Boeing 737 Passenger	1
FR	9301	Belfast International Apt	Girona Costa Brava Apt	4	1925	2300	Boeing 737 Passenger	1
FR	9301	Belfast International Apt	Girona Costa Brava Apt	1	1325	1700	Boeing 737 Passenger	1
FR	9302	Girona Costa Brava Apt	Belfast International Apt	4	1725	1900	Boeing 737 Passenger	1
FR	9302	Girona Costa Brava Apt	Belfast International Apt	1	1125	1300	Boeing 737 Passenger	1
FR	9303	Girona Costa Brava Apt	Edinburgh	7	1755	1935	Boeing 737 Passenger	1
FR	9303	Girona Costa Brava Apt	Edinburgh	4	0650	0830	Boeing 737 Passenger	1
FR	9304	Edinburgh	Girona Costa Brava Apt	7	2000	2340	Boeing 737 Passenger	1
FR	9304	Edinburgh	Girona Costa Brava Apt	4	0855	1235	Boeing 737 Passenger	1
FR	9305	Girona Costa Brava Apt	Liverpool	7	1100	1215	Boeing 737 Passenger	1
FR	9305	Girona Costa Brava Apt	Liverpool	3	1715	1830	Boeing 737 Passenger	1
FR	9306	Liverpool	Girona Costa Brava Apt	7	1240	1555	Boeing 737 Passenger	1
FR	9306	Liverpool	Girona Costa Brava Apt	3	1855	2210	Boeing 737 Passenger	1
FR	9307	Girona Costa Brava Apt	Glasgow Prestwick Apt	6	1815	2000	Boeing 737 Passenger	1
FR	9307	Girona Costa Brava Apt	Glasgow Prestwick Apt	3	0630	0815	Boeing 737 Passenger	1
FR	9308	Glasgow Prestwick Apt	Girona Costa Brava Apt	6	2025	2350	Boeing 737 Passenger	1
FR	9308	Glasgow Prestwick Apt	Girona Costa Brava Apt	3	0840	1205	Boeing 737 Passenger	1
FR	9335	Girona Costa Brava Apt	Bristol	7	1550	1700	Boeing 737 Passenger	1
FR	9335	Girona Costa Brava Apt	Bristol	45	1105	1215	Boeing 737 Passenger	2
FR	9335	Girona Costa Brava Apt	Bristol	3	1555	1705	Boeing 737 Passenger	1
FR	9335	Girona Costa Brava Apt	Bristol	1	1815	1925	Boeing 737 Passenger	1
FR	9336	Bristol	Girona Costa Brava Apt	7	1225	1525	Boeing 737 Passenger	1
FR	9336	Bristol	Girona Costa Brava Apt	45	1240	1540	Boeing 737 Passenger	2
FR	9336	Bristol	Girona Costa Brava Apt	3	1205	1505	Boeing 737 Passenger	1
FR	9336	Bristol	Girona Costa Brava Apt	1	1950	2250	Boeing 737 Passenger	1
FR	934	London Stansted Apt	Perpignan	3	0610	0915	Boeing 737 Passenger	1
FR	935	Perpignan	London Stansted Apt	3	0940	1050	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	7	1155	1500	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	6	0640	0945	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	4	0635	0940	Boeing 737 Passenger	1
FR	936	London Stansted Apt	Perpignan	2	0755	1100	Boeing 737 Passenger	1
FR	937	Perpignan	London Stansted Apt	7	1525	1635	Boeing 737 Passenger	1

FR	937	Perpignan	London Stansted Apt	6	1025	1135	Boeing 737 Passenger	1
FR	937	Perpignan	London Stansted Apt	4	1005	1115	Boeing 737 Passenger	1
FR	937	Perpignan	London Stansted Apt	2	1125	1235	Boeing 737 Passenger	1
FR	9387	Barcelona Apt	Nottingham East Midlands Airport	1234567	1325	1450	Boeing 737 Passenger	7
FR	9388	Nottingham East Midlands Airport	Barcelona Apt	1234567	0935	1250	Boeing 737 Passenger	7
FR	9406	Ibiza	Nottingham East Midlands Airport	6	2040	2220	Boeing 737 Passenger	1
FR	9406	Ibiza	Nottingham East Midlands Airport	2	2140	2320	Boeing 737 Passenger	1
FR	9407	Nottingham East Midlands Airport	Ibiza	6	1625	2005	Boeing 737 Passenger	1
FR	9407	Nottingham East Midlands Airport	Ibiza	2	1725	2105	Boeing 737 Passenger	1
FR	9417	Glasgow Prestwick Apt	Palma de Mallorca	4	1615	2005	Boeing 737 Passenger	1
FR	9418	Palma de Mallorca	Glasgow Prestwick Apt	4	2040	2245	Boeing 737 Passenger	1
FR	9501	Manchester (GB)	Zadar	2 6	1740	2125	Boeing 737 Passenger	2
FR	9502	Zadar	Manchester (GB)	2 6	2150	2330	Boeing 737 Passenger	2
FR	9509	London Stansted Apt	Bremen	7	0625	0850	Boeing 737 Passenger	1
FR	9509	London Stansted Apt	Bremen	4	0750	1015	Boeing 737 Passenger	1
FR	9509	London Stansted Apt	Bremen	3 5	0800	1025	Boeing 737 Passenger	2
FR	9509	London Stansted Apt	Bremen	1	0755	1020	Boeing 737 Passenger	1
FR	9510	Bremen	London Stansted Apt	7	0915	0940	Boeing 737 Passenger	1
FR	9510	Bremen	London Stansted Apt	4	1040	1105	Boeing 737 Passenger	1
FR	9510	Bremen	London Stansted Apt	3 5	1050	1115	Boeing 737 Passenger	2
FR	9510	Bremen	London Stansted Apt	1	1045	1110	Boeing 737 Passenger	1
FR	9542	London Stansted Apt	Faro	6	1105	1400	Boeing 737 Passenger	1
FR	9542	London Stansted Apt	Faro	23	1800	2055	Boeing 737 Passenger	1
FR	9543	Faro	London Stansted Apt	6	1425	1715	Boeing 737 Passenger	1
FR	9543	Faro	London Stansted Apt	23	1445	1735	Boeing 737 Passenger	1
FR	9552	Barcelona Apt	Birmingham Airport	2 6	0800	0925	Boeing 737 Passenger	2
FR	9553	Birmingham Airport	Barcelona Apt	2 6	0950	1305	Boeing 737 Passenger	2
FR	9592	Liverpool	Palma de Mallorca	7	1750	2125	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	6	1900	2235	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	4	1510	1845	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	3	2045	0020	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	2	1615	1950	Boeing 737 Passenger	1
FR	9592	Liverpool	Palma de Mallorca	1 5	2010	2345	Boeing 737 Passenger	2
FR	9593	Palma de Mallorca	Liverpool	7	2220	0005	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	6	1355	1540	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	4	1245	1430	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	3	1835	2020	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	2	2025	2210	Boeing 737 Passenger	1
FR	9593	Palma de Mallorca	Liverpool	1 5	1800	1945	Boeing 737 Passenger	2
FR	9621	Vilnius	Liverpool	4	1205	1305	Boeing 737 Passenger	1
FR	9621	Vilnius	Liverpool	1	1150	1250	Boeing 737 Passenger	1
FR	9622	Liverpool	Vilnius	4	0645	1140	Boeing 737 Passenger	1
FR	9622	Liverpool	Vilnius	1	0630	1125	Boeing 737 Passenger	1
FR	9626	Liverpool	Pisa	5	1350	1715	Boeing 737 Passenger	1
FR	9626	Liverpool	Pisa	1	1240	1605	Boeing 737 Passenger	1
FR	9627	Pisa	Liverpool	5	1150	1325	Boeing 737 Passenger	1
FR	9627	Pisa	Liverpool	1	1040	1215	Boeing 737 Passenger	1
FR	9628	Liverpool	Poznan Lawica Apt	2 6	1830	2150	Boeing 737 Passenger	2
FR	9629	Poznan Lawica Apt	Liverpool	2 6	2215	2335	Boeing 737 Passenger	2
FR	964	London Stansted Apt	Goteborg Landvetter Apt	7	1805	2100	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	4	1755	2050	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	3	1845	2140	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	2	1715	2010	Boeing 737 Passenger	1
FR	964	London Stansted Apt	Goteborg Landvetter Apt	1 56	2015	2310	Boeing 737 Passenger	3
FR	9646	Liverpool	Krakow John Paul II - Balice	5	2010	2335	Boeing 737 Passenger	1
FR	9646	Liverpool	Krakow John Paul II - Balice	3	2020	2345	Boeing 737 Passenger	1
FR	9646	Liverpool	Krakow John Paul II - Balice	1	1810	2135	Boeing 737 Passenger	1
FR	9647	Krakow John Paul II - Balice	Liverpool	5	1800	1945	Boeing 737 Passenger	1
FR	9647	Krakow John Paul II - Balice	Liverpool	3	1810	1955	Boeing 737 Passenger	1
FR	9647	Krakow John Paul II - Balice	Liverpool	1	2210	2355	Boeing 737 Passenger	1
FR	9648	Liverpool	Wroclaw	7	0620	0935	Boeing 737 Passenger	1
FR	9648	Liverpool	Wroclaw	4	1130	1445	Boeing 737 Passenger	1
FR	9649	Wroclaw	Liverpool	7	1000	1125	Boeing 737 Passenger	1
FR	9649	Wroclaw	Liverpool	4	0940	1105	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	7	2125	2230	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	4	2115	2220	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	3	2205	2310	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	2	2035	2140	Boeing 737 Passenger	1
FR	965	Goteborg Landvetter Apt	London Stansted Apt	1 56	1845	1950	Boeing 737 Passenger	3
FR	9651	Rome Ciampino Apt	Nottingham East Midlands Airport	7	1955	2135	Boeing 737 Passenger	1

FR	9651	Rome Ciampino Apt	Nottingham East Midlands Airport	4	2105	2245	Boeing 737 Passenger	1
FR	9652	Nottingham East Midlands Airport	Rome Ciampino Apt	7	1550	1930	Boeing 737 Passenger	1
FR	9652	Nottingham East Midlands Airport	Rome Ciampino Apt	4	1700	2040	Boeing 737 Passenger	1
FR	966	London Stansted Apt	Goteborg Landvetter Apt	1 5	0815	1105	Boeing 737 Passenger	2
FR	967	Goteborg Landvetter Apt	London Stansted Apt	1 5	0655	0750	Boeing 737 Passenger	2
FR	972	London Stansted Apt	Genoa	123456	1210	1520	Boeing 737 Passenger	6
FR	973	Genoa	London Stansted Apt	123456	1545	1650	Boeing 737 Passenger	6
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	6	1300	1535	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	5	1425	1650	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	4	1345	1610	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	2	1350	1615	Boeing 737 Passenger	1
FR	9772	London Stansted Apt	Karlsruhe/Baden-Baden Baden Airpar	1 3 7	1410	1635	Boeing 737 Passenger	3
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	6	1600	1630	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	5	1330	1400	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	4	1250	1320	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	2	1640	1710	Boeing 737 Passenger	1
FR	9773	Karlsruhe/Baden-Baden Baden Airpar	London Stansted Apt	1 3 7	1310	1340	Boeing 737 Passenger	3
FR	9802	London Stansted Apt	Girona Costa Brava Apt	6	0915	1220	Boeing 737 Passenger	1
FR	9802	London Stansted Apt	Girona Costa Brava Apt	4	0910	1215	Boeing 737 Passenger	1
FR	9802	London Stansted Apt	Girona Costa Brava Apt	1 3 5 7	1445	1750	Boeing 737 Passenger	4
FR	9803	Girona Costa Brava Apt	London Stansted Apt	6	0725	0840	Boeing 737 Passenger	1
FR	9803	Girona Costa Brava Apt	London Stansted Apt	4	1240	1355	Boeing 737 Passenger	1
FR	9803	Girona Costa Brava Apt	London Stansted Apt	1 3 5 7	1305	1420	Boeing 737 Passenger	4
FR	9810	London Stansted Apt	Barcelona Apt	1234567	0815	1130	Boeing 737 Passenger	7
FR	9811	Barcelona Apt	London Stansted Apt	1234567	0620	0750	Boeing 737 Passenger	7
FR	9812	Liverpool	Derry	6	1610	1710	Boeing 737 Passenger	1
FR	9812	Liverpool	Derry	4	1120	1220	Boeing 737 Passenger	1
FR	9812	Liverpool	Derry	2	1115	1215	Boeing 737 Passenger	1
FR	9813	Derry	Liverpool	6	1735	1835	Boeing 737 Passenger	1
FR	9813	Derry	Liverpool	4	1245	1345	Boeing 737 Passenger	1
FR	9813	Derry	Liverpool	2	1240	1340	Boeing 737 Passenger	1
FR	9814	London Stansted Apt	Barcelona Apt	1234567	2035	2350	Boeing 737 Passenger	7
FR	9815	Barcelona Apt	London Stansted Apt	12345 7	1840	2010	Boeing 737 Passenger	6
FR	982	London Stansted Apt	Pescara	7	1350	1725	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	6	1810	2145	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	4	0710	1045	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	3	0830	1205	Boeing 737 Passenger	1
FR	982	London Stansted Apt	Pescara	1	1330	1705	Boeing 737 Passenger	1
FR	9824	Liverpool	Reus	7	1145	1505	Boeing 737 Passenger	1
FR	9824	Liverpool	Reus	4	1540	1900	Boeing 737 Passenger	1
FR	9825	Reus	Liverpool	7	1530	1655	Boeing 737 Passenger	1
FR	9825	Reus	Liverpool	4	1925	2050	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	7	1750	1925	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	6	2210	2345	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	4	1110	1245	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	3	1230	1405	Boeing 737 Passenger	1
FR	983	Pescara	London Stansted Apt	1	1730	1905	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	7	1005	1125	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	6	1405	1530	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	5	1030	1155	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	2	1025	1150	Boeing 737 Passenger	1
FR	9852	Cork	London Gatwick Apt	1 34	1010	1135	Boeing 737 Passenger	3
FR	9853	London Gatwick Apt	Cork	6	1555	1720	Boeing 737 Passenger	1
FR	9853	London Gatwick Apt	Cork	34	1240	1405	Boeing 737 Passenger	2
FR	9853	London Gatwick Apt	Cork	2 5	1225	1350	Boeing 737 Passenger	2
FR	9853	London Gatwick Apt	Cork	1 7	1215	1340	Boeing 737 Passenger	2
FR	9862	Liverpool	Malaga Airport	7	0810	1210	Boeing 737 Passenger	1
FR	9862	Liverpool	Malaga Airport	4	1825	2220	Boeing 737 Passenger	1
FR	9862	Liverpool	Malaga Airport	123 56	0640	1035	Boeing 737 Passenger	5
FR	9863	Malaga Airport	Liverpool	7	1245	1445	Boeing 737 Passenger	1
FR	9863	Malaga Airport	Liverpool	4	1600	1800	Boeing 737 Passenger	1
FR	9863	Malaga Airport	Liverpool	123 56	1110	1310	Boeing 737 Passenger	5
FR	9884	Liverpool	Bari	6	0635	1040	Boeing 737 Passenger	1
FR	9884	Liverpool	Bari	2	0800	1205	Boeing 737 Passenger	1
FR	9885	Bari	Liverpool	6	1105	1320	Boeing 737 Passenger	1
FR	9885	Bari	Liverpool	2	1230	1445	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	7	0715	1100	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	6	1725	2110	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	4	0945	1330	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	3 5	0655	1040	Boeing 737 Passenger	2

FR	9886	Liverpool	Alicante Airport	2	1635	2020	Boeing 737 Passenger	1
FR	9886	Liverpool	Alicante Airport	1	0625	1010	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	7	1135	1325	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	6	2145	2335	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	4	0730	0920	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	3 5	1115	1305	Boeing 737 Passenger	2
FR	9887	Alicante Airport	Liverpool	2	2055	2245	Boeing 737 Passenger	1
FR	9887	Alicante Airport	Liverpool	1	1045	1235	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	6	0900	1255	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	5	0930	1325	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	4	0815	1210	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	3	1655	2050	Boeing 737 Passenger	1
FR	9892	Liverpool	Malaga Airport	2	1840	2235	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	6	0635	0835	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	5	0705	0905	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	4	1245	1445	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	3	2125	2325	Boeing 737 Passenger	1
FR	9893	Malaga Airport	Liverpool	2	1615	1815	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	7	0805	0915	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	6	0710	0820	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	4	1435	1545	Boeing 737 Passenger	1
FR	9895	Liverpool	Cork	1	1500	1610	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	7	0630	0740	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	6	0845	0955	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	4	1610	1720	Boeing 737 Passenger	1
FR	9896	Cork	Liverpool	1	1635	1745	Boeing 737 Passenger	1
FR	9898	Liverpool	Alicante Airport	7	1805	2145	Boeing 737 Passenger	1
FR	9898	Liverpool	Alicante Airport	4	1745	2125	Boeing 737 Passenger	1
FR	9898	Liverpool	Alicante Airport	2	1820	2200	Boeing 737 Passenger	1
FR	9899	Alicante Airport	Liverpool	7	1550	1740	Boeing 737 Passenger	1
FR	9899	Alicante Airport	Liverpool	4	2200	2350	Boeing 737 Passenger	1
FR	9899	Alicante Airport	Liverpool	2	1605	1755	Boeing 737 Passenger	1
FR	9911	Girona Costa Brava Apt	Bournemouth	6	2040	2140	Boeing 737 Passenger	1
FR	9911	Girona Costa Brava Apt	Bournemouth	1 3 5	1550	1650	Boeing 737 Passenger	3
FR	9912	Bournemouth	Girona Costa Brava Apt	6	1715	2015	Boeing 737 Passenger	1
FR	9912	Bournemouth	Girona Costa Brava Apt	1 3 5	1225	1525	Boeing 737 Passenger	3
FR	9918	Liverpool	Bergerac	2 6	1400	1650	Boeing 737 Passenger	2
FR	9919	Bergerac	Liverpool	2 6	1715	1805	Boeing 737 Passenger	2
FR	9961	London Stansted Apt	Sofia	6	0610	1120	Boeing 737 Passenger	1
FR	9961	London Stansted Apt	Sofia	12345 7	0630	1140	Boeing 737 Passenger	6
FR	9962	Sofia	London Stansted Apt	6	1145	1300	Boeing 737 Passenger	1
FR	9962	Sofia	London Stansted Apt	12345 7	1205	1320	Boeing 737 Passenger	6
FR	9967	London Stansted Apt	Sofia	5	1610	2120	Boeing 737 Passenger	1
FR	9967	London Stansted Apt	Sofia	3	1630	2140	Boeing 737 Passenger	1
FR	9967	London Stansted Apt	Sofia	12 4 67	1620	2130	Boeing 737 Passenger	5
FR	9968	Sofia	London Stansted Apt	5	2145	2255	Boeing 737 Passenger	1
FR	9968	Sofia	London Stansted Apt	3	2205	2315	Boeing 737 Passenger	1
FR	9968	Sofia	London Stansted Apt	12 4 67	2155	2305	Boeing 737 Passenger	5

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Row Labels	Sum of Frequency	
Aberdeen (GB)	**8**	
0915	1	6
1035	2	
1055	1	
1155	2	
1835	1	
1845	1	
Belfast International Apt	**45**	
0630	2	
0645	2	
0655	2	
0800	7	
0840	1	
0845	2	
0850	1	
0905	2	9
0910	1	
0915	3	
0950	1	
1015	1	
1030	1	
1220	1	
1225	1	
1325	2	
1335	2	
1635	2	
1640	3	
1645	2	
1705	1	
1725	1	
1845	1	
1900	1	
1925	1	
2205	1	
Bournemouth	**44**	
0630	5	
0700	1	
0710	1	
0835	1	
0840	1	
0845	2	
0855	4	
0900	1	7
0905	2	

1030	2	
1125	2	
1225	3	
1300	1	
1340	1	
1345	1	
1425	1	
1545	1	
1605	1	
1620	1	
1655	1	
1705	3	
1710	1	
1715	1	
1735	3	
1840	1	
2020	1	
2040	1	
Cardiff	**10**	
0910	1	5
0950	1	
0955	1	
1000	1	
1150	1	
1925	1	
1945	3	
2005	1	
Exeter	**6**	
0840	1	
0900	1	3
0915	1	
1000	1	
1740	1	
1940	1	
Glasgow International Airport	**33**	
0840	6	
0845	1	
0915	1	3
1145	2	
1305	2	
1525	5	
1605	1	
1705	1	
1730	1	
1755	1	
1815	3	
1925	1	

1930	1	
2055	1	
2155	6	
Glasgow Prestwick Apt	**51**	
0605	1	
0610	5	
0640	1	
0655	1	
0700	7	
0720	3	
0820	1	
0830	1	
0840	2	
0910	1	2
1015	1	
1240	1	
1330	1	
1450	2	
1500	1	
1505	1	
1510	1	
1520	1	
1530	1	
1600	1	
1615	1	
1625	1	
1655	2	
1705	2	
1730	3	
1735	3	
1750	1	
1845	1	
1900	1	
1910	1	
2025	1	
Leeds Bradford	**85**	
0615	1	
0620	1	
0625	4	
0630	4	
0635	4	
0640	1	
0645	2	
0700	2	
0735	1	
0745	1	
0825	3	

0845	2	
0915	1	12
0925	1	
0930	6	
0945	2	
1105	1	
1125	1	
1325	1	
1335	1	
1345	1	
1405	1	
1410	1	
1505	1	
1535	1	
1545	1	
1610	1	
1620	1	
1630	2	
1635	1	
1650	2	
1655	4	
1705	1	
1710	6	
1720	1	
1725	1	
1735	1	
1820	2	
1830	1	
1850	1	
1855	3	
1905	2	
1930	1	
1935	1	
1945	1	
1950	3	
2005	1	
2010	1	
2025	1	
London Gatwick Apt	**62**	
0850	7	
0940	6	9
1015	1	
1025	1	
1100	1	
1215	2	
1225	2	
1240	2	

1310	5	
1315	1	
1450	3	
1455	1	
1535	1	
1555	1	
1735	8	
1740	1	
1900	6	
1955	3	
2010	2	
2020	1	
2025	1	
2135	6	
London Southend Apt	**63**	
0630	4	
0640	1	
0645	3	
0650	1	
0655	2	
0700	1	
0705	2	
0710	1	
0715	3	
0740	1	
0745	1	
0815	1	
1045	2	10
1050	3	
1055	2	
1105	2	
1125	1	
1300	5	
1305	2	
1310	1	
1325	1	
1340	1	
1455	1	
1610	2	
1650	1	
1705	3	
1725	1	
1735	2	
1745	1	
1750	1	
1800	1	
1920	1	

1930	1		
1955	4		
2005	1		
2015	1		
2040	1		
Newcastle	**43**		
0830	1		
0845	2		
0850	2		
0910	1	18	
0915	1		
0925	1		
0930	3		
1000	1		
1055	3		
1120	7		
1200	1		
1550	1		
1820	1		
1825	1		
1840	1		
1900	1		
1905	1		
1910	5		
1925	2		
1930	1		
1955	1		
2000	1		
2110	1		
2140	1		
2230	2		
Newquay	**4**		
0905	1	1	
2005	1		
2050	2		
Grand Total	**454**	85	19%

Appendix C KLM UK Flight Timetable week beginning 24th June 2019

Carrier Code	Flight No	Dep Airport Name	Arr Airport Name	Local Days Of Op	Local Dep Time	Local Arr Time	General Aircraft Name	Frequency
KL	0922	Inverness	Amsterdam	7	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	6	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	5	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	4	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	3	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	2	0625	0900	Embraer 170/195	1
KL	0922	Inverness	Amsterdam	1	0625	0900	Embraer 170/195	1
KL	0923	Amsterdam	Inverness	7	0930	1010	Embraer 170/195	1
KL	0924	Inverness	Amsterdam	7	1055	1330	Embraer 170/195	1
KL	0925	Amsterdam	Inverness	6	1430	1510	Embraer 170/195	1
KL	0926	Inverness	Amsterdam	6	1550	1825	Embraer 170/195	1
KL	0927	Amsterdam	Inverness	23456	1200	1240	Embraer 170/195	1
KL	0927	Amsterdam	Inverness	12345	1200	1240	Embraer 170/195	5
KL	0928	Inverness	Amsterdam	6	1320	1555	Embraer 170/195	1
KL	0928	Inverness	Amsterdam	3	1325	1600	Embraer 170/195	1
KL	0928	Inverness	Amsterdam	12 45	1325	1600	Embraer 170/195	4
KL	0931	Amsterdam	Inverness	1234567	2135	2215	Embraer 170/195	7
KL	0947	Amsterdam	Belfast George Best City Apt	1234567	1610	1645	Embraer 170/195	7
KL	0948	Belfast George Best City Apt	Amsterdam	7	1715	1950	Embraer 170/195	1
KL	0948	Belfast George Best City Apt	Amsterdam	6	1715	1950	Embraer 170/195	1
KL	0948	Belfast George Best City Apt	Amsterdam	2 4	1715	1950	Embraer 170/195	2
KL	0948	Belfast George Best City Apt	Amsterdam	1 3 5	1715	1950	Embraer 170/195	3
KL	0952	Newcastle	Amsterdam	67	0600	0825	Boeing 737 Passenger	2
KL	0952	Newcastle	Amsterdam	1	0600	0825	Boeing 737 Passenger	1
KL	0952	Newcastle	Amsterdam	12345	0600	0825	Boeing 737 Passenger	4
KL	0953	Amsterdam	Newcastle	6	0835	0845	Boeing 737 Passenger	1
KL	0953	Amsterdam	Newcastle	12345 7	0835	0845	Boeing 737 Passenger	6
KL	0954	Newcastle	Amsterdam	6	0930	1150	Boeing 737 Passenger	1
KL	0954	Newcastle	Amsterdam	12345 7	0930	1150	Boeing 737 Passenger	6
KL	0959	Amsterdam	Newcastle	67	1230	1245	Embraer 170/195	2
KL	0959	Amsterdam	Newcastle	12345	1230	1245	Embraer 170/195	5
KL	0960	Newcastle	Amsterdam	7	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	6	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	4	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	2	1315	1535	Embraer 170/195	1
KL	0960	Newcastle	Amsterdam	1 3 5	1315	1535	Embraer 170/195	3
KL	0963	Amsterdam	Newcastle	6	1620	1640	Embraer 170/195	1
KL	0963	Amsterdam	Newcastle	3 567	1620	1640	Boeing 737 Passenger	1
KL	0963	Amsterdam	Newcastle	12345	1620	1640	Boeing 737 Passenger	5
KL	0964	Newcastle	Amsterdam	6	1730	1955	Embraer 170/195	1
KL	0964	Newcastle	Amsterdam	3 567	1730	1955	Boeing 737 Passenger	1
KL	0964	Newcastle	Amsterdam	12345	1730	1955	Boeing 737 Passenger	5
KL	0965	Amsterdam	Newcastle	1234567	2215	2230	Boeing 737 Passenger	7
KL	0969	Amsterdam	London City Apt	12345 7	2005	2015	Embraer 170/195	6
KL	0970	London City Apt	Amsterdam	12345 7	2045	2300	Embraer 170/195	6
KL	0971	Amsterdam	London City Apt	7	1305	1315	Embraer 170/195	1
KL	0972	London City Apt	Amsterdam	7	1345	1600	Embraer 170/195	1
KL	0981	Amsterdam	London City Apt	12345	0705	0715	Embraer 170/195	5
KL	0982	London City Apt	Amsterdam	12345	0745	1000	Embraer 170/195	5
KL	0983	Amsterdam	London City Apt	123456	0800	0810	Embraer 170/195	6
KL	0984	London City Apt	Amsterdam	123456	0840	1100	Embraer 170/195	6
KL	0985	Amsterdam	London City Apt	12345	0845	0850	Embraer 170/195	5
KL	0986	London City Apt	Amsterdam	3	0925	1130	Embraer 170/195	1
KL	0986	London City Apt	Amsterdam	12 45	0925	1130	Embraer 170/195	4
KL	0987	Amsterdam	London City Apt	123456	0925	0930	Embraer 170/195	6
KL	0988	London City Apt	Amsterdam	123456	1000	1210	Embraer 170/195	6
KL	0989	Amsterdam	London City Apt	12345	1635	1640	Embraer 170/195	5
KL	0990	London City Apt	Amsterdam	12345	1710	1920	Embraer 170/195	5

KL	0991	Amsterdam	London City Apt	12345 7	1715	1720	Embraer 170/195	6
KL	0992	London City Apt	Amsterdam	12345 7	1750	2005	Embraer 170/195	6
KL	0993	Amsterdam	London City Apt	12345 7	1825	1835	Embraer 170/195	6
KL	0994	London City Apt	Amsterdam	7	1905	2120	Embraer 170/195	1
KL	0994	London City Apt	Amsterdam	12345	1905	2115	Embraer 170/195	5
KL	0995	Amsterdam	London City Apt	6	1130	1140	Embraer 170/195	1
KL	0996	London City Apt	Amsterdam	6	1210	1415	Embraer 170/195	1
KL	0997	Amsterdam	London City Apt	12345 7	1925	1935	Embraer 170/195	6
KL	0998	London City Apt	Amsterdam	7	2005	2220	Embraer 170/195	1
KL	0998	London City Apt	Amsterdam	12345	2005	2215	Embraer 170/195	5
KL	1000	London Heathrow Apt	Amsterdam	3	0630	0900	Boeing 737 Passenger	1
KL	1000	London Heathrow Apt	Amsterdam	1	0630	0900	Boeing 737 Passenger	1
KL	1000	London Heathrow Apt	Amsterdam	12 4567	0630	0900	Boeing 737 Passenger	5
KL	1001	Amsterdam	London Heathrow Apt	2 45 7	0720	0740	Boeing 737 Passenger	4
KL	1001	Amsterdam	London Heathrow Apt	1 3 6	0720	0740	Boeing 737 Passenger	3
KL	1002	London Heathrow Apt	Amsterdam	2 45 7	0840	1100	Boeing 737 Passenger	4
KL	1002	London Heathrow Apt	Amsterdam	1 3 6	0840	1100	Boeing 737 Passenger	3
KL	1007	Amsterdam	London Heathrow Apt	12345	0835	0900	Boeing 737 Passenger	5
KL	1008	London Heathrow Apt	Amsterdam	12345	0955	1225	Boeing 737 Passenger	5
KL	1009	Amsterdam	London Heathrow Apt	1 4 7	1015	1045	Boeing 737 Passenger	2
KL	1009	Amsterdam	London Heathrow Apt	123 56	1015	1045	Boeing 737 Passenger	5
KL	1010	London Heathrow Apt	Amsterdam	1 4 7	1145	1405	Boeing 737 Passenger	2
KL	1010	London Heathrow Apt	Amsterdam	123 56	1145	1405	Boeing 737 Passenger	5
KL	1017	Amsterdam	London Heathrow Apt	6	1320	1350	Boeing 737 Passenger	1
KL	1017	Amsterdam	London Heathrow Apt	67	1320	1350	Embraer 170/195	1
KL	1017	Amsterdam	London Heathrow Apt	12345	1320	1350	Boeing 737 Passenger	5
KL	1018	London Heathrow Apt	Amsterdam	6	1445	1700	Boeing 737 Passenger	1
KL	1018	London Heathrow Apt	Amsterdam	67	1445	1700	Embraer 170/195	1
KL	1018	London Heathrow Apt	Amsterdam	12345	1445	1700	Boeing 737 Passenger	5
KL	1019	Amsterdam	London Heathrow Apt	4	1440	1500	Embraer 170/195	1
KL	1019	Amsterdam	London Heathrow Apt	2	1440	1500	Embraer 170/195	1
KL	1019	Amsterdam	London Heathrow Apt	1 3 5	1440	1500	Embraer 170/195	3
KL	1020	London Heathrow Apt	Amsterdam	2	1605	1820	Embraer 170/195	1
KL	1020	London Heathrow Apt	Amsterdam	1 345	1605	1820	Embraer 170/195	4
KL	1021	Amsterdam	London Heathrow Apt	3 6	1555	1615	Boeing 737 Passenger	1
KL	1021	Amsterdam	London Heathrow Apt	12345 7	1555	1615	Boeing 737 Passenger	6
KL	1022	London Heathrow Apt	Amsterdam	3 6	1710	1935	Boeing 737 Passenger	1
KL	1022	London Heathrow Apt	Amsterdam	12345 7	1710	1935	Boeing 737 Passenger	6
KL	1023	Amsterdam	London Heathrow Apt	7	1715	1735	Boeing 737 Passenger	1
KL	1023	Amsterdam	London Heathrow Apt	2	1715	1735	Embraer 170/195	1
KL	1023	Amsterdam	London Heathrow Apt	1 345	1715	1735	Embraer 170/195	4
KL	1024	London Heathrow Apt	Amsterdam	7	1835	2050	Boeing 737 Passenger	1
KL	1024	London Heathrow Apt	Amsterdam	6	1835	2050	Boeing 737 Passenger	1
KL	1024	London Heathrow Apt	Amsterdam	12345	1835	2050	Embraer 170/195	5
KL	1027	Amsterdam	London Heathrow Apt	7	1910	1930	Boeing 737 Passenger	1
KL	1027	Amsterdam	London Heathrow Apt	123456	1905	1925	Embraer 170/195	6
KL	1028	London Heathrow Apt	Amsterdam	7	2055	2305	Boeing 737 Passenger	1
KL	1028	London Heathrow Apt	Amsterdam	123456	2055	2305	Embraer 170/195	6
KL	1029	Amsterdam	London Heathrow Apt	5	1700	1710	Embraer 170/195	1
KL	1029	Amsterdam	London Heathrow Apt	1234	1655	1710	Embraer 170/195	4
KL	1030	London Heathrow Apt	Amsterdam	12345	1915	2125	Embraer 170/195	5
KL	1031	Amsterdam	London Heathrow Apt	6	1735	1750	Boeing 737 Passenger	1
KL	1031	Amsterdam	London Heathrow Apt	12345 7	1735	1750	Embraer 170/195	6
KL	1032	London Heathrow Apt	Amsterdam	12345 7	2025	2240	Embraer 170/195	6
KL	1033	Amsterdam	London Heathrow Apt	2	2030	2055	Boeing 737 Passenger	1
KL	1033	Amsterdam	London Heathrow Apt	1 34567	2030	2055	Boeing 737 Passenger	6
KL	1046	Bristol	Amsterdam	1	0620	0850	Embraer 170/195	1
KL	1046	Bristol	Amsterdam	1234567	0620	0850	Embraer 170/195	6
KL	1049	Amsterdam	Bristol	5	0835	0850	Boeing 737 Passenger	1
KL	1049	Amsterdam	Bristol	1234 67	0835	0850	Embraer 170/195	6
KL	1050	Bristol	Amsterdam	5	0930	1145	Boeing 737 Passenger	1

KL	1050	Bristol	Amsterdam	1234 67	0920	1135	Embraer 170/195	6
KL	1051	Amsterdam	Bristol	67	1300	1315	Embraer 170/195	2
KL	1051	Amsterdam	Bristol	12345	1300	1315	Embraer 170/195	5
KL	1052	Bristol	Amsterdam	67	1345	1605	Embraer 170/195	2
KL	1052	Bristol	Amsterdam	12345	1345	1605	Embraer 170/195	5
KL	1053	Amsterdam	Bristol	7	1640	1655	Embraer 170/195	1
KL	1053	Amsterdam	Bristol	6	1630	1645	Embraer 170/195	1
KL	1053	Amsterdam	Bristol	12345	1640	1655	Boeing 737 Passenger	5
KL	1054	Bristol	Amsterdam	7	1725	1945	Embraer 170/195	1
KL	1054	Bristol	Amsterdam	6	1715	1935	Embraer 170/195	1
KL	1054	Bristol	Amsterdam	12345	1735	1955	Boeing 737 Passenger	5
KL	1057	Amsterdam	Bristol	1234567	2200	2210	Embraer 170/195	7
KL	1058	Cardiff	Amsterdam	2 5	0605	0830	Embraer 170/195	2
KL	1058	Cardiff	Amsterdam	1	0605	0830	Embraer 170/195	1
KL	1058	Cardiff	Amsterdam	1 34 6	0605	0830	Embraer 170/195	3
KL	1059	Amsterdam	Cardiff	7	0905	0925	Embraer 170/195	1
KL	1059	Amsterdam	Cardiff	23456	0855	0915	Embraer 170/195	5
KL	1059	Amsterdam	Cardiff	1	0850	0910	Embraer 170/195	1
KL	1060	Cardiff	Amsterdam	7	0955	1215	Embraer 170/195	1
KL	1060	Cardiff	Amsterdam	23456	0945	1205	Embraer 170/195	5
KL	1060	Cardiff	Amsterdam	1	0940	1200	Embraer 170/195	1
KL	1063	Amsterdam	Cardiff	1234567	1625	1645	Embraer 170/195	7
KL	1064	Cardiff	Amsterdam	1234567	1715	1935	Embraer 170/195	7
KL	1069	Amsterdam	Cardiff	23 5 7	2110	2130	Embraer 170/195	4
KL	1069	Amsterdam	Cardiff	1 4	2110	2130	Embraer 170/195	2
KL	1070	Manchester (GB)	Amsterdam	56	0555	0815	Boeing 737 Passenger	2
KL	1070	Manchester (GB)	Amsterdam	1	0555	0820	Boeing 737 Passenger	1
KL	1070	Manchester (GB)	Amsterdam	1234 7	0555	0820	Boeing 737 Passenger	4
KL	1071	Amsterdam	Manchester (GB)	7	0755	0815	Boeing 737 Passenger	1
KL	1071	Amsterdam	Manchester (GB)	6	0810	0830	Boeing 737 Passenger	1
KL	1071	Amsterdam	Manchester (GB)	12345	0800	0820	Boeing 737 Passenger	5
KL	1072	Manchester (GB)	Amsterdam	7	0900	1115	Boeing 737 Passenger	1
KL	1072	Manchester (GB)	Amsterdam	6	0910	1125	Boeing 737 Passenger	1
KL	1072	Manchester (GB)	Amsterdam	1	0900	1115	Boeing 737 Passenger	1
KL	1072	Manchester (GB)	Amsterdam	12345	0900	1115	Boeing 737 Passenger	4
KL	1073	Amsterdam	Manchester (GB)	67	1005	1025	Boeing 737 Passenger	2
KL	1073	Amsterdam	Manchester (GB)	2345	1005	1025	Boeing 737 Passenger	3
KL	1073	Amsterdam	Manchester (GB)	12	1005	1025	Boeing 737 Passenger	2
KL	1074	Manchester (GB)	Amsterdam	6	1110	1330	Boeing 737 Passenger	1
KL	1074	Manchester (GB)	Amsterdam	2345 7	1110	1330	Boeing 737 Passenger	4
KL	1074	Manchester (GB)	Amsterdam	12	1110	1330	Boeing 737 Passenger	2
KL	1075	Amsterdam	Manchester (GB)	67	1250	1305	Embraer 170/195	2
KL	1075	Amsterdam	Manchester (GB)	12345	1250	1305	Embraer 170/195	5
KL	1076	Manchester (GB)	Amsterdam	67	1345	1605	Embraer 170/195	2
KL	1076	Manchester (GB)	Amsterdam	12345	1345	1605	Embraer 170/195	5
KL	1079	Amsterdam	Manchester (GB)	6	1625	1645	Boeing 737 Passenger	1
KL	1079	Amsterdam	Manchester (GB)	1 4 67	1625	1645	Boeing 737 Passenger	1
KL	1079	Amsterdam	Manchester (GB)	12345	1625	1645	Boeing 737 Passenger	5
KL	1080	Manchester (GB)	Amsterdam	6	1730	1950	Boeing 737 Passenger	1
KL	1080	Manchester (GB)	Amsterdam	1 4 7	1730	1950	Boeing 737 Passenger	1
KL	1080	Manchester (GB)	Amsterdam	12345	1730	1950	Boeing 737 Passenger	5
KL	1081	Amsterdam	Manchester (GB)	7	1845	1900	Embraer 170/195	1
KL	1081	Amsterdam	Manchester (GB)	12345	1845	1900	Embraer 170/195	5
KL	1082	Manchester (GB)	Amsterdam	12345 7	1935	2150	Embraer 170/195	6
KL	1083	Amsterdam	Manchester (GB)	7	2115	2135	Boeing 737 Passenger	1
KL	1083	Amsterdam	Manchester (GB)	6	2115	2135	Boeing 737 Passenger	1
KL	1083	Amsterdam	Manchester (GB)	12345	2115	2135	Boeing 737 Passenger	5
KL	1276	Edinburgh	Amsterdam	5	0600	0835	Boeing 737 Passenger	1
KL	1276	Edinburgh	Amsterdam	1	0600	0835	Boeing 737 Passenger	1
KL	1276	Edinburgh	Amsterdam	1234 67	0600	0835	Boeing 737 Passenger	5
KL	1277	Amsterdam	Edinburgh	7	0800	0825	Embraer 170/195	1

KL	1277	Amsterdam	Edinburgh	2	0800	0825	Boeing 737 Passenger	1
KL	1277	Amsterdam	Edinburgh	1 3456	0800	0825	Boeing 737 Passenger	5
KL	1278	Edinburgh	Amsterdam	7	0910	1145	Embraer 170/195	1
KL	1278	Edinburgh	Amsterdam	2	0910	1145	Boeing 737 Passenger	1
KL	1278	Edinburgh	Amsterdam	1 3456	0910	1145	Boeing 737 Passenger	5
KL	1281	Amsterdam	Edinburgh	67	1215	1240	Embraer 170/195	2
KL	1281	Amsterdam	Edinburgh	12345	1215	1240	Boeing 737 Passenger	5
KL	1282	Edinburgh	Amsterdam	6	1325	1555	Embraer 170/195	1
KL	1282	Edinburgh	Amsterdam	67	1315	1550	Embraer 170/195	1
KL	1282	Edinburgh	Amsterdam	4	1325	1555	Boeing 737 Passenger	1
KL	1282	Edinburgh	Amsterdam	123 5	1325	1600	Boeing 737 Passenger	4
KL	1289	Amsterdam	Edinburgh	2 6	1620	1640	Boeing 737 Passenger	2
KL	1289	Amsterdam	Edinburgh	1 345 7	1615	1640	Boeing 737 Passenger	5
KL	1290	Edinburgh	Amsterdam	1234567	1725	1955	Boeing 737 Passenger	7
KL	1293	Amsterdam	Edinburgh	4	2110	2135	Boeing 737 Passenger	1
KL	1293	Amsterdam	Edinburgh	123 567	2110	2135	Boeing 737 Passenger	6
KL	1420	Birmingham Airport	Amsterdam	234 67	0600	0825	Boeing 737 Passenger	4
KL	1420	Birmingham Airport	Amsterdam	1	0600	0825	Boeing 737 Passenger	1
KL	1420	Birmingham Airport	Amsterdam	12 5	0600	0825	Boeing 737 Passenger	2
KL	1421	Amsterdam	Birmingham Airport	7	0815	0830	Boeing 737 Passenger	1
KL	1421	Amsterdam	Birmingham Airport	123456	0815	0830	Boeing 737 Passenger	6
KL	1422	Birmingham Airport	Amsterdam	7	0915	1130	Boeing 737 Passenger	1
KL	1422	Birmingham Airport	Amsterdam	123456	0915	1130	Boeing 737 Passenger	6
KL	1423	Amsterdam	Birmingham Airport	7	0935	0950	Boeing 737 Passenger	1
KL	1424	Birmingham Airport	Amsterdam	7	1035	1250	Boeing 737 Passenger	1
KL	1425	Amsterdam	Birmingham Airport	6	1215	1230	Embraer 170/195	1
KL	1425	Amsterdam	Birmingham Airport	12345 7	1215	1230	Boeing 737 Passenger	6
KL	1426	Birmingham Airport	Amsterdam	6	1300	1515	Embraer 170/195	1
KL	1426	Birmingham Airport	Amsterdam	12345 7	1310	1525	Boeing 737 Passenger	6
KL	1431	Amsterdam	Birmingham Airport	6	1635	1650	Embraer 170/195	1
KL	1431	Amsterdam	Birmingham Airport	12345 7	1635	1650	Boeing 737 Passenger	6
KL	1432	Birmingham Airport	Amsterdam	6	1740	1955	Embraer 170/195	1
KL	1432	Birmingham Airport	Amsterdam	12345 7	1740	1955	Boeing 737 Passenger	6
KL	1433	Amsterdam	Birmingham Airport	5	1900	1915	Embraer 170/195	1
KL	1433	Amsterdam	Birmingham Airport	1234	1900	1915	Embraer 170/195	4
KL	1434	Birmingham Airport	Amsterdam	5	1945	2155	Embraer 170/195	1
KL	1434	Birmingham Airport	Amsterdam	1234	1945	2155	Embraer 170/195	4
KL	1435	Amsterdam	Birmingham Airport	1 4 7	2105	2120	Boeing 737 Passenger	3
KL	1435	Amsterdam	Birmingham Airport	123 56	2105	2120	Boeing 737 Passenger	4
KL	1440	Aberdeen (GB)	Amsterdam	1	0600	0835	Boeing 737 Passenger	1
KL	1440	Aberdeen (GB)	Amsterdam	1234567	0600	0835	Boeing 737 Passenger	6
KL	1441	Amsterdam	Aberdeen (GB)	1234567	0815	0845	Embraer 170/195	7
KL	1442	Aberdeen (GB)	Amsterdam	6	0915	1145	Embraer 170/195	1
KL	1442	Aberdeen (GB)	Amsterdam	12345 7	0915	1145	Embraer 170/195	6
KL	1443	Amsterdam	Aberdeen (GB)	7	0935	1005	Embraer 170/195	1
KL	1443	Amsterdam	Aberdeen (GB)	123456	0935	1005	Embraer 170/195	6
KL	1444	Aberdeen (GB)	Amsterdam	7	1035	1310	Embraer 170/195	1
KL	1444	Aberdeen (GB)	Amsterdam	123456	1035	1310	Embraer 170/195	6
KL	1445	Amsterdam	Aberdeen (GB)	7	1140	1210	Embraer 170/195	1
KL	1445	Amsterdam	Aberdeen (GB)	6	1125	1155	Embraer 170/195	1
KL	1445	Amsterdam	Aberdeen (GB)	2345	1140	1210	Embraer 170/195	4
KL	1445	Amsterdam	Aberdeen (GB)	1	1140	1210	Embraer 170/195	1
KL	1446	Aberdeen (GB)	Amsterdam	7	1240	1515	Embraer 170/195	1
KL	1446	Aberdeen (GB)	Amsterdam	6	1225	1500	Embraer 170/195	1
KL	1446	Aberdeen (GB)	Amsterdam	12345	1240	1515	Embraer 170/195	5
KL	1449	Amsterdam	Aberdeen (GB)	67	1610	1635	Boeing 737 Passenger	2
KL	1449	Amsterdam	Aberdeen (GB)	12345	1610	1635	Boeing 737 Passenger	5
KL	1450	Aberdeen (GB)	Amsterdam	67	1720	1955	Boeing 737 Passenger	2
KL	1450	Aberdeen (GB)	Amsterdam	12345	1720	1955	Boeing 737 Passenger	5
KL	1451	Amsterdam	Aberdeen (GB)	234567	2145	2215	Boeing 737 Passenger	6
KL	1451	Amsterdam	Aberdeen (GB)	1	2200	2230	Boeing 737 Passenger	1

KL	1470	Glasgow International Airport	Amsterdam	2	0605	0845	Boeing 737 Passenger	1
KL	1470	Glasgow International Airport	Amsterdam	1	0605	0845	Boeing 737 Passenger	1
KL	1470	Glasgow International Airport	Amsterdam	1234567	0605	0845	Boeing 737 Passenger	5
KL	1473	Amsterdam	Glasgow International Airport	67	0930	1000	Boeing 737 Passenger	2
KL	1473	Amsterdam	Glasgow International Airport	1	0930	1000	Boeing 737 Passenger	1
KL	1473	Amsterdam	Glasgow International Airport	12345	0930	1000	Boeing 737 Passenger	4
KL	1474	Glasgow International Airport	Amsterdam	67	1045	1320	Boeing 737 Passenger	2
KL	1474	Glasgow International Airport	Amsterdam	3	1045	1320	Boeing 737 Passenger	1
KL	1474	Glasgow International Airport	Amsterdam	1	1045	1320	Boeing 737 Passenger	1
KL	1474	Glasgow International Airport	Amsterdam	12 45	1045	1320	Boeing 737 Passenger	3
KL	1477	Amsterdam	Glasgow International Airport	4 7	1535	1605	Boeing 737 Passenger	2
KL	1477	Amsterdam	Glasgow International Airport	2	1535	1605	Boeing 737 Passenger	1
KL	1477	Amsterdam	Glasgow International Airport	1 3 56	1535	1605	Boeing 737 Passenger	4
KL	1478	Glasgow International Airport	Amsterdam	4 7	1655	1930	Boeing 737 Passenger	2
KL	1478	Glasgow International Airport	Amsterdam	123 56	1655	1930	Boeing 737 Passenger	5
KL	1481	Amsterdam	Glasgow International Airport	6	2140	2210	Boeing 737 Passenger	1
KL	1481	Amsterdam	Glasgow International Airport	1	2115	2145	Boeing 737 Passenger	1
KL	1481	Amsterdam	Glasgow International Airport	12345 7	2115	2145	Boeing 737 Passenger	5
KL	1482	Humberside	Amsterdam	1	0610	0810	Embraer 170/195	1
KL	1482	Humberside	Amsterdam	1234567	0610	0810	Embraer 170/195	6
KL	1485	Amsterdam	Humberside	123456	0930	0930	Embraer 170/195	6
KL	1486	Humberside	Amsterdam	1	1000	1200	Embraer 170/195	1
KL	1486	Humberside	Amsterdam	123456	1000	1200	Embraer 170/195	5
KL	1489	Amsterdam	Humberside	12345 7	1640	1640	Embraer 170/195	6
KL	1490	Humberside	Amsterdam	12345 7	1710	1915	Embraer 170/195	6
KL	1493	Amsterdam	Humberside	1234567	2130	2130	Embraer 170/195	7
KL	1514	Norwich	Amsterdam	1	0605	0800	Embraer 170/195	1
KL	1514	Norwich	Amsterdam	1234567	0605	0800	Embraer 170/195	6
KL	1515	Amsterdam	Norwich	6	0910	0900	Embraer 170/195	1
KL	1515	Amsterdam	Norwich	12345	0910	0900	Embraer 170/195	5
KL	1516	Norwich	Amsterdam	6	0930	1125	Embraer 170/195	1
KL	1516	Norwich	Amsterdam	12345	0930	1125	Embraer 170/195	5
KL	1519	Amsterdam	Norwich	7	1350	1340	Embraer 170/195	1
KL	1519	Amsterdam	Norwich	12345	1350	1340	Embraer 170/195	5
KL	1520	Norwich	Amsterdam	12345 7	1410	1605	Embraer 170/195	6
KL	1521	Amsterdam	Norwich	1	1700	1650	Embraer 170/195	1
KL	1522	Norwich	Amsterdam	1	1720	1915	Embraer 170/195	1
KL	1523	Amsterdam	Norwich	2345 7	1700	1650	Embraer 170/195	5
KL	1524	Norwich	Amsterdam	2345 7	1720	1915	Embraer 170/195	5
KL	1527	Amsterdam	Norwich	1234567	2120	2110	Embraer 170/195	7
KL	1530	Durham	Amsterdam	1	0620	0840	Embraer 170/195	1
KL	1530	Durham	Amsterdam	1234567	0620	0840	Embraer 170/195	6
KL	1533	Amsterdam	Durham	7	0920	0930	Embraer 170/195	1
KL	1533	Amsterdam	Durham	6	0925	0935	Embraer 170/195	1
KL	1533	Amsterdam	Durham	12345	0920	0930	Embraer 170/195	5
KL	1534	Durham	Amsterdam	6	1005	1220	Embraer 170/195	1
KL	1534	Durham	Amsterdam	3 7	1000	1215	Embraer 170/195	2
KL	1534	Durham	Amsterdam	12 45	1000	1220	Embraer 170/195	4
KL	1535	Amsterdam	Durham	12345	1640	1650	Embraer 170/195	5
KL	1536	Durham	Amsterdam	12345	1720	1935	Embraer 170/195	5
KL	1539	Amsterdam	Durham	1234567	2135	2145	Embraer 170/195	7
KL	1540	Leeds Bradford	Amsterdam	1	0620	0840	Embraer 170/195	1
KL	1540	Leeds Bradford	Amsterdam	1234567	0620	0840	Embraer 170/195	6
KL	1541	Amsterdam	Leeds Bradford	6	0925	0935	Embraer 170/195	1
KL	1541	Amsterdam	Leeds Bradford	12345 7	0920	0930	Embraer 170/195	6
KL	1542	Leeds Bradford	Amsterdam	6	1005	1215	Embraer 170/195	1
KL	1542	Leeds Bradford	Amsterdam	12345 7	1000	1210	Embraer 170/195	6
KL	1549	Amsterdam	Leeds Bradford	6	1640	1650	Embraer 170/195	1
KL	1549	Amsterdam	Leeds Bradford	12345 7	1640	1650	Embraer 170/195	6
KL	1550	Leeds Bradford	Amsterdam	6	1720	1935	Embraer 170/195	1
KL	1550	Leeds Bradford	Amsterdam	12345 7	1720	1935	Embraer 170/195	6

KL	1551	Amsterdam	Leeds Bradford	67	2210	2220	Embraer 170/195	2
KL	1551	Amsterdam	Leeds Bradford	12345	2200	2210	Embraer 170/195	5

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Sum of Frequency	Column Labels							
Row Labels	**Belfast George Best City Apt**	**Cardiff**	**Durham**	**Glasgow International Airport**	**Humberside**	**Inverness**	**Leeds Bradford**	**Grand Total**
0605		6		7				13
0610					7			7
0620			7				7	14
0625						7		7
0940		1						1
0945		5						5
0955		1						1
1000			6		6		6	18
1005			1				1	2
1045				7				7
1055						1		1
1320						1		1
1325						5		5
1550						1		1
1655				7				7
1710					6			6
1715	7	7						14
1720			5				7	12
Grand Total	**7**	**20**	**19**	**21**	**19**	**15**	**21**	**122**

APPENDIX 2: ANALYSIS OF "PROPERTY INCOME" IN THE APPLICANT'S "BUSINESS PLAN"

1. In Appendix 10 (Note substantiating net income figure) to the Applicant's Written Summary of Oral Representations to the First Compulsory Acquisition Hearing [REP5-011], the Applicant attempt to explain the basis for the Property Income it had included within its "business plan".

2. In summary, the Applicant explained that this income related to;

    - The rental income paid by an "E-commerce" carrier for airside facilities. In paragraph 1.3, the Applicant claims it had applied a "conservative lease charge";

    - Northern Grass Area – in paragraph 2.2, the Applicant asserts that it has "ascribed conservative lease rates, terms and scenarios"; to the 105,000sq metre of B1 and B8 business space on the Northern Grass area. This has been assessed in the ES as comprising 75% of B8 space (distribution and storage) and 25% of B1 space (office and light industrial use).

    - Ground rent charged to FBO / MRO operations – this would be expected to be relatively insignificant in the overall context given each tenant would be required to build , occupy, staff and maintain the facilities.

3. Based on the forecast Property Income in the latest "business plan" submitted as Appendix CAH2-15 to the Applicant's Written Summary, the Applicant has again made heroic assumptions regarding the income that could be achieved **without a shred of evidence to substantiate its assertions.**

4. This note demonstrates the extent to which the Applicant has overstated property income **even when the most optimistic set of assumptions are applied**. In this regard, the rental levels have been benchmarked to the prime rental levels achievable at the established, successful East Midlands Airport. This is a very generous comparator.

5. In reality, any tenants would expect a material discount to attract them to a more peripheral location, particularly for a start-up operation as proposed by the Applicant, where any tenants would be acutely aware of the risk of the airport failing to sustain viable operations.

6. <u>Key Assumptions Applied:</u>

- Year 6 has been used as the assessment year, as this is the date at which the Works 15-17 are fully developed and the first two phases (28,500sqm) of airside cargo facilities have been developed. In line with the Applicant's assertions, 50% of the airside cargo facilities are assumed to be leased to an "e-commerce" provider;

- This would equate to 14,250 sq m plus all of the 105,000 sq m space (75% of which is B8) on the Northern Grass, being available in Year 6;

- All space is assumed to be 100% occupied, with rent being paid – again this would be completely unrealistic, but the purpose is to demonstrate the wholly unrealistic nature of the Applicant's forecasts;

- Rental levels;

    - B8 space is assumed to be let at the prime rent levels achieved at East Midlands – this equates to £6.75 per sq ft (as evidenced by appended Savills report appended as

Appendix 3.A) – NB. the occupational space has been converted to sq ft when calculating rents;

- The airside cargo space is leased to the "e-commerce" provider at an equivalent level to £6.75 per sq ft – clearly this would be a material premium to the conservative lease charge suggested by the Applicant;
- B1 space is let at headline level of c.£15.00 per sq ft achieved for recent lettings of Grade A office at East Midlands (see attached Appendix 3.B sale document for Donnington Court, at Pegasus Business Park, which shows rents of c.£15.00 being paid by PWC and HSBC, with vacant space expected to achieve between £7.63 and £15.25 per sq ft). **Consistent with the evidence submitted previously by York Aviation the ExA will note that PwC and HSBC are not "airport-related" occupiers, but have chosen the location due to its central location in the East Midlands;**
- Ground rent of £250,000 per annum has been applied to the MRO / FBO land.

- No rental incentives have been applied – in reality, rent free periods and other tenant incentives would be normal, which would materially reduce income levels in early years;
- No discount has been applied to account for the lower value uses suggested by the Applicant in its submissions (e.g. the uses set out in the updated NSIP Justification). As explained in paragraph 33 of York Aviation's Supplementary Note (Appendix 1);

  "[M]ost essential airport operationally related activities are generally low rental income generators."

- No costs of switching airports have been taken into account – this is despite the Azimuth report (paragraph 2.2.10 of Volume III) advising the significant costs of switching airports had been accounted for.

7. The Table below shows that even when the most optimistic and completely unrealistic assumptions are adopted (as set out above), there would be no prospect of the Applicant generating revenue anywhere near to the level it has forecast in its business plan (i.e. £22.168m in Year 6).

Works	Use Class	Use Type	Sq M	Sq Ft	Rent (£/sq ft)	Annual Rent
15-17	B1	Office or light industry	26,250	282,555	15.00	4,238,325
15-17	B8	Storage or distribution	78,750	847,665	6.75	5,721,739
			105,000	**1,130,220**		**9,960,064**
1	B8	Storage or distribution	14,250	153,387	6.75	1,035,362
		MRO and FBO Ground Rent				250,000
				Total Rent		**11,245,426**

8. Notwithstanding the lack of credibility attaching to the Applicant's proposals, the analysis above further demonstrates that the Applicant's scheme is not intended to be cost efficient nor does it seek to minimise costs to airlines or freight owners.

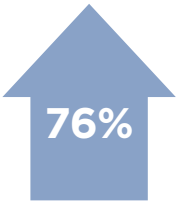
SPOTLIGHT
Savills Research

Big shed briefing

savills

DP World London Gateway Logistics Park where 231,000 sq ft is due for speculative delivery in 2019

32% take-up increase • Supply at highest level since '14 • Record level of spec development



Rise in the rolling average take-up level since 2009

Nationwide overview

Take-up records tumble in many regions

Richard Sullivan
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of Industrial & Logistics
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Integra 61 Durham, the largest deal of the year at 1.99m sq ft

With recent headlines about the high st and retailers trading updates starting to filter through it would be tempting to suggest that the logistics property market might be experiencing similar headwinds.

It is pleasing to report that take-up in 2018 has risen by more than 8m sq ft year on year and take-up related to retail (in all its forms) accounted for 53% of this demand.

We expect that this trend will continue into 2019 and beyond as retailers continue to get their supply chains fit for purpose in the multi-channel world. Both Next and Marks & Spencer have announced they will be spending hundreds of millions of pounds on their supply chains in the coming years.

We should make note of the growth of new entrants to the market, such as Wayfair.com who are increasing the amount of warehouse space they need at exponential level.

Lastly, we are not currently seeing Brexit have a significant impact on occupier demand, either positive or negative. This may change as more clarity emerges on the UK's post 29th March trading arrangements, but occupiers should be comforted by the fact that supply levels are now at their highest level since 2014.

Take-up

At a nationwide level take-up reached 34.1m sq ft for 2018 a 32% increase on 2017 and 14.1m sq ft above the long term average.

Whilst the actual deal counts were marginally up the average deal size is at its highest level ever and now stands as 281,000 sq ft.

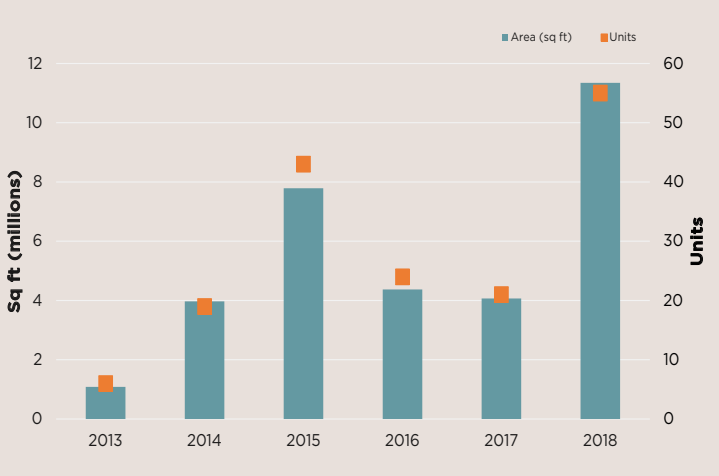
New records were set in many markets including the East Midlands, Yorkshire, the North West and the South East.

Supply and Pipeline

Nationwide supply has risen in 2018 and now stands at 31.4m sq ft, reflecting a vacancy rate of just 5.3%. Of the current supply on the market 51% is classified as grade A, up from just 35% in Q1 2015 .

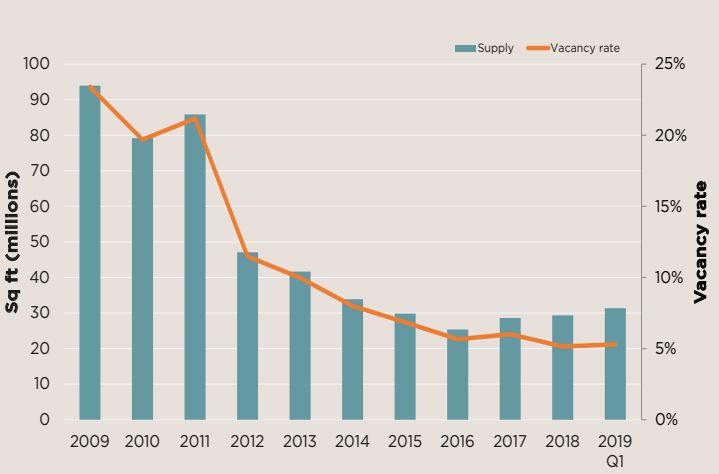
We expect this balance to alter further in favour of grade A units in 2019 as 2018 saw a record number of speculative development announcements; 55 units were announced totalling 11.3m sq ft. Of the units due for delivery 67.5% are under 200,000 sq ft.

Speculative announcements almost triple



Source Savills Research

Supply and vacancy slight up-tick in supply



Source Savills Research

> Strong occupier demand and the lack of stock in London continues to drive rental growth across the region

London and the South East

Unprecedented demand for larger units

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Supply

The quality balance of the supply has shifted as speculatively developed units have come to the market. Grade A stock now makes up 69% of all space on the market totalling 3.83 million sq ft across seventeen units, a 108% increase on the amount of grade A space available in 2017.

Increased speculative development paired with large 2nd hand units returning to the market such as Tectonic 620 comprising 617,393 sq ft has caused supply to rise. Current supply totals 5.54 m sq ft, representing a 42% rise from 2017, 71% of this supply is under 200,000 sq ft, which correlates with long term take-up trends with 64% of deals being in the same size band. Unit sizes increase as you move north with the largest units, Tectonic 620 and Altitude both being in Milton Keynes.

Take-up

Take-up levels increased 33% in 2018 reaching 6.35 m sq ft through 20 separate deals, the highest amount of activity since 2014. The average deal size has risen by 66.4% from 2017 reaching a record high of 312,379 sq ft for the region, a 40% increase above the long term yearly average.

Build-to-suit transactions accounted for 45% of deals within the region, totalling 4.58 million sq ft. The largest deal in the region was Lidl acquiring land and self-building 1.1 million sq ft in Dunstable.

We are expecting a strong start to 2019 with 1.5m sq ft of warehouse space already under offer.

Development Pipeline

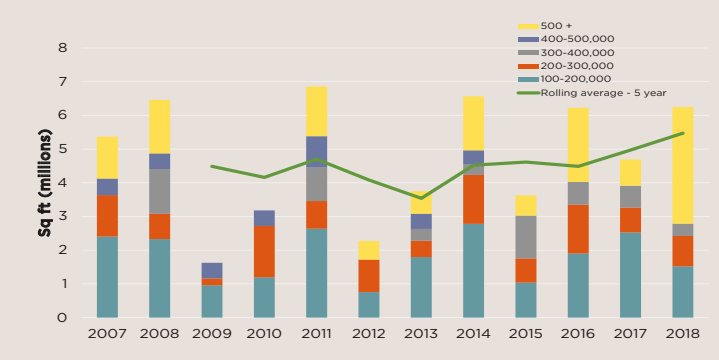
There are eight units under construction totalling 1.52 m sq ft, but there are no units under construction inside the M25 and just two in the Home Counties. The largest unit due for delivery in 2019 is Bedford 405 where Goodman are speculatively developing 405,000 sq ft, set to reach practical completion in Q3 2019.

Key statistics

	Stats	yr/yr change
Take-up	6.35m sq ft	↑ 33%
Supply	5.54m sq ft	↑ 42%
Development Pipeline	1.52m sq ft	↓ 2.9%
Quoting Grade A Rent	£7.5-£18/ sq ft	↑ 9%
Vacancy rate	5.5%	↑ 120bps

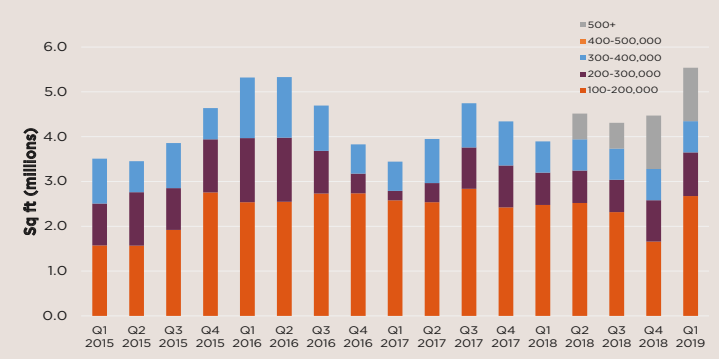
Source Savills Research

Take up rolling average reaches new high



Source Savills Research

Supply rises in smaller units



Source Savills Research

> 2018 saw grade A space account for 94% of the total space transacted with grade B &C space equating to just 6%.

East Midlands

Best year ever for take-up in the region

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Supply

Since the recent high point was reached in Q4 2017 supply has been decreasing and now stands at 3.28m sq ft, a fall of 33.99% in 12 months, reflecting a vacancy rate of just 3.8%.

Whilst the vacancy rate has fluctuated around the 4% market in the last four years the make-up of the supply has altered dramatically. For example at the start of 2015 there was 2.7m sq ft of grade B & C supply on the market accounting for 67% of supply. On the other hand at the start of 2019 this proportion had fallen to 43%.

The largest unit on the market remains Quantum at Magna Park at 411,613 sq ft which has been vacant for 32 months having been under offer twice in the last 12 months.

Take-up

2018 has been a record year with 8.92 m sq ft of space transacted, 101% above the long term average and more than double what was transacted in 2017.

Comparing transaction volumes with 2017, all building types experienced around twice as much activity in 2018, such as the amount of new grade A space transacted increasing 166%. In fact, 2018 saw grade A space account for 94% of the total space transacted with grade B &C space equating to just 6%.

Build-to-suit space dominated the market with the largest deal being c.1.3 million sq ft at Segro Logistics Park East Midlands Gateway (Big Box 1). Segro Logistics Park East Midlands Gateway has been one of the most successful schemes in the region in 2018 securing 4 build to suit deals totalling over 2 million sq ft of space.

Development Pipeline

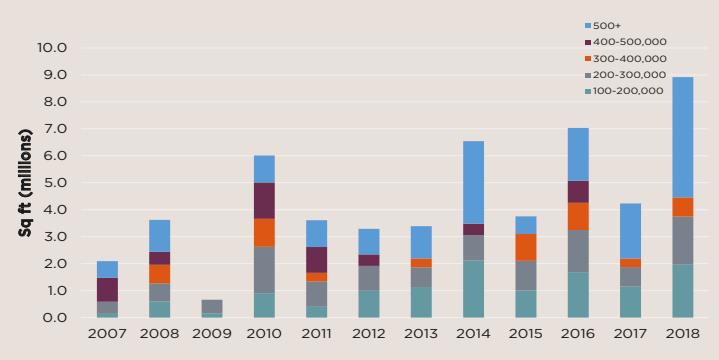
There are 12 units under construction which total 3.34msq ft, primarily located in Northamptonshire where seven units are under construction. The largest unit is Nottingham 550, where Panattoni are developing 550,000 sq ft due to reach practical completion in Q1 2019.

Key statistics

	Stats	yr/yr change
Take-up	8.92m sq ft	↑ 111%
Supply	3.28m sq ft	↓ 19%
Development Pipeline	3.34m sq ft	↑ 149%
Quoting Grade A Rent	£6.75/sq ft	↑ 4%
Vacancy rate	2.9%	↓ 160bps

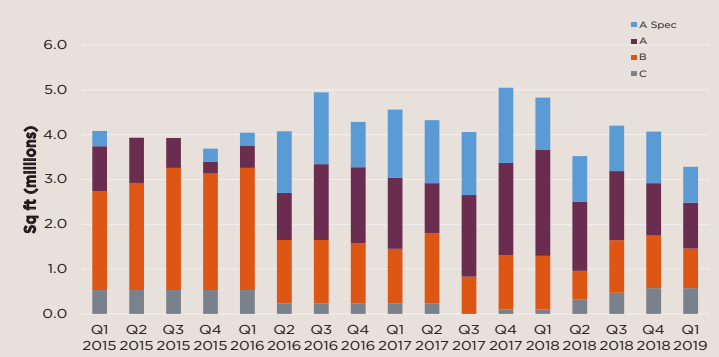
Source Savills Research

Take up record year for units over 500,000 sq ft



Source Savills Research

Supply proportion of grade A supply increases



Source Savills Research

> Understandably Brexit has dampened demand in certain sectors such manufacturing but others remain active and we expect a pick up once the uncertainty is lifted

West Midlands

Supply still less than two years despite recent rise

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Supply

The level of supply currently stands at 7.46 m sq ft, the highest level ever recorded representing a 76% increase from 2017. Of this, however, 46% of the supply is considered to be grade B & C, accounting for close to 3.5m sq ft.

Recent strong demand has stimulated speculative development and since 2016 over 1.8 m sq ft of grade A space has come to the market through units such as Wolverhampton 450 where Panattoni delivered 448,089 sq ft.

Supply has also been skewed by multiple large 2nd hand units further increasing supply such as the UK's current largest available unit Goliath at Cross Point Business Park in Coventry at 666,044 sq ft.

Take-up

After two strong years take-up has tailed off in 2018 reaching 3.41 m sq ft through 18 transactions, representing a 44% decrease from take-up in 2017.

Second hand units accounted for 44% of the total space leased in the region, whilst build-to-suit units accounted for 38% of the total space leased.

Take-up was skewed towards smaller sized units with 67% of the deal count involving units between 100,000-200,000 sq ft.

Sectors previously inactive, particularly wholesale retail which accounted for 28% of the total space leased (up from 3% in 2017), took more space then historically active industries such as automotive and manufacturing.

Development Pipeline

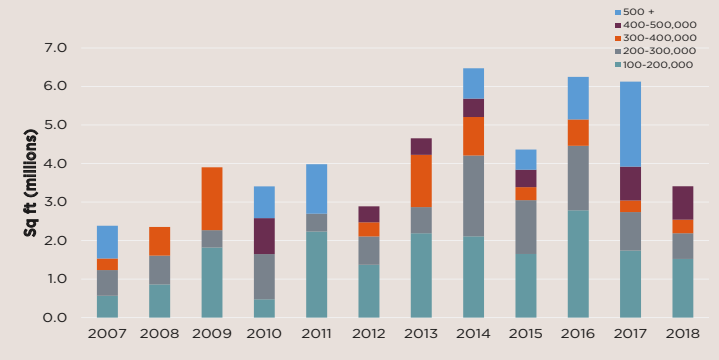
Five units are currently under construction totalling 837,584 sq ft. The largest unit currently under construction is 233,025 sqft at Prologis Park Birmingham Interchange, the others are all sub 200,000 sqft.

Key statistics

	Stats	yr/yr change
Take-up	3.41m sq ft	↓ 44%
Supply	7.46m sq ft	↑ 76%
Development Pipeline	0.84m sq ft	↑ 29%
Quoting Grade A Rent	£7/sq ft	no change
Vacancy rate	7.7%	↑ 310bps

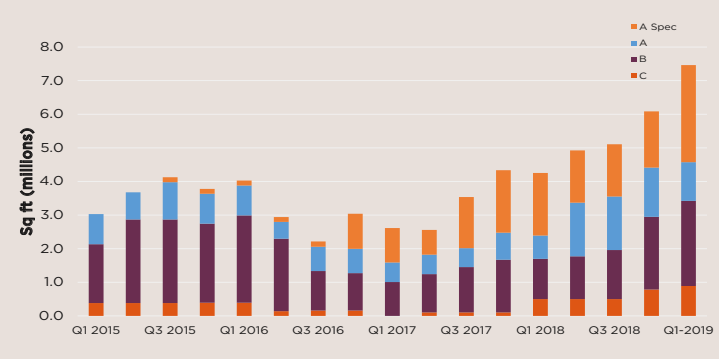
Source Savills Research

Take up falls to 2012 levels



Source Savills Research

Supply rises in all grades



Source Savills Research

> "The North West bounced back from a sluggish 2017 to report a record year. We expect 2019 to continue this trend going forward"

North West

Build-to-suit deals help take-up rise

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375 at Logistics North

Supply

The North West now has the second largest amount of supply within the UK, currently sitting at 5.97 m sq ft across 31 units.

The grade balance of the available stock has slowly shifted with grade A stock now accounting for42% of all vacant units on, up from 30% a year ago. Despite the increase in grade A quality units, based upon the long term average take-up of grade A space, the region has just 1.3 years left of grade A supply.

The current supply is skewed towards the smaller size bands with 65% of available units between 100,000-200,000 sq ft. There are only five units available in the region over 300,000 sq ft.

Take-up

Following a below average year in 2017 transactional activity for 2018 has risen above the long term average. Take-up reached 4.58 m sq ft across 23 separate transactions, representing a 63% increase from take-up in 2017 and a 26% increase above the long term average.

Following UK wide trends, take-up was dominated by the 100,000-200,000 sq ft which accounted for 70% of the market by deal count. There were no deals above 400,000 sq ft in the region.

The majority of the deals involved lower quality units with 70% of the units transacted being second hand, amounting to 2.87m sq ft. Additionally the amount of build to suit space increased to 902,062 sq ft in 2018, a 175% rise on the level of BTS space transacted in 2017.

The average deal size in 2018 was 198,952 sq ft, a 13% increase on 2017 evidencing increased occupier demand for larger units. The largest deal of the year was Movianto acquiring 373,000 sq ft at Haydock Green in Saint Helens.

Development Pipeline

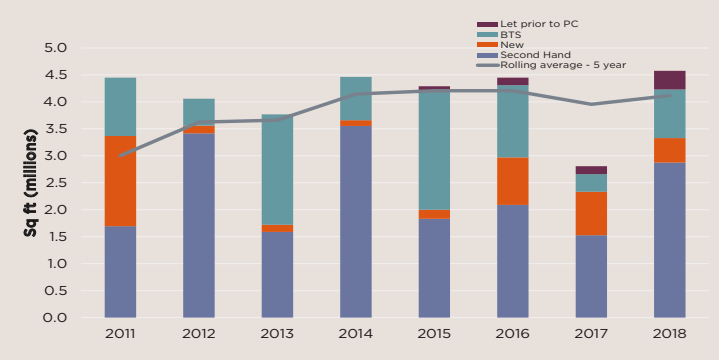
There are seven units being developed n totaling 1.55 m sq ft. The largest being 525 Haydock in Saint Helens at 523,500 sq ft, set to reach practical completion in Q2 2019.

Key statistics

	Stats	yr/yr change
Take-up	4.58m sq ft	↑ 63%
Supply	5.97m sq ft	↑ 3.3%
Development Pipeline	1.55m sq ft	↑ 0.36%
Quoting Grade A Rent	£6.75/sq ft	↑ 4%
Vacancy rate	4.7%	↑ 10bps

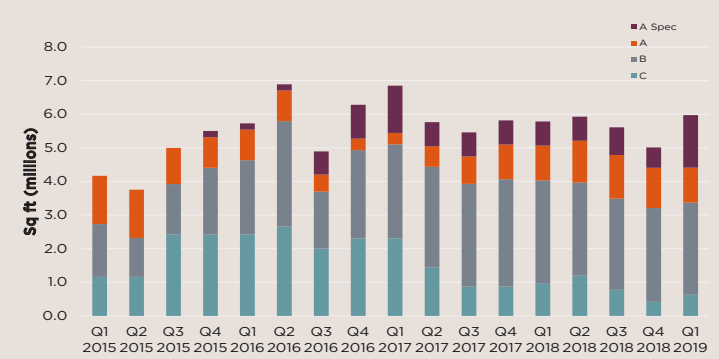
Source Savills Research

Take up returning to recent levels



Source Savills Research

Supply Grade A supply increases



Source Savills Research

> A stellar year with large build-to-suit deals driving the market. With large sites and a readily available labour force we expect the trend to continue

Yorkshire and the North East

Take-up levels reach new high as supply continues to fall

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Symmetry Park Darlington where DB Symmetry are delivering 1.5m sq ft

Supply

The market has experienced increasing supply constraints stimulated by record levels of take-up throughout 2018. Available supply currently sits at 3.75 m sq ft across 19 separate units representing a 35% fall from 2017.

The majority of available supply sits within the 100,000-200,000 sq ft size band accounting for 84% of available units. However, there are three units in the region over 400,000 sq ft, the largest being Premier North Industrial Estate which comprises 546,970 sq ft. Of the available supply 83.81% is classified as 2nd hand.

Take-up

2018 has seen the strongest levels of demand ever recorded. Take-up reached 9.48 m sq ft through 25 separate deals, a 562% increase from 2017 and a 68.6% increase from the previous high water mark of 5.62 m sq ft in 2014. It should be noted that we regard 2017 as an anomalous year as take-up was a 66% decrease on the long term average.

The increase can be attributed to multiple large BTS deals, such as Amazon acquiring 1.99 m sq ft at Integra 61 in Durham. In 2018, 28% of of the floor space transacted was for build-to-suit units however by deal count 68% of deals were for second hand units. In fact, Yorkshire saw the largest second hand deal nationwide through Clipper acquiring Sheffield 615 totalling 615,000 sq ft.

The 100,000-200,000 sq ft size band experienced the highest deal volume in 2018, with 48% of deals recorded being within this size band. The 400,000 sq ft+ size band also performed well, accounting for 24% of units transacted.

Development Pipeline

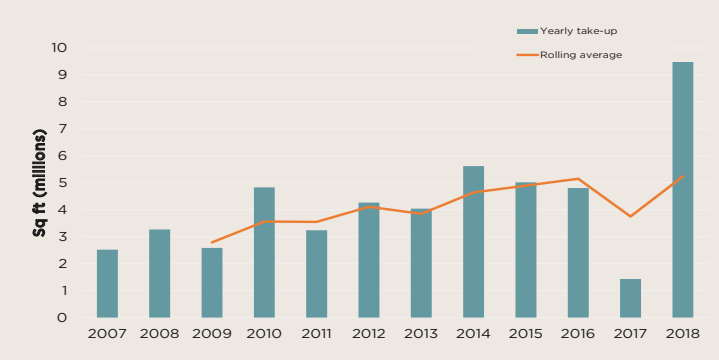
There are currently four units under construction throughout the region totalling 804,765 sq ft. The largest unit is G Park Doncaster where Gazeley are speculatively developing 275,300 sq ft. The unit is set to achieve practical completion in Q1 2019.

Key statistics

	Stats	yr/yr change
Take-up	9.48m sq ft	↑ 562%
Supply	3.75m sq ft	↓ 35%
Development Pipeline	0.80m sq ft	↑ 199%
Quoting Grade A Rent	£5.75/ sq ft	no change
Vacancy rate	5.8%	↓ 260bps

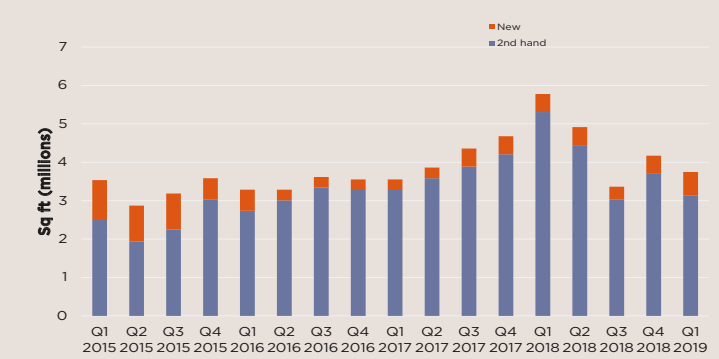
Source Savills Research

Take up new record achieved



Source Savills Research

Supply yearly fall of 35%



Source Savills Research

> "The increased speculative activity and contraction of land supply will mean a shift away from build-to-suit into existing stock"

South West

Speculative development filling "the void"

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Supply

The supply constraints within the market have alleviated in 2018 with supply rising 41.6% to reach 2.03m sq ft.

The supply is skewed towards smaller sized units as 44% of available units are under 200,000 sq ft with no units above 400,000 sq ft. The largest unit on the market is the Former Morrison's at Cribbs Causeway Distribution Centre totalling 384,786 sq ft.

62% of available space is classified as grade A, a 32% increase on the amount of grade A supply in 2017. However, Western 105 is the only new speculatively developed unit currently available where Richardsons and Curtis Hall developed 105,500 sq ft, the eight other units (89%) are all classed as second hand.

Take-up

Following two strong years of take-up, activity within the region has fallen to the lowest levels since 2014. Take-up reached 995,106 sq ft through five separate deals; a 50% fall from 2017 take-up and a 66% decrease below the long term average, albeit with recent years being dominated by large deals by Lidl, The Range and Amazon.

All 2018 deals involved solely speculatively developed or build-to-suit demonstrating demand for high quality units. Indeed the two speculatively developed units let in 2018 with a void of below 8 months.

The largest deal of 2018 was B&Q acquiring G Park Swindon, a build-to-suit unit totalling 375,286 sq ft.

The market was dominated by retailers who accounted for 70% of the total space leased with manufacturing and automotive making up the balance.

Development Pipeline

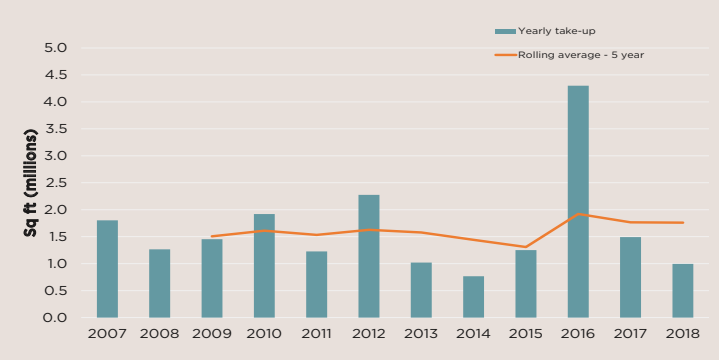
There is a total of 416,520 sq ft being speculatively developed across three separate units. The largest unit being Access 18 where St Modwen are speculatively developing 151,330 sq ft, set to reach practical completion in Q1 2019.

Key statistics

	Stats	yr/yr change
Take-up	0.99m sq ft	↓ 33%
Supply	2.03m sq ft	↑ 43%
Development Pipeline	0.42m sq ft	↑ 27%
Quoting Grade A Rent	£7.25/sq ft	no change
Vacancy rate	7.3%	↑ 200 bps

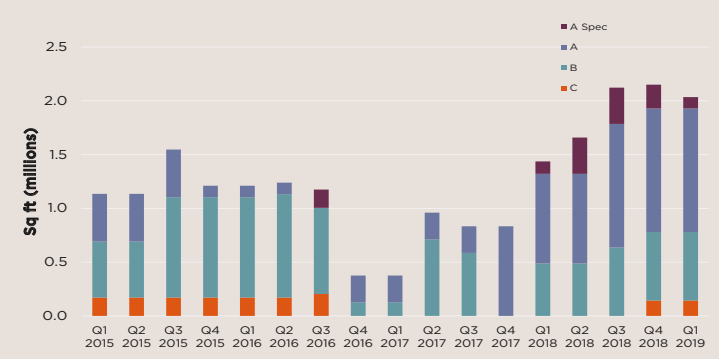
Source Savills Research

Take up returns to 2014 levels



Source Savills Research

Supply Just over a years supply on the market



Source Savills Research

> It is pleasing to see new speculative units come forward which, with vacancy rates so low in the region, will drive rental growth

East of England

Next wave of development sites will drive future demand

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Supply

Even with the delivery of 353,732 sq ft speculative space at Suffolk Park Bury St Edmunds the total supply of units over 100,000 sq ft has fallen year on year and now stands at 861,833 sq ft across five separate units.

The main driver for the fall in supply has been almost 500,000 sq ft of grade C space being withdrawn from the market in King's Lynn after Gardman chose to re-occupy after their Midlands warehouse was damaged by fire.

All units in the region on the market are under 300,000 sq ft, with the average size being 172,000 sq ft. The largest unit on the market is Huntingdon 252 which has been vacant for 16 months.

Take-up

Following on from four consecutive years of growth and the success of Gateway Peterborough, developed by Roxhill, which is now has just two plots remaining, 2018 has started slowly. There have been just three deals on units over 100,000 sq ft which total 467,470 sq ft.

Online retailer Yours Clothing have taken 127,470 sq ft at Newcombe House in Peterborough.

Meanwhile at Suffolk Park, Bury St Edmunds, Sealey Professional Tools has bought a seven acre site where they intend to construct a 110,000 sq ft unit for future expansion. The largest deal of the year has been LDH Ladoria who have purchased a site at Ipswich Gateway where Panattoni are constructing a 40m high unit of c.230,000 sq ft.

Development Pipeline

Following the delivery in Q4 2018 of two units at Suffolk Park Bury St Edmunds which total 353,732 sq ft there are no speculative units scheduled for delivery in 2019.

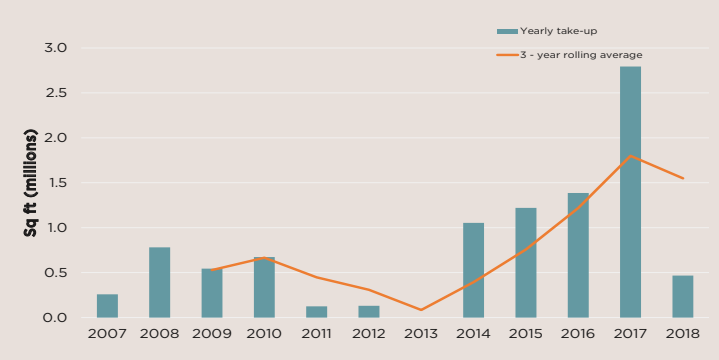
These units are the first speculative units to be delivered in the region for over a decade.

Key statistics

	Stats	yr/yr change
Take-up	0.47m sq ft	↓83%
Supply	0.86m sq ft	↓20%
Development Pipeline	0m sq ft	↓100%
Quoting Grade A Rent	£5.50/sq ft	no change
Vacancy rate	2.5%	↓50bps

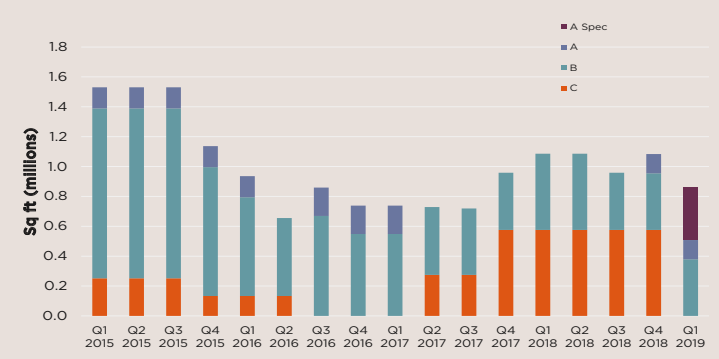
Source Savills Research

Take up falls to 2012 levels



Source Savills Research

Supply balance shifts towards grade A



Source Savills Research

> **The supply of new and modern space in Scotland is at a critical stage. It is felt that the market is on the cusp of receiving much needed speculative development. Until such time we continue to rely on Build-to-Suit opportunities.**

Scotland

Subdued big box market continues

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Lidl unit, Deans Industrial Estate

Supply

The supply of warehouse space in Scotland for units over 100,000 sq ft has risen by 38% in 2018 and now stands at 1.72m sq ft across the Central Belt.

This is made up of 11 separate units of which all bar two are between 100,000 and 200,000 sq ft, with the average size being 156,232 sq ft.

The largest unit on the market in Scotland at present is the former Lidl RDC at Deans Industrial Estate which totals 291,710 sq ft, which came to the market in the second quarter of 2018. This follows the purchase of 50 acres by Lidl at Eurocentral where a new 750,000 sq ft RDC is currently under construction and due for occupation in 2020.

Take-up

Largely predicated by the lack of good quality supply the deal flow for units over 100,000 sq ft in Scotland this year has been subdued with just one unit transacted so far this year.

Drinks manufacturer BrewDog has completed the acquisition of the Vertex building at Eurocentral near Motherwell.

The 128,000 sq ft unit sold for a capital value rate of £60 per sq ft.

Along with the reduced supply, take up has perhaps also been constrained by occupiers seeking critically required features which existing second had speculative buildings can't offer or adapt to provide.

Development Pipeline

There are no units under construction speculatively over 100,000 sq ft in Scotland meaning we do not expect vacancy rates to fluctuate in the medium term.

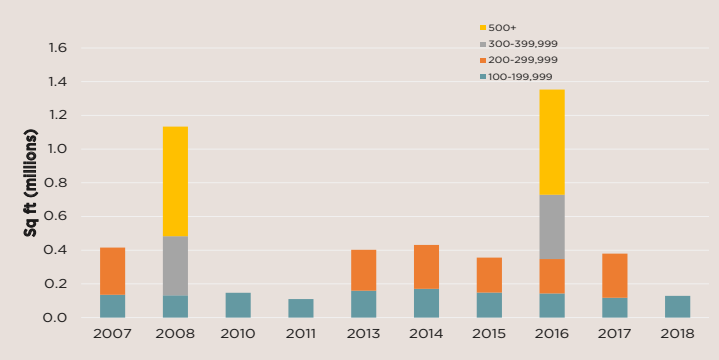
Larger scale occupiers such as Lidl and DPD for example have elected to purchase land at Eurocentral and progress Built to Suit with their preferred developer. However it is hoped that the lack of supply will encourage new development, albeit, typically for Scotland this is very much likely to be under 100,000 sq ft.

Key statistics

	Stats	yr/yr change
Take-up	0.13m sq ft	↓66%
Supply	1.72m sq ft	↑38%
Development Pipeline	0 sq ft	no change
Quoting Grade A Rent	£5.75/ sq ft	↑9.5%
Vacancy rate	4.9%	↑135 bps

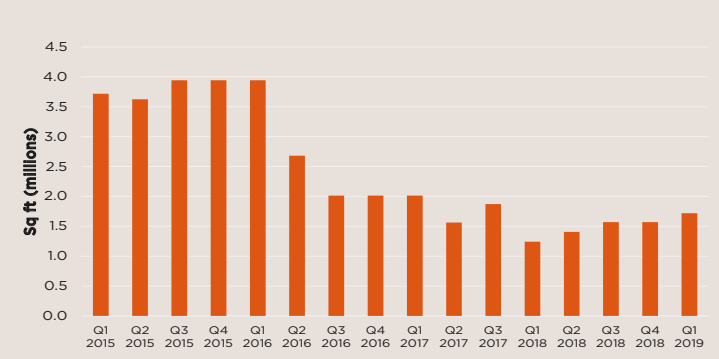
Source Savills Research

Take up falls to 2011 levels



Source Savills Research

Supply slight rise in 2018



Source Savills Research

> Relative to other sectors which saw significantly reduced transaction levels, volumes and notably pricing logistics proved stubbornly resilient despite growing geopolitical and economic uncertainty

National investment

Market proves to be resilient and liquidity remains

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The Hub, traded for 4.63%

The industrial and logistics market continues to be resilient despite the many geopolitical and economic headwinds converging on the commercial real estate asset class as a whole.

It is therefore encouraging that investment volumes for distribution warehouses have reached £3.55bn for 2018, marginally lower than 2017. The three year rolling average has now reached a new height of £3.32bn, the highest level ever recorded and up from £2.1bn just five years ago.

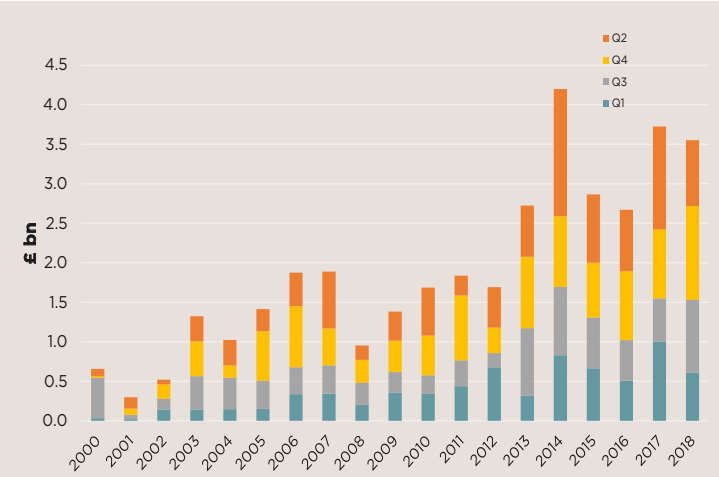
By almost every metric 2018 mirrored 2017 - deal count, average lot sizes and the proportions of deals within certain ranges were all broadly in line with last year. 2018 did however lack larger portfolio transactions over £300m, with two of that scale in 2017.

The largest single let transaction of the year was Tritax's forward funding of a 1.99m sq ft facility Amazon facility in Durham. Upon completion Amazon will take a 20 year lease at a rent reflecting a net initial yield of 5.25%.

Savills prime yields have remained largely static for the last 12 months and now stand at 4.25% for prime single let logistics units and 4.00% for multi-let industrial estates, the lowest level ever seen.

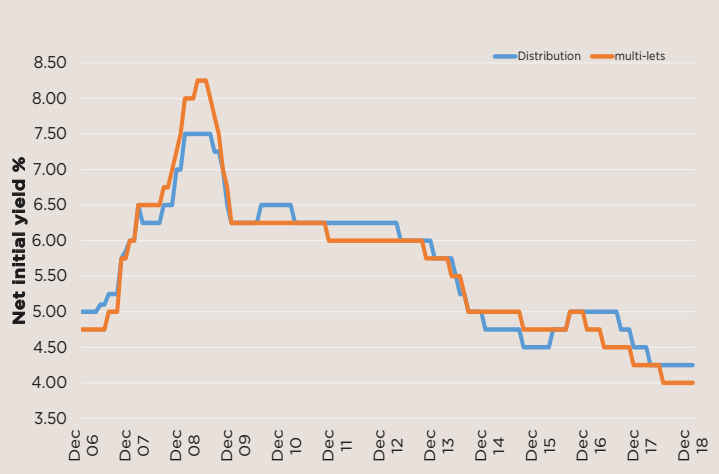
As we move through 2019, we expect that continued Brexit uncertainty will see some investors pause for thought until greater clarity emerges although given the sustained popularity of the sector amongst investors it is difficult to envisage any significant adjustment in pricing, notwithstanding any political or economic shocks.

Investment volumes slight fall in 2018



Source Savills Research

Prime investment yields remain static



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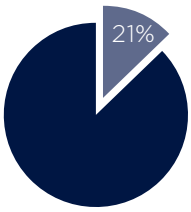


In November 2018 online retail accounted for its highest proportion of retail sales ever

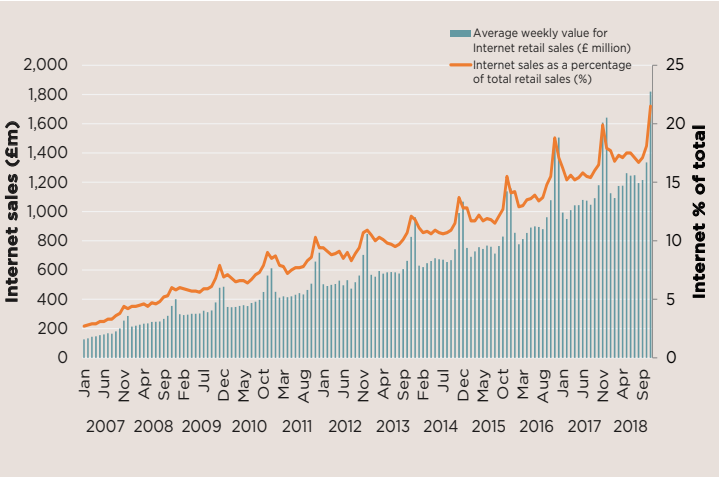
2019 Outlook

Is Brexit a non event when compared to structural change?

A glance at the mainstream press would suggest that companies are stockpiling product at such a rate that supply cant keep track of demand. To date Savills have tracked just two deals over 100,000 sq ft that have any link to Brexit at all. That may change of course as preparations for "no deal" intensify but it remains to be seen how the short term Brexit related requirements will marry up with the longer term aspirations of the landlord community.

More likely to have an impact on demand is the continued shift online which in November reached its highest level ever of 21.5%. Global Data are forecasting online spend to reach £75bn by 2023 which based on historical norms would suggest an extra 20m sq ft being required, but based on recent take-up levels would actually seem conservative.

Online retail reaches highest level ever



Source ONS

BUILD COST AND PROGRAMME

Will Cooper
Director, Building & Project Consultancy
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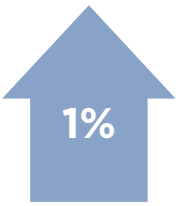
The latest indicators from the Savills ProgrammE and Cost Sentiment Survey (S.P.E.C.S) demonstrate that build costs and programme delivery time scales have remained largely static for the second half of 2018.

Continued geo-political uncertainty does however have the potential to impact two of the key elements of build costs and programme length; the price and availability of steel and the availability of skilled labour

Uncertainty around Brexit will keep overseas contractors away from the UK. Combined with an already strong speculative and build-to-suit programme the sector could face labour shortages into 2019.

With no end in sight to the current trade war between the USA and China, combined with further currency fluctuations the price of imported steel could change further into 2019.



Overall 2019 tender price inflation forecast by Gardiner & Theobald

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DONINGTON COURT
UNIT 2A DONINGTON COURT | PEGASUS BUSINESS PARK
CASTLE DONINGTON | DE74 2UZ

savills

M1
23a
Radisson
Regus
WESTERN POWER DISTRIBUTION
SECRETARY OF STATE
east midlands airport
DONINGTON COURT
Premier Inn
nationalgrid
PKF Cooper Parry
DHL
Royal Mail

Investment Summary

- **Strategically located** within the UK with **access directly from the M1 motorway** and within close proximity of the A42 and A50 Dual Carriageways
- **Next to East Midlands International Airport**, one of the UK's most strategically important airports
- **Prime Business Park environment** with high profile branding opportunity
- With close proximity of **SEGRO Logistics Park**, East Midlands, Gateway and **Rail Freight Interchange**
- High Specification purpose built office building extending to **43,847 sq ft** (NIA) (4,073.60 sq m)
- Excellent parking ratio of **6.75 spaces per 1,000 sq ft**
- Passing net rent of **£355,135** per annum
- Potential gross rent **£624,782** per annum (net £561,904 per annum)
- Let in part to PriceWaterhouseCoopers Services Limited and HSBC Bank plc
- Low capital value **£170** per sq ft
- Long leasehold
- Seeking offers in excess of **£7,265,000 (Seven Million, Two Hundred & Sixty Five Thousand Pounds)**, subject to contract providing a net initial yield of **7.25%**, assuming purchasers' costs at **6.66%**
- A rental guarantee equivalent to one year, **£229,744 per annum** and the corresponding rental equivalent to the residue rent free granted to HSBC Bank plc, will be deducted from the purchase price

Donington Court | Unit 2A Donington Court
Pegasus Business Park Castle Donington | DE74 2UZ

Location

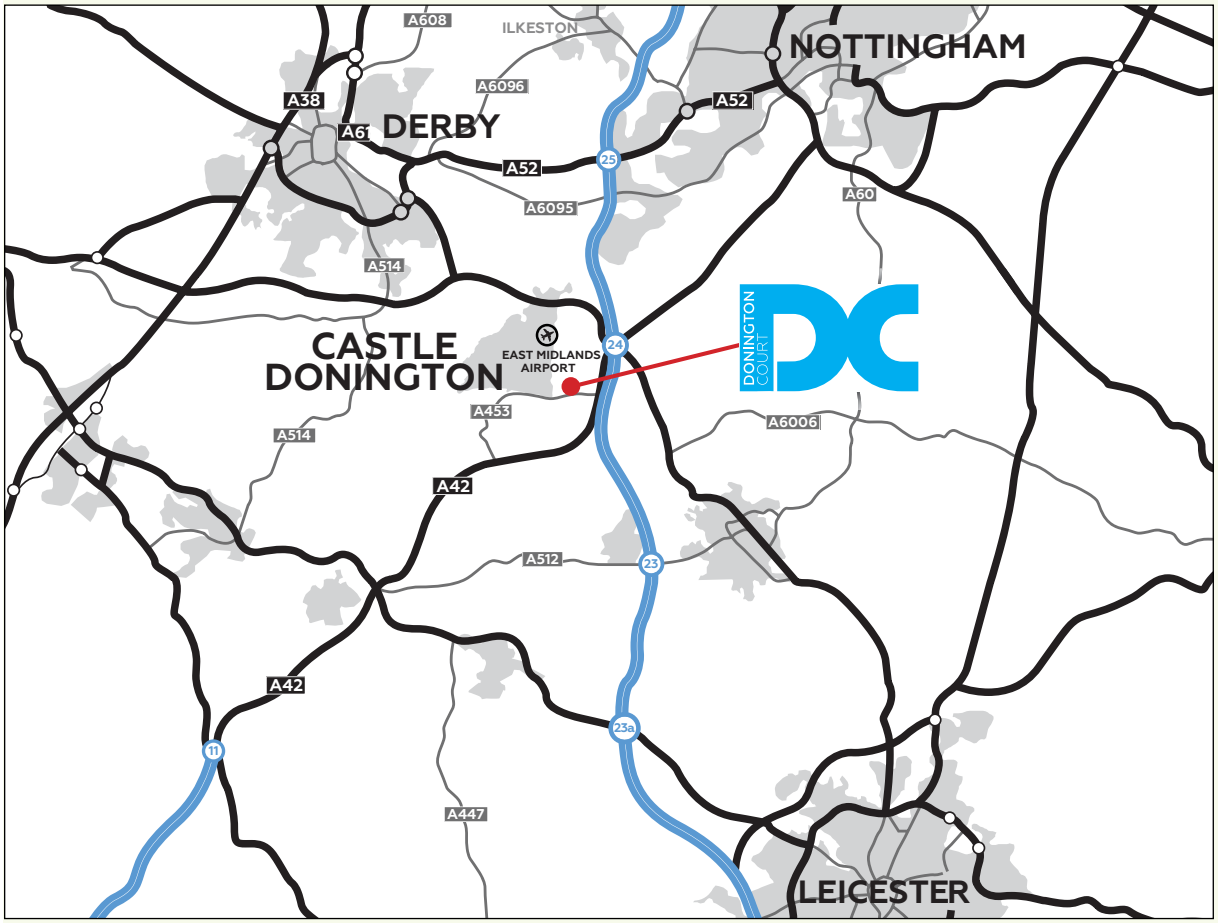
Donington Court is located on Pegasus Business Park, within the boundary of East Midlands International Airport, one of the UK's most strategically important airports outside London.

East Midlands International Airport accommodates 4.3 million passengers each year offering routes to over 80 leisure and business destinations. The Airport is the second busiest cargo airport in the UK (after Heathrow) and handles over 310,000 tonnes of air freight every year. It is the UK hub for DHL and UPS and acts in support of operations for TNT and Royal Mail as well as a number of distribution companies that have bases in the area. The world-famous Donington Park motor racing circuit is also near by.

Demographics

The East Midlands has an excellent track record for attracting flourishing world class companies in the transport, healthcare, professional services, food and drink and environmental sectors. The area offers a competitive environment supported by world leading research and development capabilities, a highly skilled workforce and it also benefits from being at the centre of the UK transport network.

> EAST MIDLANDS AIRPORT IS SITUATED ADJACENT TO JUNCTION 23A OF THE M1 MOTORWAY BENEFITING FROM IMMEDIATE ACCESS TO THE NATIONAL MOTORWAY NETWORK AND A DIRECT ROUTE TO LONDON



Connectivity

In addition to air travel, East Midlands Airport is situated adjacent to Junction 23A of the M1 Motorway benefiting from immediate access to the national motorway network and a direct route to London (2 hour drive time) and Leeds (1.5 hour drive time). The Airport also benefits from direct access to Birmingham via the A42 (40 miles to the south west). The A50 dual carriageway, situated directly to the north of the Airport, provides direct access to the M6 Motorway.

East Midlands parkway station is a short 10 minute taxi ride away from the property providing frequent direct trains to London St Pancras International Station in under 1 hour and 30 minutes.

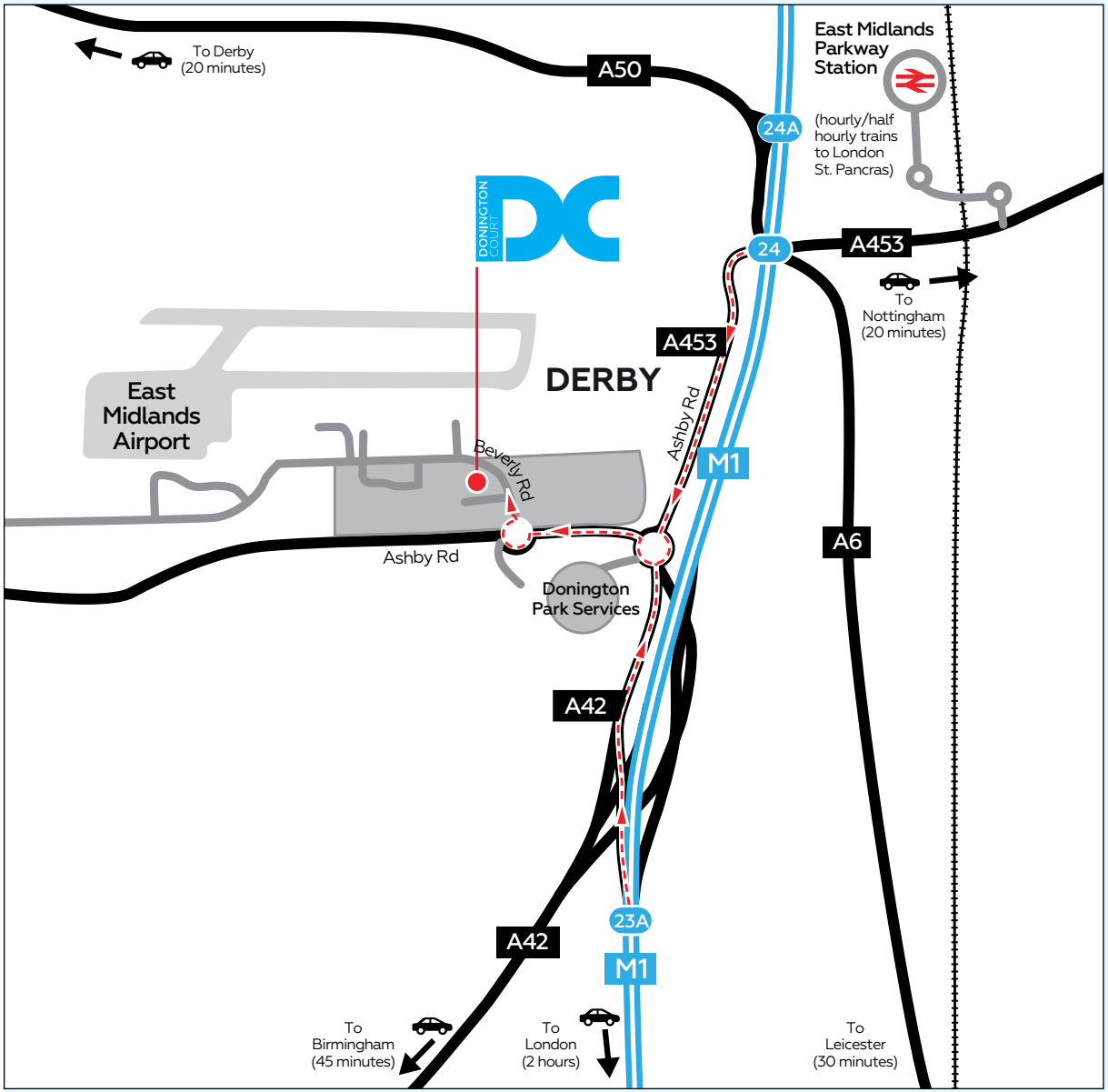
Logistics

The property is within close proximity of SEGRO Logistics Park East Midlands Gateway (SLPEMG) which is a 700 acre development with planning consent for up to 6,000,000 sq ft of logistics accommodation. The development incorporates a 50 acre Strategic Rail Freight Interchange (SRFI) which will include a rail freight terminal, capable of handling up to sixteen 775m rail freight trains per day, container storage and HGV parking.

Extensive infrastructure works are currently underway. These works include improvements to Junction 24 and 24A of the M1 including the introduction of a smart motorway system by Highways England, safer access to the A50 at Lockington and Hemington and the new Kegworth Bypass.

Situation

Donington Court occupies a prominent position within Pegasus Business Park on one of the principle airport boundary roads leading to the passenger terminal and numerous cargo facilities. Surrounding office occupiers include HSBC, Regus, Nikon, PKF Cooper-Parry, National Grid, PWC, UPS and Home Office and there also are several hotels nearby including Premier Inn, Holiday Inn Express, Radisson Blu and Thistle.

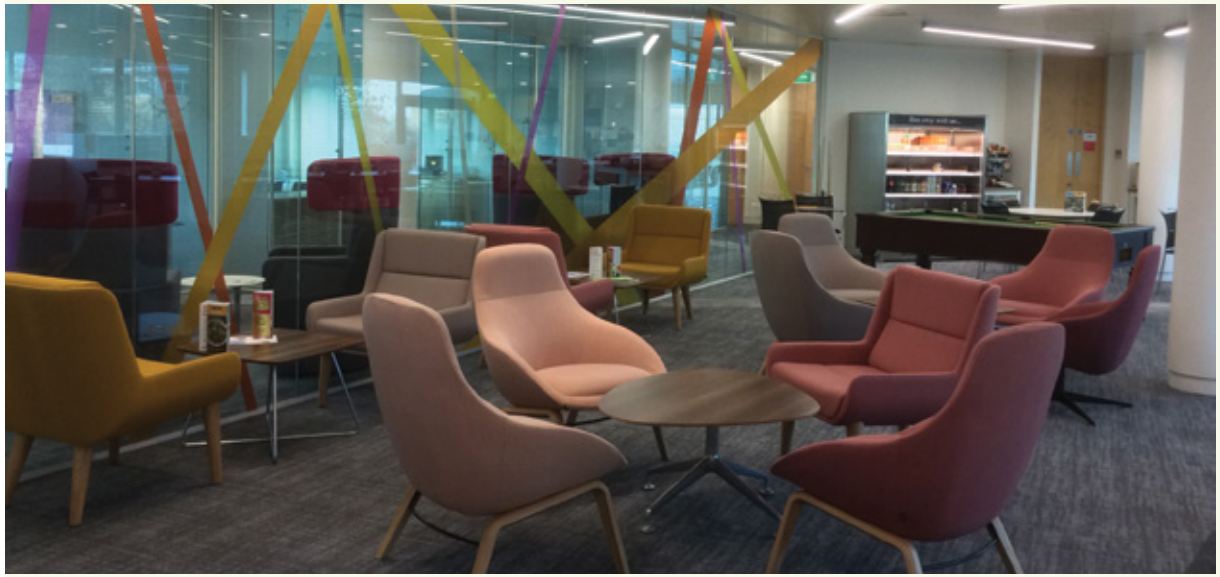


Description

Donnington Court was constructed in 2002 to provide high specification Grade A headquarters offices primarily arranged over ground, first and second floor.

The building provides the following amenities:

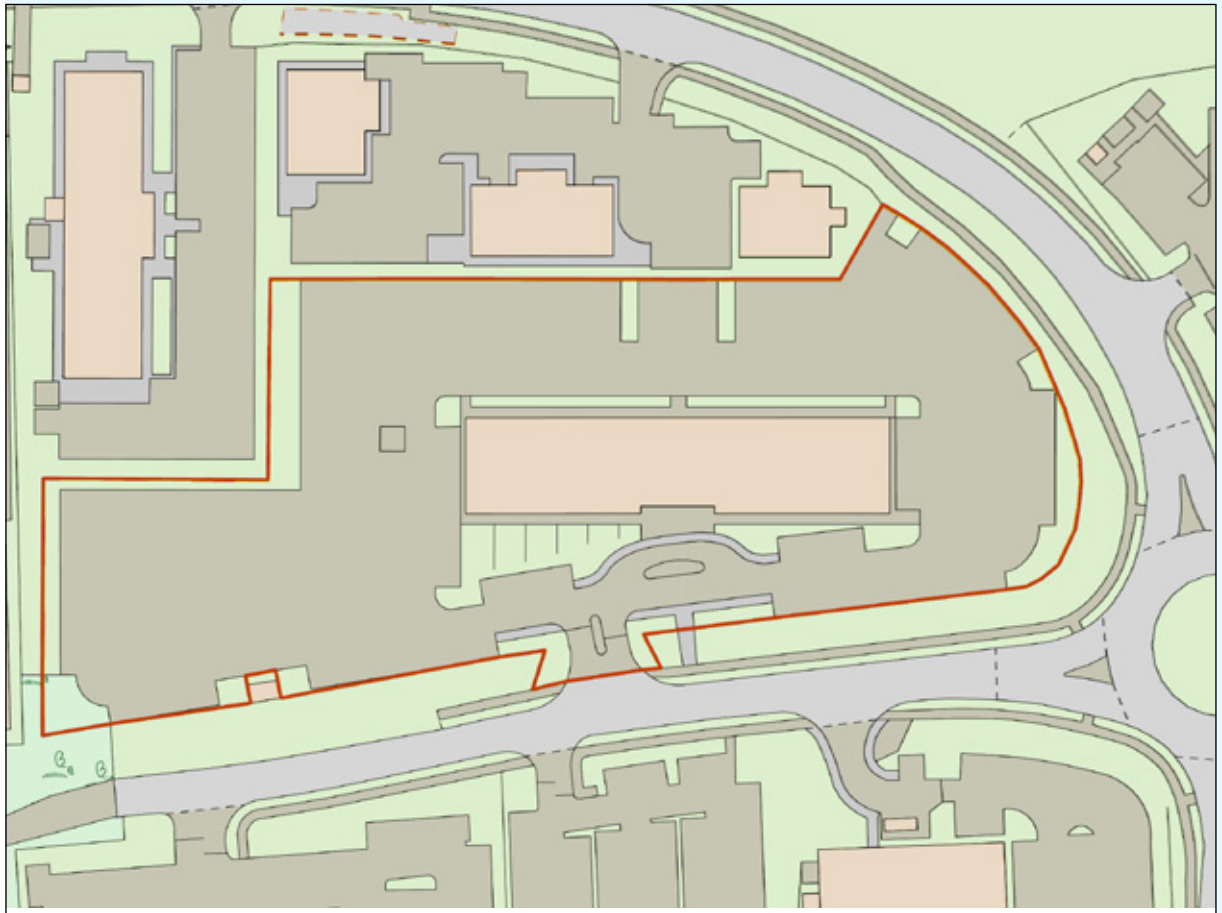
- Air conditioning
- Fully accessed raised floors.
- Suspended ceilings with recessed integral lighting
- Feature double height reception
- Excellent parking ratio with 265 secure parking spaces and more potentially available (6.75 spaces per 1,000 sq ft)
- Fully refurbished and with the benefit of an attractive Concierge Reception
- Passenger lift(s)
- Dedicated kitchen and WC facilities
- DDA compliant
- 24 hour access and CCTV monitoring



Accommodation

Net Internal Area	Size (Sq Ft)	Size (Sq M)
Ground Floor	13,520	1,256.1
First Floor	13,245	1,230.5
Second Floor	13,558	1,259.6
Roof	3,524	327.4
Total	**43,847**	**4,073.6**

The property has been measured in accordance with the RICS Code of Measuring Practice, published in 2007 (6th Edition). We have not measured the property nor have we calculated the floor areas in accordance with IPMS 3 – Offices. The site extends to approximately 3.209 acres (1.299 hectares).



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Tenure

The property is held on a long leasehold from East Midlands International Airport Limited for a term of 150 years from 26 November 2002, subject to a head rent equivalent to 10% of rents received and £400 ground rent.

After deduction of the head rent and ground rent, the net rent received is £355,135 per annum.

The property is let on two full repairing and insuring leases, in part, as follows:

Ground Floor Left Wing (6,469 sq ft) let to PriceWaterhouseCoopers Services Limited – 10 years with effect from 26 November 2017, subject to rent review in the 5th year of the term, 26 November 2022, and tenant break clause on 26 November 2022, at a rental of £98,465 per annum, reflecting £15.22 per sq ft.

First Floor Left and Right Wings (13,245 sq ft) let to PriceWaterhouseCoopers Services Limited – 10 years with effect from 26 November 2017, subject to rent review in the 5th year of the term, 26 November 2022 and tenant break clause on 26 November 2022, at a rental of £201,535 per annum, reflecting £15.22 per sq ft.

Second Floor West Wing (6,232 sq ft) let to HSBC Bank plc – 10 years with effect from 6 April 2018, subject to rent review in the 5th year of the term and tenant break clause on 6 April 2023 at a rental of £95,038 per annum, reflecting £15.25 per sq ft.

Vacant space

Reflecting the above tenancies, two suites remain vacant and are currently being marketed as follows:

Ground Floor Right Wing (Office B) 5,976 sq ft (555.19 sq m)

Second Floor Right Wing (Office B) 7,326 sq ft (680.60 sq m)

In addition to the above, there is ancillary storage in the roof void extending to 3,524 sq ft (327.4 sq m).

Based on the above tenancies we are of the opinion that an ERV of £15.25 per sq ft would be applicable on the remaining two suites and 50% of the main space rate of £7.63 per sq ft on ancillary storage providing an additional gross rental of £229,744 per annum.

Covenants

PriceWaterhouseCoopers Services Limited
D&B Rating of 4A1 – represents minimum risk of business failure score

	Fiscal Non consolidated GBP 30 Jun 2016 (000's)	Fiscal Non consolidated GBP 30 Jun 2015 (000's)	Fiscal Non consolidated GBP 30 Jun 2014 (000's)
Sales Turnover	1,832,831	1,708,763	1,534,890
Profit / (Loss) Before Taxes	102,337	93,223	59,600
Tangible Net Worth	16,374	71,519	29,027
Net Current Assets (Liabilities)	(161,798)	(110,152)	(157,900)

HSBC Bank plc
D&B Rating of 5A1 – represents minimum risk of business failure score

	Fiscal Consolidated GBP 31 Dec 2016 (000's)	Fiscal Consolidated GBP 31 Dec 2015 (000's)	Fiscal Consolidated GBP 31 Dec 2014 (000's)
Sales Turnover	20,041,000	18,630,000	18,313,000
Profit / (Loss) Before Taxes	874,000	2,971,000	1,953,000
Tangible Net Worth	34,195,000	30,486,000	28,784,000
Net Current Assets (Liabilities)	65,577,000	42,025,000	38,543,000

EPC

The property has an Energy Performance Rating of:

D81
C71.

VAT

The property is elected for VAT. We would anticipate the transaction being treated as a Transfer of a Going Concern (TOGC), however prospective purchasers should make their own enquiries.

Proposal

We are seeking offers in excess of **£7,265,000 (Seven Million, Two Hundred & Sixty Five Thousand Pounds)**, subject to contract providing a net initial yield of **7.25%**, assuming purchaser's costs at **6.66%**.

A rental guarantee equivalent to one year, **£229,744 per annum** and the corresponding rental equivalent to the residue rent free granted to HSBC Bank plc, will be deducted from the purchase price.

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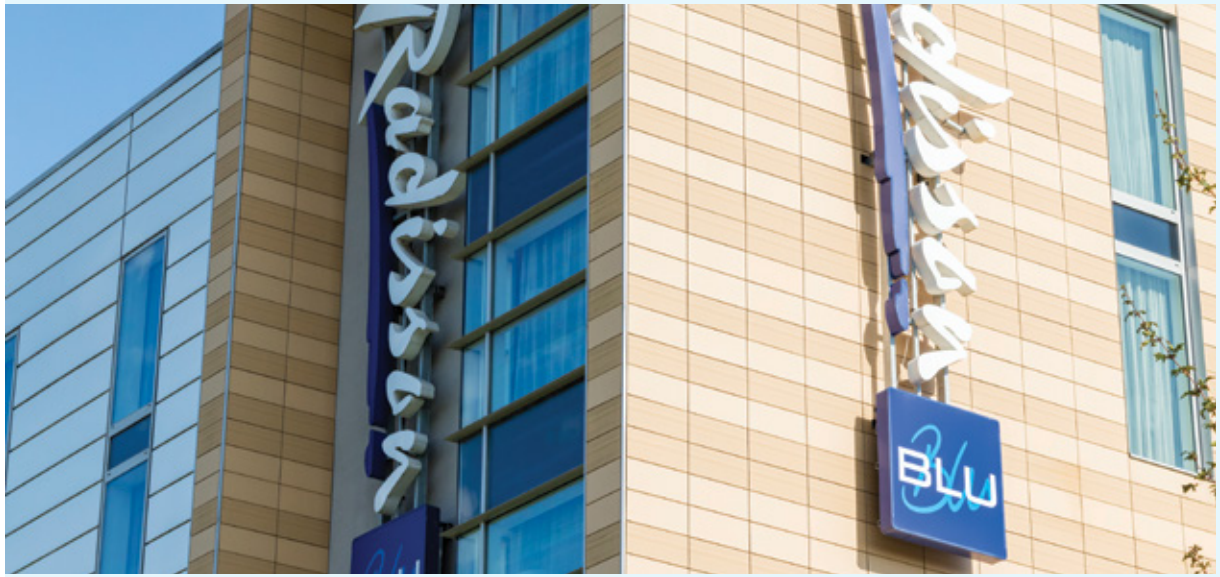

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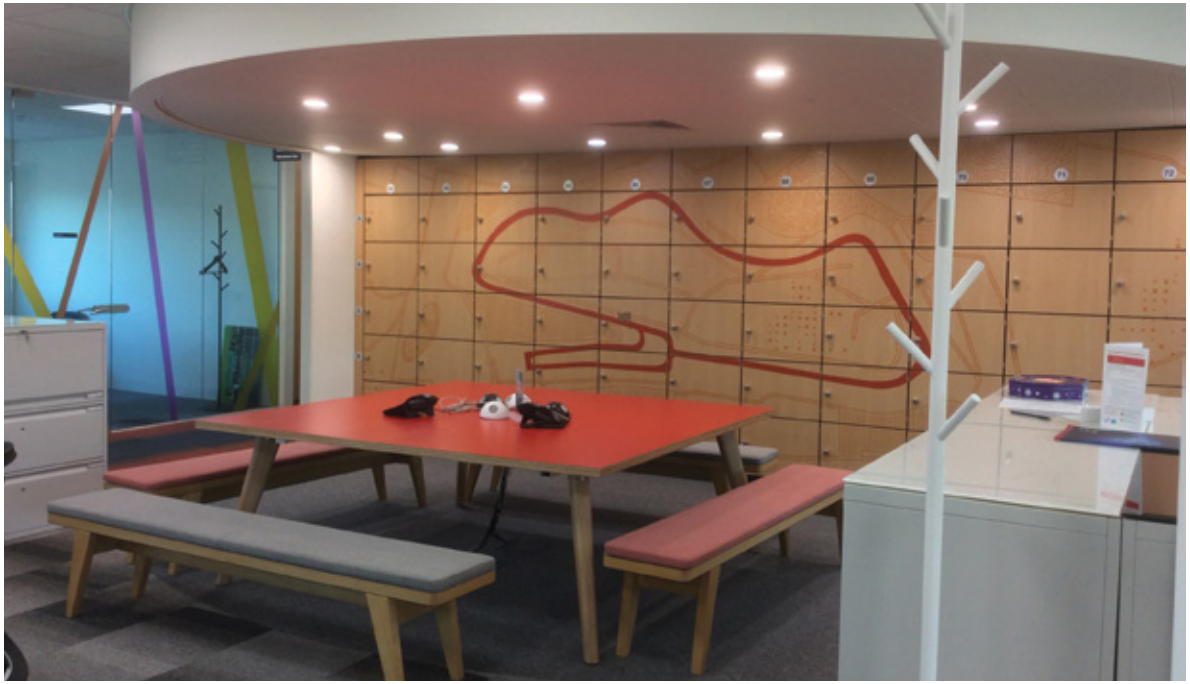

APPLICATION BY RIVEROAK STRATEGIC PARTNERS LTD ("THE APPLICANT")

FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE UPGRADE AND REOPENING ON MANSTON AIRPORT

PINS Reference Number: TR020002

STONE HILL PARK LTD'S COMMENTS ON THE APPLICANT'S WRITTEN SUMMARY OF ORAL SUBMISSIONS PUT AT THE HRA, BIODIVERSITY AND OTHER ENVIRONMENTAL ISSUES HEARING HELD ON 5 JUNE 2019

1. BACKGROUND

1.1 The Habitats Regulations Assessment, Biodiversity and other Environmental Issues Hearing (the "Hearing") was held at 02:00pm on 5 June 2019 at Discovery Park, Sandwich, CT13 9FF.

1.2 The Applicant's Written Summary of Oral Submissions ("Applicant's Written Summary") was published on 18 June 2019 [REP8-015].

1.3 SHP has submitted its own Written Summary of Oral Representations [REP8-032] ("SHP's Written Summary"). The purpose of this note is not to repeat those submissions, but to highlight to the ExA further omissions, anomalies and discrepancies relating to the information submitted by the Applicant.

2. AGENDA ITEM 4: EIA MATTERS

2.1 4(a) Air Quality:

2.1.1 As SHP noted at the Hearing and in paragraphs 2.1 – 2.7 of its Written Summary [REP8-032], there is a fundamental error in the Azimuth Report [APP-085] and the asserted fleet mix that infects the environmental effects assessed in the application. In summary, c.25% of all cargo ATMs are assumed to be the very small ATR-72 aircraft, for which there would be no apparent use under the Applicant's business model.

2.1.2 It is revealing that the Applicant's Written Summary [REP8-015] does not comment on the fleet mix that was used to assess the likely significant effects in the ES.

2.1.3 During the Hearing Mr Hilton for the Applicant suggested that there could be *"some variability in the fleet mix"* but *"did not believe they would be significant in any way".* This entirely subjective comment was made without evidence and without any sensitivity testing having been carried - Mr Hilton noted that only the fleet mix provided by the Applicant had been assessed and that Wood were unable to answer questions on it. It is not clear whether Wood have any expertise in this area.

2.1.4 As explained in SHP's Written Summary (including its Appendix 1), the effect of replacing small ATR-72 aircraft (that would not form part of the Applicant's asserted e-commerce integrator model) with larger aircraft is likely to be material. These effects have not been assessed.

2.2 **4(b)(i) Biodiversity:**

2.2.1 The Applicant has not addressed its failure to undertake the many outstanding ecology surveys that it had committed to that were required *"to confirm the worst case ecological impact assessment"* [REP1-001].

2.2.2 A summary of the issues was set out in paragraphs 2.8-2.12 of SHP's Written Summary.

2.3 **4(c) Climate Change:**

2.3.1 In the course of the Hearing the Applicant asserted that a benefit of the Applicant's business model is that transporting freight by air rather than trucking was more environmentally sustainable. However, this assertion (or any evidence to support it) was not included within the Applicant's Written Summary.

2.3.1 As demonstrated in paragraphs 2.13-2.15 and Appendix 2 of SHP's Written Summary, UK Government data shows that CO2 emissions of Airfreight are between 5.8 and 27.4 times higher than for trucked freight. If the additional impacts of Radiative Forcing - the influence of other climate change effects of aviation (such as water vapour and nitrogen oxides) – the UK Government recommends using a multiplier of 1.9 to these figures to ensure a holistic view of the additional environmental impacts of airfreight are recorded.

2.4 **4(d) Noise:**

2.5 In its written submission, the Applicant attempts to justify why the daytime SOAEL should not be lower than 60dBLAeq, 16hr.

2.6 In doing so, the Applicant has not been accurate, is highly selective in its quotes and fails to acknowledge the degree to which some existing airports already have noise insulation schemes starting at 57dBLAeq, 16hr.

2.7 In paragraph 2.28, the Applicant asserts that the Aviation 2050 consultation paper only considers whether mitigation at 60dB is appropriate. In actuality, paragraph 3.122 the paper explicitly states that government proposes to extend noise insulation policy threshold to 60dB and for "*airspace changes which lead to significantly increased overflight, to set a new minimum threshold of an increase of 3dB LAeq, which leaves a household in the 54dB LAeq 16hr contour or above as a new eligibility*

criterion for assistance with noise insulation." It is logical that this second test would apply to Manston, as there is no current airport.

2.8 In paragraph 2.29, the Applicant appears to gloss over its attempts during the Hearing to tell the ExA that the ICCAN representation did not state what it actually does. The Applicant appears to be attempting to rewrite history by asserting the point being made by the ExA was in relation to noise caps, rather than just accepting that ICCAN stated in its submission [REP7a-033] that the imposition of an SOAEL of 60dBLAeq, 16hr "*would be entirely in line with the Government's thinking on this issue."*

2.9 The recent submission of comprehensive noise contour information prepared by the ERCD on behalf of Five10Twelve Ltd and No Night Flights suggest that the costs associated with applying mitigation at 63dB and 60dB would be materially higher than estimated by the Applicant in paragraph 2.30.

2.10 In paragraph 2.31 of the Applicant's Written Summary, the Applicant refers to the technical note submitted as Appendix ISH6-21. **SHP submitted a detailed note to the ExA on 20 June 2019 [AS-207], highlighting the material errors and omissions in the information submitted by the Applicant regarding the trigger levels for noise mitigation measures at other airports.**

2.11 **4(d)(iii) Noise DCO Requirements:**

2.12 In paragraph 2.38 the Applicant asserts that *"few airports have multiple types of limits as is currently being discussed."* SHP would refer the ExA to its note [AS-207] which demonstrated that no confidence can be taken from the Applicant's assertions on noise mitigation controls / measures at other UK airports.

2.13 SHP would refer the ExA to its comments in paragraphs 2.1 to 2.16 of SHP's Written Summary of Oral Submissions put at the dDCO Hearing held on 7 June 2019 [REP8-033], which explains the sorts of controls that would also need to be reflected in the DCO to ensure the environmental effects were not worse than assessed.

DEADLINE 9 SUBMISSION – ANNEX 2

STONE HILL PARK LTD'S COMMENTS ON THE EXAMINING AUTHORITY'S SECOND DRAFT DCO

PINS APPLICATION REFERENCE: TR020002

1.1 SHP has reviewed the ExA's second draft dDCO published on 14 June 2019;

1.2 Over the course of the examination, SHP has submitted extensive comments on the dDCO and proposed amendments. A list of the submissions was previously included as part of SHP's Comments on the Applicant's Revised dDCO and the ExA's Initial dDCO [REP7-015].

1.3 In the period since Deadline 7 (17 May 2019), other relevant submissions from SHP include;

1.3.1 SHP's comments on the Applicant's answers to third written questions (REP7a-044];

1.3.2 SHP's Written Summary of Oral Representations put at the dDCO hearing [REP8-033]; and

1.3.3 SHP's Written Summary of Oral Representations put at the Compulsory Acquisition hearing [REP8-030].

1.4 In its previous submissions, SHP expressed concern that the issues it had raised had not been reflected in the ExA's initial dDCO. Whilst the ExA's second draft DCO does not address these issues, SHP welcomes confirmation from the ExA that it is giving consideration to the issues raised by SHP (both following receipt of the Written Summary of Oral Representations put at the dDCO Hearing [REP8-033] and through fourth written questions).

1.5 SHP would note that there are a number of comments coded yellow, which SHP have objected to throughout its submissions.

1.6 The Table below summarises SHP's comments on the second dDCO;

Relevant Section of dDCO	SHP Comments
Article 2 - Definition of "airport related"	SHP has provided an explanation in its previous submissions as to why the definition provided by the

Relevant Section of dDCO	SHP Comments
(change proposed by the Applicant)	Applicant cannot be accepted on the basis it would allow development that falls outside of what is permitted under the Planning Act 2008. SHP would refer the ExA to its most recent submissions on this matter as set out in; • SHP's comments on the Applicant's answers to second written questions CA.2.18, DCO.2.10, DCO.2.34 and DCO.2.44 [REP7-014]; • paragraphs 3.1 – 3.5 of SHP's Written Summary of Oral Representations put at the dDCO hearing [REP8-033]; • section 7 of SHP's Written Summary of Oral Representations put at the Compulsory Acquisition Hearing [REP8-030]; SHP further notes that further changes would be required to Schedule 1 list of works (and their classification) and Requirement 19.
Article 9(1)(a) – adequacy of the sum secured	SHP notes that the ExA has advised that it is seeking to examine the adequacy of the sum through its fourth written questions. SHP has previously made detailed submissions on this matter, including, but not limited to, the report by Avison Young contained in Appendix 6 of SHP's Written Representations [REP3-025], its Written Summary of Oral Representations put at the 1st CA hearing [REP5-031] and SHP's Written Summary of Oral Representations put at the dDCO hearing [REP8-033], and will provide further submissions in its response to written questions at Deadline 9.
Article 9(2)(f) – type of security	SHP would respectfully note that this is not accepted by SHP. This matter was discussed at the dDCO Hearing on 7 June 2019 and SHP would refer the ExA to paragraphs 4.1-4.10 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033]. SHP would note that in the Applicant's Written Summary of Oral Submissions put at the DCO Hearing [REP8-015] it asserted that SHP has suggested parent company guarantees had been provided in

Relevant Section of dDCO	SHP Comments
	respect of both Hinkley Point C and Thames Water Utilities Ltd DCO's. That is incorrect. SHP confirmed that a parent guarantee was offered on Hinkley Point C (as noted in paragraphs 4.4-4.6 of SHP's Written Summary [REP8-033]). In respect of the Thames Water Utilities DCO, SHP made the point that the entity had a regulatory capital value approaching £11 billion (the inference being that there was no need for a parent company guarantee) yet the ExA in that case still felt unable to make a judgement on the security of funding for the implementation of the project. The ExA is referred to SHP's comments on the Applicant's answer to third written question F.3.11 [REP8-035] for a more comprehensive summary.
Article 18(7) and (8)	SHP does not agree that the yellow code paragraphs 18(7) and 18(8) have been accepted by all parties. SHP has made a number of previous submissions on this point, prior to the matter being discussed in the dDCO Hearing on 7 June 2019 - SHP would refer the ExA to paragraphs 4.11-4.17 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033]. SHP's submission included proposed drafting for amendments to this Article and it is noted that the ExA has requested the Applicant comment on this drafting in written question DCO.4.11. SHP has explained both the practical difficulties with the drafting (as it refers to the operation of the Parking Services Agreement with the DfT) and the inappropriate nature of the powers that would be conferred upon the Applicant (given its past conduct. SHP has submitted detailed evidence to the examination regarding the Applicant's conduct (which has been highly prejudicial to SHP). SHP would note that the ExA has not directed any questions to either SHP or the Applicant on this matter, nor has the Applicant elected to comment on, or challenge, any of the evidence submitted by SHP. It is not surprising to SHP that the Applicant wishes to gloss over issues regarding its past conduct. SHP consider that the ExA must have regard to the Human Rights Act 1998, which expressly

Relevant Section of dDCO	SHP Comments
	incorporates Article 1 of the first protocol of the European Convention for the Protection of Human Rights and Fundamental Freedoms. This places certain obligations on the State not to, inter alia, interfere with the peaceful enjoyment of property or deprive a person of their possessions. Any interference by the State must be in pursuit of the public interest, be in accordance with law and proportionate. It is SHP's view that the Applicant's previous unreasonable and aggressive behaviour must be a consideration of the ExA and Secretary of State.
Article 19	SHP would refer the ExA to paragraphs 3.6-3.10 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033]. This included suggested drafting of new paragraphs 3 – 7 of Article 19, which SHP notes that the Applicant has been asked to comment on in fourth written questions issued by the ExA.
Article 26	SHP notes the ExA intends to examine this further following submissions of SHP and discussion at the dDCO hearing. SHP notes that the ExA has asked the Applicant to comment on the amendments proposed by SHP. SHP has summarised its submissions on this matter in paragraphs 4.18-4.23 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033].
Article 29	SHP would refer the ExA to proposed amendments to paragraphs 4.24-4.25 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033]. SHP notes that the ExA has asked the Applicant to comment on the amendments proposed by SHP.
Schedule 1	SHP has made extensive submissions regarding; • the requirement for the dDCO to only include those works that can rightfully form part of the application under s115 of the Planning Act 2008; • the Applicant's decision to include works as claimed NSIP development that do not meet the

Relevant Section of dDCO	SHP Comments
	requirements of section 14 and 23 of the Planning Act 2008; • the inclusion of works that do not satisfy the Associated Development criteria; • the failure of the Applicant to honour its commitment, given at the first dDCO hearing on 10 January 2019, to provide an explanation and justification of all works that it claims comprise the NSIP development and associated development. SHP would refer the ExA to its most recent submissions on this matter as set out in; • SHP's comments on the Applicant's answers to second written questions CA.2.18, DCO.2.10, DCO.2.34 and DCO.2.44 [REP7-014]; • paragraphs 3.1 – 3.5 of SHP's Written Summary of Oral Representations put at the dDCO hearing [REP8-033]; • section 7 of SHP's Written Summary of Oral Representations put at the Compulsory Acquisition Hearing [REP8-030]. SHP would note that on pages 12-14 of the Applicant's Written Summary of Oral Representations put at the DCO Hearing [REP8-016], the Applicant again seeks to change its position on what constitutes the principal development. This lack of consistency was highlighted in paragraph 3.4 of SHP's Written Summary [REP8-033]. The Applicant's flip flopping and ever shifting position (even at this late stage in the examination) is exactly the reason why it should have provided to the examination the explanation and justification of every Work No. that it had categorised as NSIP development and Associated Development. This should have been included as part of its application, but certainly no later than it had committed to do at the dDCO Hearing held on 10 January 2019.

Relevant Section of dDCO	SHP Comments
	The ExA may also be familiar with the approach Heathrow is taking to principal development and associated development within its Statutory Consultation documentation (which was published on 18 June 2019). SHP would particularly draw the ExA's attention to the following; • Heathrow will be seeking approval for its DCO under s23(5)(a) of the Planning Act 2008. Heathrow would satisfy this test as the effect of its proposal is *"to increase by at least 10 million per year the number of passengers for whom the airport is capable of providing air passenger services."* • 95% of freight handled by Heathrow is carried in the belly-hold of passenger aircraft. Heathrow note that belly-hold cargo typically contributes 5-10% of revenues on long-haul passenger flights, making a significant contribution to the fixed costs, and therefore viability, of a flight route. • Belly-hold cargo in passenger aircraft forms an intrinsic part of Heathrow's business model, and is therefore key to delivering the increase in passenger throughput. It is clear that a direct relationship between cargo facilities and the principal development at Heathrow, and it is therefore appropriate for Heathrow to categorise the cargo related development as associated development – see paragraph 4.9.9 of the Preferred Masterplan document. • For the Applicant to now to be claiming that passenger related infrastructure is principal development is extraordinary. Furthermore, there would not even be the type direct relationship that exists between cargo and passengers at Heathrow - freight can travel in the belly-hold passenger aircraft but passengers cannot be serviced by dedicated freight aircraft. • It is apparent from the documentation published as part of its Statutory Consultation that Heathrow is also taking a very careful, evidenced approach to every square metre of claimed associated development (which is principally on land within its ownership and control). **Heathrow has explicitly stated that only associated development that is essential for the successful operation of the airport has been included.** SHP will include further relevant detail on

Relevant Section of dDCO	SHP Comments
	the Heathrow proposal as part of SHP's Deadline 11 submission commenting on the Applicant's answers to fourth written questions. • The contrast between Heathrow's evidence based approach (which seeks to minimise land requirements) contrasts sharply with the cavalier approach taken by this Applicant - which appears to be based on maximising land take without explanation or justification.
Schedule 2 – Requirement 2	SHP would refer the ExA to paragraphs 5.1-5.2 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033], why the time period permitted to commence development should be reduced in line with the drafting provided in paragraph 5.2.
Schedule 2 – Requirement 9b	SHP would note that the proposed developments at both Stansted and Heathrow propose that residential properties within the 57 dB LAeq (16 hour) day time contour will be eligible for noise insulation compensation. The information on Stansted was appended as Appendix 3 to SHP's Written Summary of Oral Representations put at the HRA, biodiversity and other environmental issues hearing held on 5 June 2019 [REP8-032]. It is important to note that an equivalent noise contour for Manston would be based on less frequent but far noisier disturbance events than those within the equivalent 57 dB LAeq (16 hour) day time contour near Stansted / Heathrow. Accordingly, restricting compensation to those in the 60 dB contour would provide the local community in Thanet (and Ramsgate in particular) with far less protection than be afforded communities near Stansted and Heathrow. It is also noted that other airports, such as London City Airport and Bristol Airport operate schemes from 57 dB LAeq (16 hour). The ExA may also be aware that paragraph 3.122 of the Government's Aviation 2050 green paper goes further in proposing that for;

Relevant Section of dDCO	SHP Comments
	"airspace changes which lead to significantly increased overflight, to set a new minimum threshold of an increase of 3dB LAeq, which leaves a household in the 54dB LAeq 16hr contour or above as a new eligibility criterion for assistance with noise insulation." It would seem logical that this lower threshold should apply to an airport that would have been closed for at least 8 years. SHP would also refer the ExA to its submission [AS-207], which demonstrates that Appendix ISH6-21 of the Applicant's Written Summary of Oral Representation put to ISH 6 [REP8-015] provides a wholly misleading perspective of the levels at which Noise Insulation provisions will apply at other UK airports.
Schedule 2 – Requirement 9c.	SHP would refer the ExA to paragraphs 2.14-2.16 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033]. This provides an explanation as to why a quota count of 3,028 would provide no effective control on operations.
Schedule 2 – Requirement 9d.	SHP would note that placing area restrictions on the 50dB(A) Leq16hr (0700-2300) and 40dB(A) Leq8hr noise contours would not provide affective control of operations, particularly given the proximity of Ramsgate to the airport site. Accordingly, in order to provide adequate protection, noise contour caps should relate to higher ranges (e.g. 57dB(A) Leq16hr) with a consequential reduction in the area covered. The Applicant has consistently shown a complete lack of transparency regarding the noise impacts having not followed normal practice – the Applicant has not provided noise contours at 3 dB intervals, did not use the independent ERCD to prepare the noise contours and it has been extremely difficult for the local community to understand how, and by how much, they could be affected by aircraft

Relevant Section of dDCO	SHP Comments
	noise. It has therefore been left to interested parties such as Five10Twelve Ltd and NNF to submit reports prepared by the independent ERCD. These showed the noise contours at 3 dB intervals and highlighted material issues with the contours submitted by the Applicant. With regard to the robustness of the ERCD analysis, the ExA is referred to paragraph 9.175 of the Uttlesford DC planning committee report relating to the expansion of Stansted (included within the Appendix 3 referred to in the commentary on Requirement 9b. above), which states; *"For the purposes of the ES aircraft noise modelling has been produced by the CAA's Environmental Research and Consultancy Department (ERCD), using their Aircraft Noise Contour (ANCON) model (current version 2.3). The ERCD is a specialist body within the CAA with national and international expertise on the assessment of aircraft noise. They produce noise contours for the designated London airports, and they generated the noise contours used by the Airports Commission. Their work is robust, authoritative and also impartial."*
Schedule 2 – Requirement 19	SHP would note that this is coded yellow but there remains significant issues with this drafting. SHP would refer the ExA to its comments above on the definition of "airport-related" in Article 2 and the issues with Schedule 1 as drafted. In summary, Works Nos. 1 to 11 and 13 are not all NSIP development, and the requirement for Works No.s 15, 16 and 17 to merely support the operation of those works would not satisfy the tests for associated development.
Schedule 2 – Requirement 19a.	SHP would refer the ExA to paragraphs 2.1-2.13 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033]. This explains the risks associated with the <u>erroneous fleet mix assessed by the Applicant</u>, and suggests that a sub-cap restricting cargo aircraft movements to no more than 12,860, would be required to provide a more robust protection for the local community. This would also need to work in tandem with a far more robust noise contour cap as discussed on

Relevant Section of dDCO	SHP Comments
	comments on Requirement 9d above.
Schedule 2 – new DIO requirement	SHP would refer the ExA to paragraphs 5.3-5.4 of its Written Summary of Oral Representations put at the dDCO Hearing [REP8-033]. This explains why development with safeguarded areas in relation to the existing HRDF Beacon should not commence until the DIO has a replacement HRDF Beacon that is operational and has been shown to deliver equivalent or better technical performance.

From: [redacted]
To: Manston Airport
Cc: Richard Price
Subject: Manston - urgent submission
Date: 20 June 2019 17:22:38
Attachments: UTT_18_0460_FUL-ES_VOLUME_1_-_CHAPTER_11_SOCIO-_ECONOMIC_OMPACTS-2634308.pdf

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Dear Case Team

We are making our way through the Applicant's Deadline 8 submissions, and consider that it may assist the examination if the Applicant is requested to comment on the following;

In paragraphs 2.14 and 2.21 of the Applicant's Written Summary of Oral Representations put at the Socio-Economic Hearing, the Applicant references that it used the ratios for Stansted and Luton when calculating induced and indirect employment effects of a reopened Manston.

SHP has already made detailed submissions (with supporting evidence) following the Socio-Economics Hearing that set out the factual position on Luton, and the degree to which the assumptions used by the Applicant to assess employment effects are fundamentally flawed (notwithstanding the underlying forecasts are not credible).

However, having reviewed the Applicant's recent submission, SHP consider it important that the ExA has access to factual information in respect of Stansted that contradicts the assertions of the Applicant.

Attached is a copy of Chapter 11 (Socio-Economic Impacts) of the Environmental Statement that formed part of Stansted's 2018 planning application (UTT/18/0460/FUL). The following points are worth noting;

- Paragraph 11.97-11.98: The operational study area used includes eleven local authorities within the East of England region and five London boroughs that have a combined population of nearly 3 million;

- Paragraph 11.64: Both indirect and induced employment has been estimated using appropriate employment multipliers. The employment multiplier is the ratio of direct, indirect and induced employment to direct employment.

- Paragraph 11.65: States that Optimal Economics has reviewed evidence from studies of and use of regional multipliers in the UK including impact studies of airports. These studies identified multipliers within a relatively narrow range of 1.4 to 1.8. The value of the multiplier is influenced by the size and structure of the local economy. Economies which are relatively large in output and employment terms have a greater capacity to create induced employment and so to have a larger multiplier effect than for smaller economies. Optimal Economics has determined that the appropriate employment multiplier with regard to operational employment (including indirect and induced effects) for the study region is 1.8**.** **Note: this multiplier includes the direct jobs, so there is only 0.8 indirect or induced job to each direct job**.

- Paragraphs 11.159 and 11.160: These paragraphs show the employment impacts of the proposed development. Again, it evidences that the assumptions used **for Stansted are for**

only 0.8 indirect and induced job to each direct job.

The Applicant's ES is based on 1.8 indirect and induced job per direct job, all of which are assessed to be in the local area - Thanet.

As noted in paragraph 11.65 above, Optimal Economics comment that the multiplier for a smaller local economy (such as Thanet) would be lower than a larger economy of 3 million, and hence this implies a 0.4 local multiplier (i.e. 1.4 minus the 1 direct job). This is consistent with the evidence in paragraph 20 of the York Note appended to SHP's Written Summary of Oral representations put to the Socio-Economics Hearing.

This demonstrates that the Applicant's misapplication of multipliers has overstated the number of Year 20 indirect and induced jobs in Thanet by 4,784 (i.e. 6,151 less 1,367). *NB. This lower number of indirect / induced jobs (1,367) also ignores the fact the Applicant's starting position is wrong as (i) it has applied an inappropriate employment density for direct jobs and (ii) it requires its forecasts to be achieved.*

In view of the very short time left in the examination, SHP consider that it may assist the examination if the Applicant was requested to comment on the Chapter 11 (Socio-Economic Impacts) of the Environmental Statement that formed part of Stansted's 2018 planning application (UTT/18/0460/FUL) and explain and justify the differences between the assumptions the Applicant has used for local and regional indirect and induced employment and those used by Stansted.

Best regards
Jamie

Jamie Macnamara
Stone Hill Park Ltd

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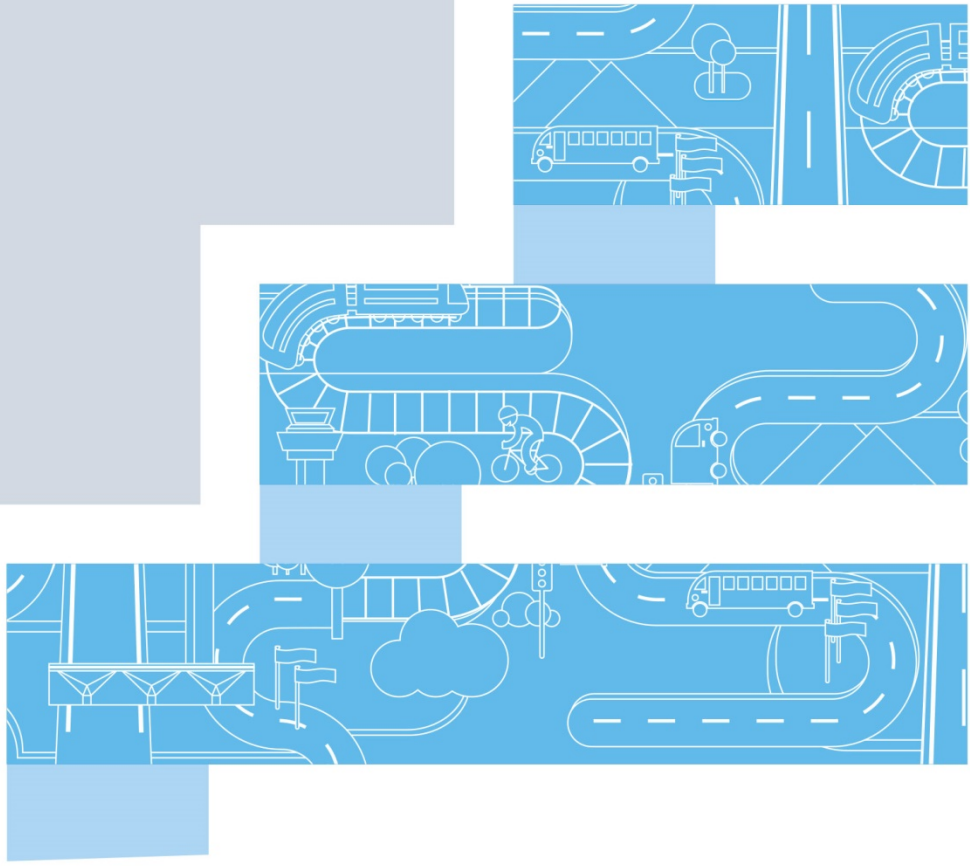
TRANSFORMING LONDON STANSTED AIRPORT

35+ PLANNING APPLICATION

Chapter 11 Socio-Economic Impacts



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11 SOCIO-ECONOMIC IMPACTS

Introduction

11.1 The proposed increase in the passenger cap will enable the airport to handle an additional 8 million passengers per annum (mppa). This will result in increased employment at the airport as well as additional employment and socio-economic benefits at the regional level. The increase in capacity will enable growth in services in terms of destinations served and frequency of flights, which will create benefits for the users of the airport and generate wider beneficial economic effects in the region and beyond, through the airport's role as a facilitator of economic activity. The proposed increase in the cap will enable new services to destinations important for business and high value in-bound tourism.

11.2 This chapter considers the employment impacts and wider socio-economic effects of the proposed development. It should also be read in conjunction with ES Appendix 11.1, which provides details of the study areas used in this assessment and ES Appendix 11.2, which provides baseline information on the study area.

11.3 The chapter is structured as follows:

- The section on **legislation, guidance and planning policy** (read in conjunction with the ES Appendix 3.1) identifies the national, regional and sub-regional policy objectives relevant to the assessment of socio-economic and employment effects;
- The section on **assessment methodology** and significance criteria sets out the methodology used for each component of the impact assessment. Three potential impacts have been identified – user benefits, wider economic impacts and employment impacts. The employment impacts are considered in relation to both the construction and operational phases of the proposed development.
- The section on **baseline conditions** (and ES Appendix 11.2) establishes the existing economic position in the study areas. Due to the differing nature of wider economic and employment impacts, different study areas are considered for each component of impact;
- **Incorporated mitigation** sets out the range of mitigation and enhancement measures related to economic and employment impacts which have already been established through the 2015 Sustainable Development Plan (SDP) and Section 106 agreements;
- The **impact assessment** section establishes the impact of the proposed development and the resulting effects on the wider economy and employment;
- **Further mitigation** identifies ways that the airport intends to further minimise adverse impacts or maximise benefits; and
- **Cumulative effects** take account of the impact of the proposed development in combination with other committed developments in the study area.

Legislation, Guidance and Planning Policy Context

11.4 'Cross cutting' policies and plans which are relevant to the consideration of socio-economic and other effects are described in Appendix 4.1 and the Planning Statement submitted as part of this application. Such policies are not repeated here in detail to avoid the chapter becoming unduly long or repetitive. This section does however highlight the specific legislation, guidance and policies that are most relevant to this topic.

National Policy

Aviation Policy Framework

11.5 The ability to move people and goods across the globe in a matter of hours is fundamental to the global economy. Airports can make an important contribution to their local economies, being major employers in their own right and having the potential to attract companies whose business depends on air travel into their immediate proximity. Airports also contribute to quality of life, enabling people to travel abroad for leisure, broaden their horizons or visit friends and relatives. The Aviation Policy Framework[1] (APF) recognises the vital role that aviation plays in the UK economy and supports aviation growth within a framework which recognises both the benefits of aviation and its costs. The Secretary of State for Transport's Foreword to the document confirms:

"*The Government believes that aviation needs to grow, delivering the benefits essential to our economic wellbeing, whilst respecting the environment and protecting quality of life*."

11.6 The benefits of aviation set out in the document include the gross domestic product (GDP) and employment supported by the air transport and aerospace sector, and the wider contribution that aviation makes as an enabler of other activities. These 'enabling' impacts include:

- Trade in goods: aviation plays an important role in supporting trade in high-value, time critical sectors;
- Greater productivity: aviation enables productivity and growth by enhancing access to markets through improved connectivity. It facilitates inward investment and the movement of goods and people which enhances trade and the diffusion of knowledge;
- Tourism: air travel is essential to international tourism, particularly from more distant markets; and
- Travel, culture and family: aviation also provides wider social benefits enabling UK residents to experience different cultures.

11.7 One of the main objectives of the APF is to ensure that the UK's air links continue to make it one of the best-connected countries in the world and to ensure that the benefits of aviation to the economy are fully realised.

The Airports Commission

11.8 The Airports Commission (AC) final report[2] recognised the benefits of making best use of Stansted Airport. It acknowledged the investment of £80 million into the terminal redevelopment work (underway at that time) and that capacity at Stansted will be important to the wider London airports system before any additional runway capacity is provided. The AC

also acknowledged the strategic importance of Stansted to the wider London airport system while supporting the need to ensure that local people are protected from unacceptable negative impacts of living close to an airport.

11.9 Moreover, it was stated in the report that:

"*The Commission considers that there may be a case for reviewing the Stansted planning cap if and when the airport moves closer to full capacity. Its forecasts indicate that this would not occur until at least the 2030s, although the airport has seen rapid growth since its purchase by MAG, which if sustained over a longer period would bring this forward*."

Beyond the Horizon: The Future of Aviation in the UK

11.10 An updated aviation strategy will be published by the end of 2018, which will replace the 2013 APF. It will provide the framework for aviation policy for the period up to 2050 and beyond. To support the development of this strategy, a call for evidence[3] was published in July 2017.

11.11 The aviation sector is central to building a global and connected Britain. The call for evidence recognises the importance of trade and inward investment to the UK and the role that aviation can play in achieving the government's ambitions to increase productivity and grow the economy.

11.12 While the government's preferred option for a new runway at Heathrow is set out in the draft Airports National Policy Statement (NPS)[4], the call for evidence recognises that strong growth is putting pressure on existing infrastructure and that there is a need to make better use of existing airport capacity. To this end:

"The government agrees with the Airport Commission's recommendation that there is a requirement for more intensive use of existing airport capacity and is *minded to be supportive of all airports who wish to make best use of their existing runways including those in the South East*."

National Planning Policy Framework

11.13 The purpose of the planning system according to the National Planning Policy Framework[5] (NPPF) is to deliver sustainable development. This requires the planning system to consider three principal objectives: economic; social: and environmental. The Government is committed to securing economic growth, therefore significant weight should be accorded in planning decisions and policy to the need to support economic growth.

11.14 With specific reference to airports, the policy states:

"when planning for ports, airports and airfields that are not subject to a separate national policy statement, plans should take account of their growth and role in serving business, leisure, training and emergency service needs".

Conclusions on National Policy

11.15 The economic benefits of aviation are acknowledged in the Government's existing aviation policy framework and recent call for evidence supporting the new aviation strategy. The policy framework recognises that Stansted has an important role to play in the development of the London airport system, particularly before any additional runway capacity is provided. The call for evidence recognises the need to be supportive of airports wanting to make best use of their existing runways. The NPPF also calls on local authorities to support sustainable

economic growth and to take account of the role of airports in serving business and leisure activity.

Regional, Sub-Regional and Local Policy Review

The London-Stansted-Cambridge-Corridor (LSCC) Growth Commission

11.16 The London-Stansted-Cambridge Corridor (LSCC) Consortium is a partnership of public and private organisations covering the area from North London to Stansted, Cambridge and Peterborough. The partnership was formed to organise and promote what is a defined economic area, with strong inter-connections; commuting to work and learn patterns, clusters of industries and supply chains.

11.17 The LSCC Consortium established the LSCC Growth Commission in 2015 to provide independent analysis and advice to enhance the economic potential of the LSCC and set out a vision for the area to become one of the top five global knowledge regions. The final report from the Growth Commission[6] notes that the LSSC provides a unique opportunity which is critical to the future of the UK economy. The LSCC is characterised by higher than average growth in population, workforce, jobs, businesses, gross value added (GVA) and productivity. It contributes significantly to the UK economy with Europe's leading life sciences cluster and the UK's largest cluster of ICT and digital firms, concentrated around London and Cambridge.

11.18 Five priorities will drive the ambition of the LSCC, one of which is Stansted as a dynamic source of growth and development. The report notes:

"*Our vision is for an airport that is a dynamic driver of growth and local business performance, providing the services and routes that the corridor's tech and life sciences businesses need […] London Stansted Airport has the capacity to expand and could be a big part of the solution to the aviation needs of the Corridor, London and the Greater South East.*"

Greater Cambridge Greater Peterborough LEP Strategic Economic Plan

11.19 The Greater Cambridge Greater Peterborough Local Enterprise Partnership (LEP) is a business-led organisation focused on driving forward sustainable economic growth. The goal of the LEP is to develop an internationally competitive, nationally significant local economy bringing together the diverse strengths of the area. The Strategic Economic Plan[7] aims to realise the area's significant potential for continued economic growth through a targeted range of interventions.

11.20 The role of transport and international connectivity is recognised in the Plan:

"*The area includes London Stansted and Cambridge Airports, which contribute significantly to the LEP area and wider economy. International connectivity by air is a key requirement of any major international business location. In order to help those businesses in our area continue to grow it is vital that they have connectivity with their key markets, and in the case of international businesses, their head offices and other operations.*"

11.21 The Plan supports making maximum use of capacity at Stansted and, particularly, the development of long-haul routes. To enable the development of these routes, the Plan sets out its proposals for an Air Passenger Duty (APD) exemption as a mechanism to provide start-up support for new long-haul routes from Stansted.

South East LEP

11.22 Stansted also lies within the South East LEP area which covers East Sussex, Essex, Kent, Medway, Southend and Thurrock. Within the Strategic Economic Plan[8], the LEP identifies 12 growth corridors, one of which is the M11 London Harlow Stansted Cambridge corridor. The Plan recognises that Stansted has an important role to play in attracting investment from a wide range of global companies seeking a UK base.

Economic Plan for Essex

11.23 The Economic Plan for Essex[9] is based on the collective ambitions of all local authorities in Essex and is designed to be a long-term plan for growth in the Essex economy. The priority of the Plan is to secure sustainable economic growth for businesses and communities across Essex.

11.24 The Plan recognises the important role that Stansted plays in the Essex economy and LSCC in particular, along with the potential of the airport to act as a catalyst for growth across the corridor and beyond. The Economic Plan for Essex supports growth at Stansted and concludes that:

"It is clear that Stansted is, and can continue to be a major driver of economic growth in Essex."

Haven Gateway Partnership

11.25 Stansted lies at one end of the A120 Haven Gateway growth corridor linking the west of Essex with Harwich International Port in the east. The vision of the Haven Gateway Partnership[10] is

"To deliver a thriving economy in a high quality environment for its residents and visitors, by capitalising on its location as a key gateway associated with the Haven Ports, realising its potential for significant growth, addressing its needs for economic regeneration, creating an additional focus on knowledge based employment and SMEs while protecting and enhancing its natural assets."

11.26 The Partnership consider the A120 to be a vital link between Stansted and the ports to the east of the sub-region. A number of investment opportunities and transport improvements have been identified in the Economic Plan for Essex to unlock the growth potential of the corridor by taking advantage of proximity to Stansted and Harwich.

Adopted Uttlesford Local Plan

11.27 The current Uttlesford Local Plan[11] was adopted in 2005. The Plan specifically sets out a number of policies relating to the airport, which are described in Appendix 4.1.

Draft Local Plan – Regulation 18

11.28 The new draft Uttlesford Local Plan[12] was subject to public consultation in 2017. The Plan sets out the vision for Uttlesford for the period to 2033, the spatial strategy of where and when investment should be located and the policies to deliver the Plan. The vision for 2033 is that Uttlesford will continue to be one of the most desirable places to live and work in the UK.

11.29 The vision for Uttlesford is under-pinned by three themes (promoting thriving, safe and healthy communities, supporting sustainable business growth and protecting and enhancing

heritage and character) which, in turn, are supported by ten spatial objectives. The following objective is particularly relevant:

- Objective 2a – Enabling Growth and Investment. This objective seeks to strengthen the local economy by enabling the growth of existing and new employers, including providing opportunities for employment growth related to Stansted Airport.

11.30 The Plan recognises the importance of Stansted to the LSCC and, in particular, to the South Cambridgeshire research and bio-technology cluster. In the vision for the District, it is stated that Stansted will "*form a pivotal part of the highly successful London Stansted Cambridge Corridor*" and "*the environmental impact of London Stansted Airport will be effectively managed*."

11.31 The spatial strategy provides the framework for the policies in the Plan. Policy SP11 relates to Stansted Airport and states "*the growth of London Stansted Airport will be supported*." However, development proposals must meet several criteria related to national aviation policy, environmental effects and surface access measures.

11.32 Policy SP11 also includes the North Stansted Employment Area ('Northside') which is a 55 hectare site allocated for B2 (general industry) and B8 (storage and distribution) employment use. Development on this site will not be restricted to airport-related employment.

11.33 Policy SP4 relates to the provision of jobs and states that "provision will be made for a minimum net increase of 14,630 jobs in the period 2011 – 2033 to maintain a broad balance between homes and jobs and to maintain a diverse economic base."

Uttlesford Economic Development Strategy 2016-18

11.34 Uttlesford shares the Government's commitment to sustainable economic growth. Its Economic Development Strategy 2016-18[13] retains the focus of the previous two strategies on facilitating sustainable growth in jobs and businesses. One of the main actions of the Strategy is to promote specific and targeted propositions to attract inward investment and facilitate local business expansion. The international connectivity of Stansted is noted as supporting this action.

Uttlesford Corporate Plan 2017-21

11.35 One of the aims of the Uttlesford Corporate Plan[14] is to support sustainable business growth and the promotion of the economic benefits of Stansted Airport is a key commitment.

Other Local Plans

11.36 The local plans[15] [16] [17] of a number of other authorities[i] acknowledge their positions in the LSCC and seek to capitalise on the strategic location of the corridor in order to promote economic growth and prosperity. These authorities are working with partner authorities in the corridor to deliver the LSCC vision for the area.

11.37 At the heart of the LSCC, with good connections to London, Cambridge and Stansted Airport the Harlow Enterprise Zone is a premier business location[18].

[i] East Herts, Harlow and Epping Forest

Sustainable Development Plan

11.38 The Stansted SDP[19] is the framework and master plan for growth of the airport based on the capacity of its single runway. The SDP has been finalised following extensive consultation and it sets out the strategic objectives for the growth and development of the airport and comprises four detailed plans covering the economy and surface access, land use, environment and community.

11.39 The economy section of the SDP recognises that Stansted is an important catalyst for growth and an aim of the airport is to maximise its contribution to the economy, support local growth and maintain a fair and sustainable relationship with its supply chain and business partners. The SDP highlights the economic impact of Stansted, particularly its contribution to employment as the largest single-site employer in the East of England, and its role as a gateway for inbound tourists and an important freight hub.

11.40 The SDP also recognises that it can play a role in maximising its local economic benefits through partnership working and the delivery of specific programmes and training/educational packages. Good connectivity to Stansted is important in driving economic regeneration in some local areas around the airport and the Surface Access Strategy will target connections to key areas for current and future workforce recruitment.

Conclusions on Regional, Sub-Regional and Local Policy

11.41 Within the regional and sub-regional economy, Stansted is recognised at all levels of policy and strategy and in all key documents related to economic development as a key driver of future economic growth. Development of the airport is also supported in the draft Uttlesford Local Plan and by key policies. Its growing international air services are seen as especially important for local businesses to compete globally.

Assessment Methodology and Significance Criteria

Assessment Methodology

11.42 The approach adopted for the impact assessment set out below follows a widely accepted set of methodologies for establishing the socio-economic and employment effects of airport development. These methodologies were used in the ES which accompanied the planning application to increase Stansted's capacity to 35 mppa (the 25+ project) and 274,000 air transport movements (ATMs). They have also been applied in a range of other aviation projects and were endorsed by the AC[20].

11.43 The growth of the airport will generate benefits for:

- The users of the airport who will benefit from more flights to existing destinations and new flights to new destinations (these benefits are termed user benefits);
- The wider economy through the enabling of increased economic activity (sometimes termed catalytic impacts or wider economic impacts); and
- The people who secure new airport related employment[ii].

User Benefits

11.44 Airport users will benefit from the increased capacity as Stansted will be better able to accommodate the forecast level of demand. Increased capacity will encourage competition and choice in airlines at Stansted, improving routes, frequency of flights and potentially reducing fares. New passengers, who would otherwise be unable to fly due to the limited capacity (from 2023 onwards), will benefit as a result the increased passenger cap. Existing passengers will benefit from greater choice as a result of the additional flight frequencies, expanded route network and the opportunity to use a more convenient airport. There will also be benefits to freight users, the airport operator and government (from increased tax revenue).

11.45 Quantifying these user benefits would require a detailed analysis of traffic patterns and surface transport costs under alternative capacity assumptions and using a UK wide airport system model which can allocate passengers to airports in response to changes in capacity. DfT has a model which can analyse major changes in capacity but, given the scale of the proposed development, this level of analysis is not practical. Therefore, a qualitative assessment of such benefits, using professional judgment and experience, is provided below. This approach has been agreed by UDC by virtue of its scoping opinion (see Appendix 2.1 in ES Volume 2).

Wider Socio-Economic Effects

11.46 The proposed development will generate economic and social benefits for the wider economic study area, which is defined below. These benefits will comprise:

- Opportunities for businesses in the study area to access a wider range of air services from a local airport;
- Enhancement of the attractiveness of the study area to businesses in terms of its 'air transport offer';

[ii] People employed at the airport, in supplier companies and in the local economy

- Opportunities for increased flights to serve higher numbers of both inbound and outbound leisure[iii] visitors. The potential impacts of these outbound tourists on the economy and domestic tourism industry are discussed later in the chapter; and

- Strengthening the airport's important role in the freight market which helps UK businesses compete in the global economy.

11.47 For the assessment of wider socio-economic effects, an area has been defined in which most effects will be felt. Stansted draws its passengers from an area south of the Midlands, but its core catchment area is the East of England[iv] and London which together account for 78%[21] of UK passengers in 2016. Details are shown in Figure 11.1. The majority of the wider economic effects will therefore accrue to the East of England and London, particularly the inner and north east London boroughs[v]. The wider economic study area is therefore defined as the East of England and London and is shown in Map 1 in Appendix 11.1 in ES Volume 2.

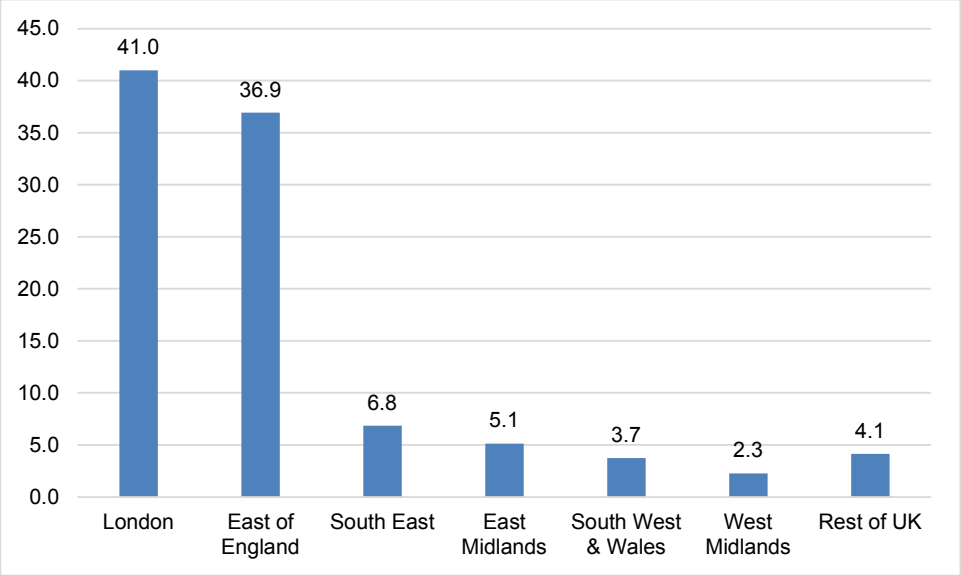

Figure 11.1: Origin/destination of UK passengers at Stansted, 2016[22] (%)

11.48 Paragraph 11.46 above identifies the activities most likely to be affected by airport growth. The approach to the assessment of wider economic effects reported in this chapter establishes the mechanisms by which airport development will create wider effects and how the expansion of Stansted (in terms of passenger numbers) will impact on these mechanisms. The assessment will be quantitative or qualitative as appropriate.

Employment Effects

11.49 The economic impact of airport-related employment growth at the airport can be measured in terms of the number of jobs created or supported by the growth and the GVA associated with those jobs. GVA includes wages, salaries, organisational surpluses and profits.

[iii] Leisure visitors include holiday visits, visits to friends and relatives and other non-business visits e.g. education
[iv] Includes Buckinghamshire and Oxfordshire
[v] London Boroughs of Camden, City, City of Westminster, Islington, Southwark, Barking and Dagenham, Enfield, Hackney, Haringey, Havering, Newham, Redbridge, Tower Hamlets, Waltham Forest.

11.50 For the construction assessment, the approach is to estimate the additional employment associated with the proposed development and assess the impact of this employment within the construction study area.

11.51 For the operational assessment, the approach involves the following main steps:

- Define the study area in which the impact will be felt;
- Estimate the current and future levels of airport related employment with and without the proposed development;
- Estimate current and future labour demand and supply in the study area; and
- Assess the impact of the forecast increase in the level of airport related employment against the wider forecasts of labour demand and supply in the study area.

Employment Study Areas

11.52 To assess the employment effects, it is necessary to define the area in which they will be felt. Given the different characteristics of the construction and the operational workforce, the areas for the construction and operational assessments are different:

- ***Construction Study Area*****:** The construction industry is characterised by short, temporary contracts, and longer journeys to work compared to those made by people working in other industries. On this basis, the assessment of the construction effects is undertaken for an area comprising the South East and London. The construction study area is shown in Map 2 in Appendix 11.1 in ES Volume 2.
- ***Operational Study Area*****:** The employment impact of the proposed development will be closely related to the home location of the airport workforce. The 2006 planning application defined the study area on the basis of the proportion of the airport's workforce that lives within identified local authority areas. A criterion was adopted such that all local authorities who have at least 1% of the Airport's workforce as residents would be included in the operational study area. This was accepted by UDC as an appropriate approach[vi] and has been adopted for this analysis. Using this approach and the 2015 Stansted Employee and Travel Survey[23] yields an operational study area consisting of 16 local authorities and covering almost 84% of the Stansted workforce in 2015[vii].

11.53 Table 11.1 shows the adopted study area for the operational employment assessment which is also illustrated by Map 3 in Appendix 11.1, ES Volume 2.

[vi] The 2006 study area comprised ten local authorities – Uttlesford, East Hertfordshire, Braintree, Harlow, Chelmsford, Epping Forest, Colchester, St Edmundsbury, South Cambridgeshire and Cambridge

[vii] The Stansted employee and travel survey is undertaken every two years and the 2017 is currently underway, although the results are not yet available.

Table 11.1: Stansted employment study area[24]

Local Authority	No. of Employee's	% Stansted Employment
East Hertfordshire	2,684	24.5
Uttlesford	2,007	18.3
Braintree	1,650	15.1
Harlow	809	7.4
Chelmsford	398	3.6
Colchester	257	2.3
Epping Forest	188	1.7
Newham	167	1.5
Redbridge	145	1.3
Waltham Forest	144	1.3
Enfield	141	1.3
Broxbourne	140	1.3
St Edmundsbury	134	1.2
South Cambridgeshire	133	1.2
Haringey	130	1.2
Cambridge	72	0.7
Total Study Area	**9,199**	**83.9**

Note: Cambridge does not meet the 1% criterion but the local authority is completely surrounded by South Cambridgeshire and is included to ensure there are 'no gaps' in the geographic coverage.

Airport Related Employment

11.54 In assessing the effect of the proposed development in terms of employment, there are three main categories of employment to consider:

- ***Direct employment***: people employed at Stansted during either construction or operation who receive wages and salaries. For the operational assessment only, direct employment is split into two categories – direct on-airport employment and direct off-airport employment. The categories cover similar types of employment. The former category is self-explanatory while the latter concerns people working in businesses whose activity is directly and solely related to Stansted Airport, but which are located outside the airport boundary;

- ***Indirect employment***: employment in firms which are in the supply chain of the businesses at the airport during either construction or operation; and

- ***Induced employment*:** employment supported by the expenditure of people employed directly and indirectly in the operational and construction study areas.

Construction Employment

11.55 As described in Chapter 5 of the ES, the application is for the development of new airfield infrastructure including two new taxiway links to the runway and nine additional aircraft parking stands. The direct employment supported by this work has been calculated by applying output per employee data from official statistics to the estimated capital expenditure.

11.56 Indirect employment is employment in firms in the supply chain of the contactors undertaking the proposed development. The extent to which there would be indirect employment in the

East of England and London will depend on the ability of the study area to supply the goods and services required by these contractors. Induced employment in the East of England and London will be supported by the expenditure of the direct and indirect employees in the area. Indirect and induced employment has been estimated using an employment multiplier which is the ratio of direct, indirect and induced employment to direct employment.

11.57 The indirect and induced employment associated with this expenditure has been estimated by applying an employment multiplier to the direct job estimate. Having calculated the employment impacts, GVA was calculated by applying GVA per person in employment for the East of England and London from official statistics to the employment estimates.

Operations – Baseline Employment

11.58 Stansted's direct on-airport employment is that located within the airport boundary and the baseline figure was obtained from the 2015 Stansted Employee Travel Survey.

11.59 In order to estimate the directly created GVA, GVA per employee for the study area was calculated using the latest official data for GVA and the number of people employed in the study area. GVA is available for NUTS 3 areas and all NUTS 3 areas[25] which cover the study area were included in the calculation. GVA per person in employment for the operational study area is £60,500.

11.60 Stansted's direct off-airport employment has been estimated from a survey of companies undertaken during April 2017 by Optimal Economics. The off-airport estimates are based on 17 interviews undertaken from a population of 40 companies. The approach to the survey was to:

- Identify possible off-airport companies through internet searches of appropriate business categories (e.g. hotels, air freight, aircraft/aviation services). The companies identified were based in Uttlesford, East Hertfordshire and Harlow;
- Undertake a telephone survey of businesses identified to determine the level of employment and the extent to which the business is dependent on the airport; and
- Use the survey results to provide an estimate of direct off-airport employment for the population of off-airport companies.

11.61 GVA per person employed for the operational study area (discussed in paragraph 11.61 above) was applied to the number of direct off-airport employees to calculate direct off-airport GVA.

11.62 Indirect employment in the operational study area is employment in the businesses which are in the supply chain of the airport itself and companies which provide services at the airport.

11.63 Induced employment in the operational study area is the employment supported by the local expenditure of people employed directly and indirectly.

11.64 Both indirect and induced employment has been estimated using appropriate employment multipliers. The employment multiplier is the ratio of direct, indirect and induced employment to direct employment.

11.65 Optimal Economics has reviewed evidence from studies[26] of and use of regional multipliers in the UK including impact studies of airports. These studies identified multipliers within a

relatively narrow range of 1.4 to 1.8[viii]. The value of the multiplier is influenced by the size and structure of the local economy. Economies which are relatively large in output and employment terms have a greater capacity to create induced employment and so to have a larger multiplier effect than for smaller economies. Optimal Economics has determined that the appropriate employment multiplier with regard to operational employment (including indirect and induced effects) for the study region is 1.8

11.66 GVA per person employed for the study area was applied to the number of indirect and induced jobs to calculate the associated GVA.

Operations – Future Stansted Related Employment

11.67 The impact of the proposed development was assessed for the future assessment year of 2028 which is the date at which Stansted is projected to reach its throughput of 43 mppa (the Development Case). The projected level of employment at the airport in 2028 without the development (the Do Minimum scenario) has been compared to the level of employment with the proposed development (the Development Case). As detailed above, the figure for future Stansted related employment comprises direct, indirect and induced employment.

11.68 Future levels of employment will be affected by two factors:

- The growth in passenger traffic through the airport; and
- The growth in productivity for direct on-airport employment and in the wider economy for direct off-airport and indirect employment.

11.69 Table 11.2 provides a summary of the forecast air traffic through Stansted in 2028 in the Do Minimum scenario and the Development Case scenario. The Table also shows the annual passenger and air traffic data for 2023 (the 'Transitional Year') and the impact of the proposed development in each assessment year.

Table 11.2: Forecast air traffic data for Stansted Airport[27]

No Development (Do Minimum)	Passengers (mppa)	ATMs (000s)	Cargo (000 tonnes)
2016	24.3	181	254.5
2023	35	247	330.2
2028	35.0	249	374.9
Proposed Development (Development Case)	**Passengers (mppa)**	**ATMs (000s)**	**Cargo (000 tonnes)**
2016	24.3	181	254.5
2023	36	253	330.2
2028	43	274	375.7
Impact of Proposed Development	**Passengers (mppa)**	**ATMs (000s)**	**Cargo (000 tonnes)**
2023	+1	+6	+0.0
2028	+8	+25	+0.8

[viii] Indirect and induced multiplier for Luton airport was 1.8 (covering Bedfordshire, Buckinghamshire and Hertfordshire); Indirect multiplier for aviation industry in the UK was 1.7; Indirect and induced multiplier for Stansted (2006 planning application) was 1.4 (covering ten local authorities in the East of England).

11.70 The proposed development will enable an additional 8 mppa to use the airport in 2028 compared to the Do Minimum scenario. Alongside this, there would be an additional 25,000 air transport movements and around 800 tonnes of cargo throughput in the Development Case.

11.71 The other factor affecting the employment forecasts is the assumption made regarding future productivity growth. The estimates of productivity growth have been based on past trends.

11.72 For direct on-airport employment, the trend in passengers per employee has been reviewed while, for direct off-airport employment, the trend in economy wide productivity (output per worker) has been considered.

11.73 Figure 11.2 shows the numbers of passengers and employees at Stansted over the period from 2003 to 2015. This shows that the number of passengers has tended to grow faster than employment, although the relationship between the two fluctuates.

11.74 Annual levels of productivity (passengers per employee) have risen over time, but have varied from year to year. Very sharp increases in passenger numbers (as over the period 2013-15) tend to be associated with rapid increases in productivity simply because staffing levels cannot be increased in proportion over a short period. A slowing of (or fall in) passenger growth tends to be associated with slow productivity growth because airport businesses hold on to staff and may even be 'catching up' with unfilled vacancies.

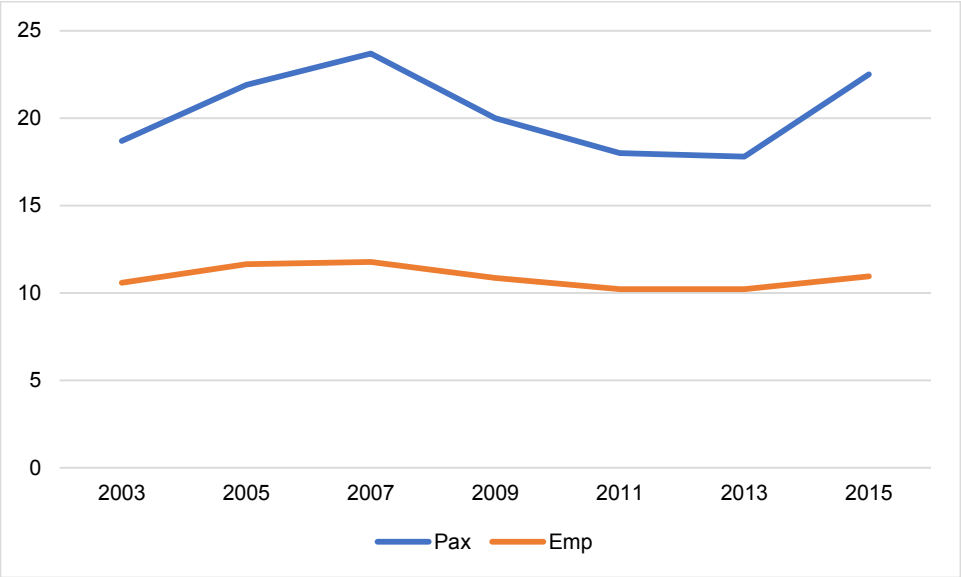

Figure 11.2: Passengers (mppa) and employment (000s) at Stansted, 2003 to 2015[28]

11.75 Table 11.3 shows that estimates of airport productivity growth can be greatly affected by the choice of years for comparison and, more importantly, indicates a strong relationship between passenger growth and productivity growth over the long term. In the analysis presented below, productivity growth over the longest data period (2003 to 2015) is 1.3% p.a., but this is associated with passenger growth of 1.6% p.a. Growth in passengers in the Development Case is 5.1% p.a. in which case productivity growth would be expected to be higher. Over the period 2011 to 2015, relatively fast passenger growth (5.7 % p.a. was accompanied by productivity growth of 3.9% p.a., although both these growth rates are influenced by the very rapid growth in passengers between 2013 and 2015. This suggests a need to temper the

productivity growth rate and we have therefore adopted an annual productivity growth rate of 2%[ix] for the analysis.

Table 11.3: Growth in passenger numbers and productivity at Stansted[29]

Period	Passenger Growth per annum	Productivity Growth per annum
2003 to 2015	1.6	1.3
2005 to 2015	0.3	0.9
2007 to 2015	-0.6	0.2
2009 to 2015	2.0	1.8
2011 to 2015	5.7	3.9
2013 to 2015	12.4	8.6

11.76 The approach to forecasting direct off-airport employment was to assume that 2015 employment will grow in line with passenger throughput with an allowance for economy-wide productivity growth. As off-airport businesses differ in their mix of activities, an economy wide average rate of productivity (output per worker) growth of 0.6% per annum has been adopted for the analysis. This is the average annual rate of growth in output per worker in the UK between 2003 and 2015[30].

11.77 Indirect and Induced employment in the study area in 2028 has been estimated using the employment multiplier of 1.8, as discussed above.

11.78 GVA has been estimated by applying GVA per employee (uprated for annual productivity growth) to the employment estimates.

Labour Demand and Supply in 2028

11.79 The forecast of Stansted related employment must be placed within the context of other developments, including the future level of labour supply and employment, in the operational study area.

11.80 Labour Supply is the number of people in work or looking for work in the study area. The supply of labour is dependent on:

- The resident population of working age; and
- The proportion of the working age population who wish to work as measured by the economic activity rate.

11.81 The resident population in an area is dependent on the level of housing provision. In preparing their assessments of future housing need, local authorities consider future employment forecasts and whether adjustments are required to the housing delivery rate to balance jobs and workers.[x] The actual labour supply available to employers in the study area is dependent on the number of local residents who choose to work in the study area and the number of people not resident in the area, but who commute into the study area from the surrounding districts and regions.

[ix] This is in line with other recent studies where the implicit rate of productivity growth is just under 2% including the 2015 SDP.

[x] The Draft Uttlesford Local Plan – Regulation 18 provides for growth at Stansted in its objectively assessed housing need.

11.82 Population projections are available by local authority from the Office for National Statistics (ONS) and have been used to identify the population of working age in the study area. For the purpose of this analysis, the population of working age is assumed to be all people aged between 16 and 64, although it is noted that changes to the state pension age will increase the population of working age to those aged up to 67 years during the forecasting period.

11.83 ONS no longer publishes national economic activity rate projections, hence, estimating the future workforce in the study area draws on recent trends in economic activity rates. Economic activity rates have been increasing and in 2015 the economic activity rate in the study area was 78.4%. Future labour supply has been estimated by applying this rate to the projections of working age population.

11.84 Employment in the study area has been taken from the East of England Forecasting Model (EEFM)[31] which includes forecasts of employment for the local authorities within the East of England. These forecasts have been used in this assessment for the local authorities in the study area that lie within the East of England. For the London Boroughs within the study area, the GLA[32] employment projections for these Boroughs have been used.

Assessment of Effects

11.85 The estimate of employment associated with the operation of the proposed development has been compared to forecast levels of employment in the study area in 2028 to determine the scale of effect.

Significance Criteria

11.86 There are no prescribed significance criteria against which wider economic and employment effects of a proposed development can be assessed. However, to ensure the assessment of effects is undertaken in a meaningful and structured manner, the criteria in Table 11.4 have been used in assessing the likely economic and employment effects of the proposed development. Similar criteria were applied to the assessment of impacts associated with the 2006 planning application to raise the passenger cap at Stansted to 35 mppa.

Table 11.4: Socio-economic significance criteria

Level of Significance	Description
Major	Very large or large change in economic or employment conditions, both adverse and beneficial, which are important considerations at a regional or district level because they contribute to achieving national or regional policy objectives.
Moderate	Intermediate change in economic or employment conditions which are important considerations at a local level.
Minor	Small changes in economic or employment conditions. These effects may be relevant at a local scale but are unlikely to be of importance in the decision-making process.
Negligible	No discernible change in economic or employment conditions. An effect that is likely to have a negligible or neutral (neither net positive nor negative) influence, irrespective of other effects.

Baseline Conditions

Wider Economic Effects

11.87 The baseline assessment of wider economic effects considers the characteristics of air traffic at Stansted, the economic performance of the area over which impacts will be felt and the airport's role within the regional area.

Stansted Airport Traffic

11.88 The characteristics of air traffic at Stansted are summarised in Appendix 11.2 which accompanies this chapter of the ES. The number of business passengers is of prime importance in driving the wider socio-economic impact of the airport. Foreign passengers are particularly important for the UK's tourism industry.

11.89 Drawing on the analysis in Appendix 11.2, the main points to note are:

- Of Stansted's 24.1[xi] million passengers surveyed by the CAA in 2016, the majority (20.6 million passengers or 86%) were making a leisure trip with 3.5 million passengers (14%) travelling for business purposes. The balance between business and leisure trips was similar to that of Gatwick and Luton airports within the London airport system, where leisure passengers account for around 79% of all trips;
- Of the 3.5 million business passengers at Stansted, 2.1 million were UK passengers with almost 1.4 million foreign business passengers. Excluding Heathrow, Stansted has the highest proportion of foreign leisure passengers than any other UK airport which are important for the UK tourism industry;
- Stansted is important to the air freight industry, being the third largest airport in the UK in terms of freight carried, behind Heathrow and East Midlands airports. With over 220,000 tonnes[xii] carried in 2016, it accounts for 10% of UK air freight; and
- Stansted plays a specific role in the freight market, with almost all freight at Stansted carried on dedicated cargo aircraft as opposed to in the holds of passenger aircraft.

Economic Performance of Wider Study Area

11.90 As described previously, the study area for the assessment of wider economic effects comprises the East of England and London. The analysis of economic performance draws on official data published by ONS and uses the latest data available at October 2017. Appendix 11.2 contains supporting data with the key points summarised below:

- The population of the study area was 14.9 million in 2016, which is almost 23% of the population of the UK;
- In terms of population, the East of England and London were the two fastest growing regions in the UK between 2010 and 2016;
- The East of England and London are important drivers of the UK economy and together account for 31% of UK GVA. London is the largest UK region with GVA of

[xi] Stansted's total passengers in 2016 was 24.3 mppa, but the CAA survey data cover 24.1mppa
[xii] Freight only, excludes mail

£378 billion in 2015[xiii] with the East of England the fourth largest region behind London, the South East and North West;

- Both London and the East of England have experienced higher than UK average GVA growth between 2010 and 2015; and
- GVA per employee is a measure of productivity and in 2015 was £56,900 across the UK as a whole. London has the highest level of GVA per employee at £77,400 (36% above the UK average) with East of England GVA just below the UK average at £55,900.

11.91 The LSCC links London and the East of England and is a fast-growing economy, is strongly entrepreneurial and is a major location for knowledge based jobs and innovation. The LSCC's recent economic performance includes[33]:

- A post-recession workforce and employment growth which is more than twice the national average;
- Productivity which is 16% higher than the UK average in 2014;
- Business population growth which is more than twice the national average;
- Being Europe's leading life sciences cluster and the UK's largest ICT and digital cluster;
- London and Cambridge are also in the Top 10 cities in Europe for investment; and
- Stansted's location within the Corridor, and the global nature of its key businesses, heightens the contribution it can make to economic growth.

Summary

11.92 As part of the London air transport system, Stansted serves two of the fastest growing regions which are particularly important to the UK economy, accounting for 31% of UK GVA. It also serves, and contributes to the success of, two important growth corridors (the LSCC and the A120 Haven Gateway corridor) and the GCGP LEP area.

Employment Impacts

11.93 The baseline employment assessment covers the construction and operational aspects of the proposed development. Within the construction baseline an overview of the economy of the construction study area is provided.

11.94 Within the operational baseline, the economic performance of the operational study area is assessed for 2016. The level of Stansted related employment is analysed for 2015 as this is the date of the latest Stansted employment survey.

[xiii] As at October 2017, the latest GVA figures are for 2015

Construction

Baseline Economic Performance:

11.95 As the construction study area is the same as the study area for the assessment of wider economic effects, paragraph 11.92 provides a summary of population and GVA trends. Further details on the construction study area economy are also provided in Appendix 11.2.

11.96 In terms of employment, the key points to note are:

- Almost 8 million people were employed in the construction study area in 2016 which represents 26% of GB[xiv] employment;
- In 2016 there were 348,000 people employed in the construction industry in the study area with the majority (54%) working in London;
- Since 2011 unemployment in the East and London has been decreasing and in 2016, the rate of unemployment in the East of England was 3.9% and 5.8% in London. These rates are equivalent to over 388,000 people looking for work in the construction study area; and
- Additional information on the characteristics of the unemployed is available from job-seekers allowance records. There were over 105,000 people claiming jobseekers allowance in the East of England and London in 2016 with almost 1,100 looking for work in skilled construction and building trades.

Operations

Baseline Economic Performance

11.97 The Stansted operational study area (defined in Table 11.1) includes eleven local authorities within the East of England region and five London boroughs. Detailed information on the economic performance of the operational study area is contained in Appendix 11.2.

11.98 The key features of the operational study area are:

- A population of almost 3 million in 2016 of which, over 1.9 million were of working age (16-64 years). Since 2010, population growth in the study area has been 7.9% which is equivalent to growth of 1.3% per annum and, is almost twice the average growth rate for the UK;
- The economic activity rate in the operational study area in 2016 was 78.8% which is slightly lower than the rate for the East of England but very similar to the London and UK rates;
- Employment in the operational study area was over 1.1 million in 2016, having grown from almost 1 million in 2010. Employment growth in the operational study area has been strong since 2010 compared to the East of England and GB as a whole;
- The service sector dominates employment in the study area with the largest sectors in 2016 being health (13%), education (11%), retail (10%) and business administration and support services (10%). In absolute terms, the largest growth between 2010 and

[xiv] The Business Register and Employment Survey data published by ONS is only for GB

2016 was in professional, scientific and technical services and business administration and support;

- Residence based earnings in the study area are £39 per week higher than workplace earnings which reflects the effect of commuting patterns on earnings in the study area. Average annual residence and workplace earnings in the study area in 2016 are estimated to be £26,100 and £24,000 respectively;
- Following the financial crisis and recession in 2008, unemployment in the study area rose to a peak of 9% in 2011 before falling to 4.4% in 2016. This rate is equivalent to almost 67,000 people looking for work. The unemployment rate in the study area is slightly above the rate for the East of England (3.9%) and below the rate for London (5.8%); and
- The study area is a net exporter of labour, with out-commuters exceeding in-commuters by almost 215,000.

11.99 In terms of recent economic performance, the operational study area is:

- A large fast-growing area in terms of population with a relatively high proportion of young and working age people;
- An area which has had strong employment growth since 2010;
- An area with slightly higher GVA per head than the East of England as a whole; and
- An area which is closely integrated with London and the rest of the East of England in terms of commuting.

Stansted Related Employment

11.100 As described earlier in this chapter, employment related to the operation of Stansted employment may be divided into direct (on and off airport), indirect and induced.

11.101 Total **direct on-airport** employment at Stansted was 11,000 in 2015 which supported an annual passenger throughput of 22.5 mppa. Using the Stansted Employee Travel Surveys, Table 11.5 shows on-airport employment from 2003 to 2015. Passenger throughput is also shown.

11.102 Annual passenger throughput at Stansted reached 23.7 mppa in 2007. The effect of the financial crisis and subsequent recession, combined with the previous owner's commercial strategy, then saw passenger throughput fall to 17.8 mppa in 2013 before recovering and increasing sharply since then. Employment also peaked in 2007 at 11,800; fell to 10,200 in 2013 before increasing to 11,000 in 2015.

Table 11.5: On-airport employment and passengers, 2003 to 2015[34]

Year	Employment	Passengers (mppa)	Passengers per Employee
2003	10,600	18.7	1,800
2005	11,600	21.9	1,900
2007	11,800	23.7	2,000
2009	10,900	20.0	1,800
2011	10,200	18.0	1,800
2013	10,200	17.8	1,700
2015	11,000	22.5	2,100
% Change 2003 to 2015	**3.5**	**20.3**	**16.2**

Note: Data have been rounded

11.103 As discussed above (paragraph 11.75), the number of passengers per employee is a broad measure of productivity at the airport. At peak passenger throughput in 2007, there were 2,000 passengers for every employee. Passengers per employee decreased between 2007 and 2013, but by 2015 had increased to 2,100.

11.104 The 2015 Employee Travel Survey also provides data on the characteristics of the employees at Stansted. The distribution of employees at the airport and in the study area by age group is shown in Figure 11.3. Compared to the operational study area, Stansted has a relatively young workforce with almost 50% of employees aged between 16 and 34. Data limitations prevent a more detailed analysis of the 35 to 64 age group.

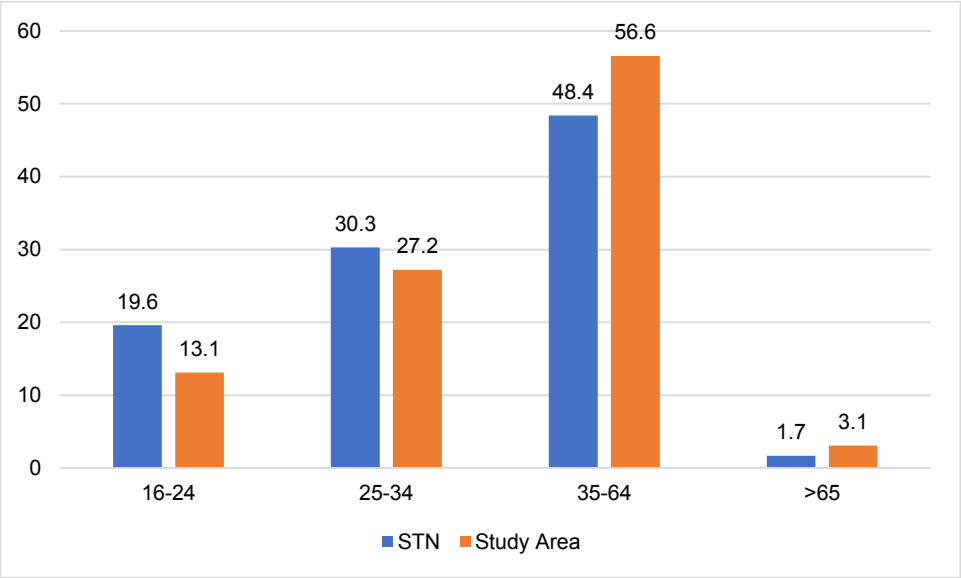

Figure 11.3: Stansted and study area employees by age, 2015[35]

11.105 The number of employees by job type is shown in Table 11.6. The largest number of employees (26%) is in passenger services, sales and clerical roles with a further 20% in the provision of air transport services (either as cabin crew or a pilot or person engaged in flight operations).

Table 11.6: Stansted employees by job type, 2015[36]

Job Type	Number	%
Air Cabin Crew	1,800	16.5
Apron, Ramp, Cargo, Baggage Handling & Drivers	1,100	10.1
Catering, Cleaning & Housekeeping	1,400	12.8
Customs, Immigration, Police & Fire	400	3.6
IT	100	0.7
Maintenance Tradesmen	700	6.7
Management & Professional	1,200	10.8
Passenger Services, Sales & Clerical	2,800	25.6
Pilots, Air Traffic Control, Flight Operations	400	3.8
Security, Passenger Search	1,000	9.3
Total	**11,000**	**100.0**

Note: Numbers have been rounded

11.106 The job types have been used to allocate employment to the major occupational groups, which shows that the airport provides employment opportunities across all occupational groups from professional and managerial to elementary occupations (Table 11.7).

Table 11.7: Occupational distribution of Stansted employees, 2015[37]

Occupational Group	Number	%
1: Managers, Directors and Senior Officials	600	5.4
2: Professional	1,100	9.9
3: Associate Professional and Technical	400	3.6
4: Administrative and Secretarial	700	6.4
5: Skilled Trades	1,100	9.9
6: Caring, Leisure and Other Service	1,800	16.5
7: Sales and Customer Service	2,100	19.2
8: Process, Plant and Machine Operatives	1,100	10.1
9: Elementary	2,100	18.9
Total	**11,000**	**100.0**

Note: Numbers have been rounded

11.107 The distribution of Stansted employees by salary band is shown in Figure 11.4. The average salary across all employees in 2015 was £24,200 which is 8% higher than average workplace earnings in the operational study area[xv].

[xv] Average workplace earnings in the operational study area in 2015 were £22,400.

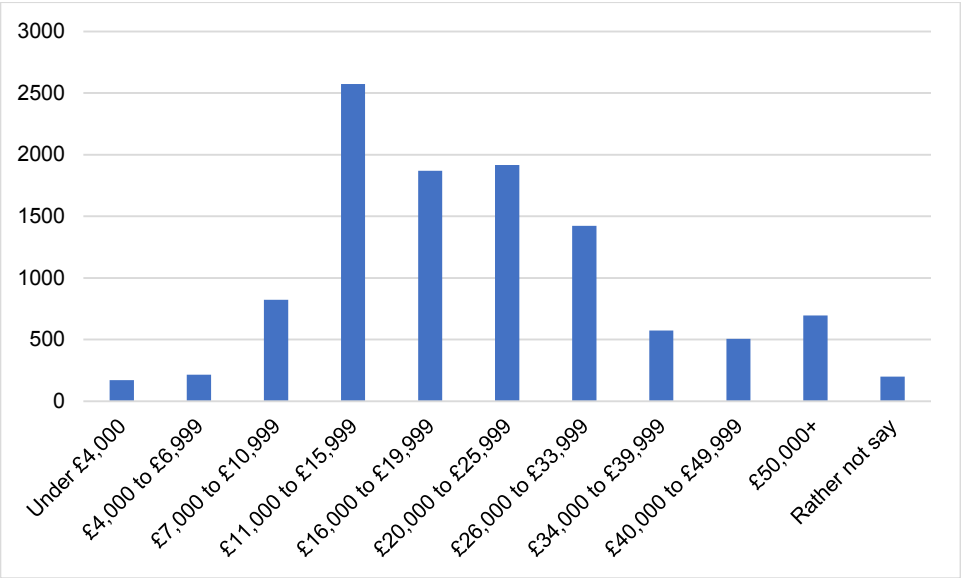

Figure 11.4: Distribution of Stansted employees by salary band, 2015[38]

11.108 **Direct off-airport** employment is limited by local planning policies around Stansted which require that airport related activity should be located within the airport boundary. As previous studies have found negligible amounts of off-airport employment, a survey was undertaken to determine if any employment of this type exists.

11.109 Using the methodology outlined in earlier in this chapter, direct off-airport employment has been estimated to be 330.

11.110 The operation of Stansted supports **indirect employment** in the study area through companies based at the airport buying goods and services in the local economy. Jobs are created in the suppliers (and in the supply chain of suppliers).

11.111 **Induced employment** is employment supported by the local expenditure of people whose jobs are either directly or indirectly supported by the airport.

11.112 As discussed above, a local employment multiplier of 1.8 has been used to calculate indirect and induced employment. GVA has been calculated by applying to the employment figures the average GVA per worker for the operational study area.

11.113 Total Stansted related employment and GVA in 2015 in the study area economy are shown in Table 11.8.

Table 11.8: Stansted related employment and GVA, 2015

	No. Employees	GVA, £m
Direct On-Airport	11,000	663.0
Direct Off-Airport	300	19.8
Indirect & Induced	9,000	546.3
Total	**20,300**	**1,229.1**

Note: Numbers have been rounded

Future Labour Supply in the Study Area

11.114 The population of the operational study area is projected[39] to increase from 2.95 million in 2015 to 3.37 million in 2028 which is an increase of 14%. Figure 11.5 shows operational study area population projections between 2015 and 2028 by broad age group. Although the population aged over 65 is the fastest growing age group, the largest growth, in absolute terms, is in the population of working age which is projected to increase by 201,000 to 2.13 million in 2028.

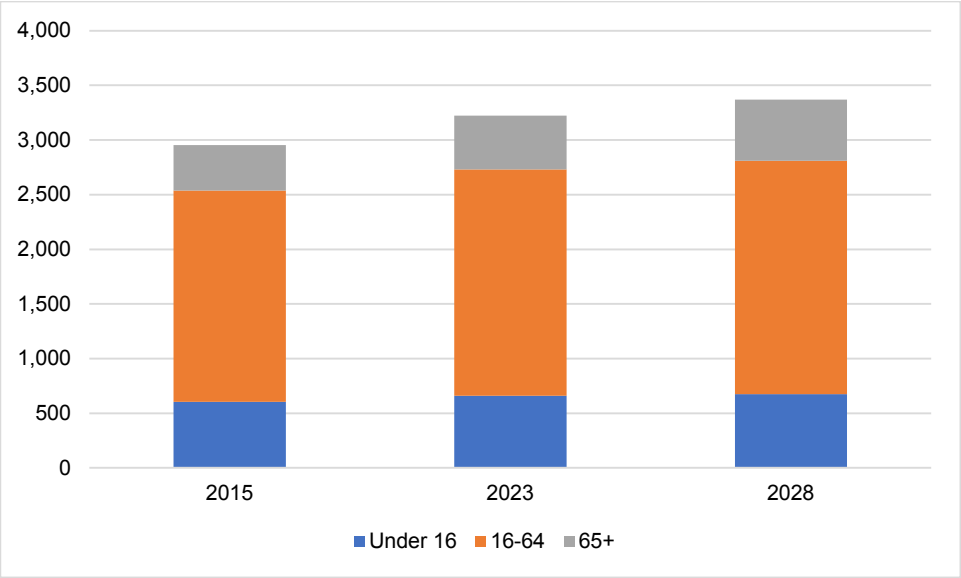

Figure 11.5: Operational study area population projections by age group, 2015 to 2028[40] (000s)

11.115 Using the methodology described earlier in this chapter, the economically active population has been estimated for the operational study area and is shown in Table 11.9. The economically active population resident in the operational study area is forecast by Optimal Economics to increase by 157,300 to almost 1.67 million in 2028. This is an increase of over 10% which is faster growth than in the East of England, but not quite as fast as London.

Table 11.9: Forecast Resident Labour Supply, Operational Study Area, 2015 to 2028[41] (000s)

	2015	2023	2028	Change 2015-2028	% Change 2015-2028
Study Area	1,515.6	1,622.9	1,672.9	157.3	10.4
East	3,025.2	3,134.9	3,189.8	164.5	5.4
London	4,609.6	5,018.0	5,200.4	590.8	12.8

Note: Numbers have been rounded

Future Employment in the Study Area

11.116 Forecast total employment in the operational study area in 2028 is shown in Figure 11.6. Employment is forecast to increase by over 131,000 to 1.4 million in 2028.

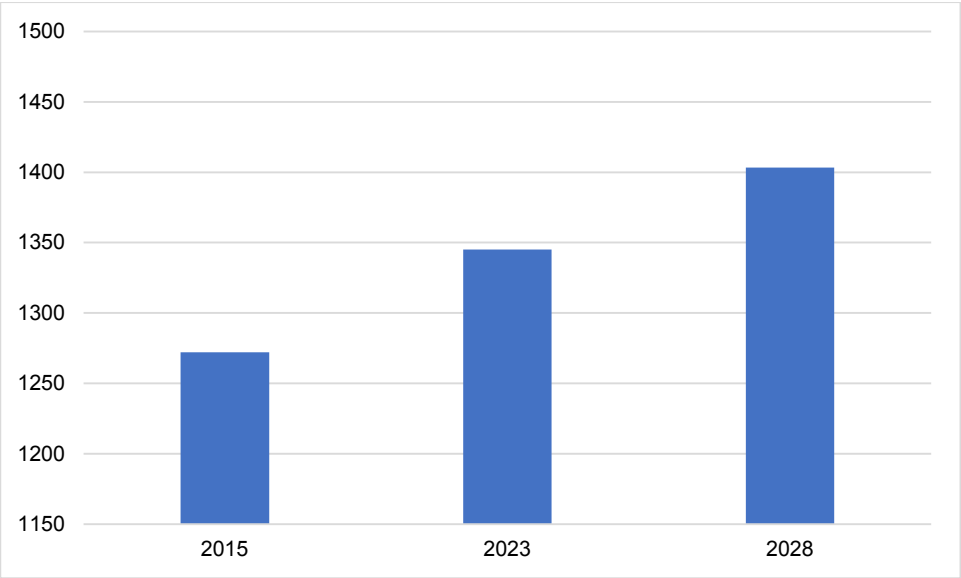

Figure 11.6: Employment forecasts for study area, 2015 to 2028[42], (000s)

Incorporated Mitigation

11.117 Stansted provides employment opportunities across a range of job types which are particularly attractive to young people and are increasingly important to North London's employment needs. The businesses based at the airport also source goods and services from other suppliers in the local area. Various mitigation and enhancement measures in relation to employment and socio-economic impacts have been set in place through the Section 106 Agreement in 2003, unilateral commitments made by STAL in the 2008 25+ permission and the 2015 SDP.

11.118 With regard to employment effects, the 2003 Section 106 Agreement committed Stansted to a regular programme of meetings with the Stansted Airport Employment Forum and to support agreed training programmes over the period to 2009. Commitments were also made to a regular review of the airport's employment and training strategy and to undertaking a survey of airport employment at intervals of no more than five years. In 2008, the airport agreed to commit any unspent resources from the 2003-2009 training programme to further training projects.

11.119 In 2015, the SDP committed the airport to the following:

- To enhance the Stansted Airport Employment and Skills Academy to help provide training and jobs for local people, with particular focus on attracting employees from disadvantaged areas;
- To invest in an apprenticeship programme;
- To develop and enhance a work experience programme;
- To work in partnership with local schools and colleges to secure a pipeline of future employees;
- To increase the annual apprentice intake to 10 and to aim to get 550 local people into work each year; and
- To work to extend bus and rail services to improve access to employment at the airport.

11.120 In 2015 Stansted opened the Aerozone – an on-site education centre providing educational materials to inspire the young generation. Working in partnership with local schools, the Aerozone focuses on:

- Science, technology, engineering and maths to inspire young people to consider engineering as a future career;
- The variety of jobs at the airport to encourage a career in the aviation industry; and
- The history of the airport.

11.121 In 2018 Stansted Airport College will open its doors to its first students and apprentices. The College is a partnership between Stansted Airport and Harlow College and is the first of its kind at any airport in the country. The College will offer a range of technical and professional courses in aviation, engineering, business, hospitality, retail and events.

11.122 In relation to wider economic performance, the 2003 Section 106 Agreement committed the airport to supporting an annual 'Meet the Buyers' event to assist local firms in securing airport related business.

11.123 The 2015 SDP contains a continued commitment to the Meet the Buyer events. It also commits the airport to working in partnership with local authorities, Local Enterprise Partnerships and regional bodies to attract funding for infrastructure to drive growth and job creation into the East of England.

11.124 To support economic development the airport has increasingly focussed on attracting long haul and full-service airlines to Stansted to provide direct services to Europe, the Middle East and USA, and a continuing expansion of the direct short haul network to key tourist and business destinations. From summer 2018, there will be new daily services to North America and a daily service to Dubai. The airport is continuing to work on securing new routes to Asia. Expansion of the route network will improve access for companies in the region to large and fast growing global markets. Long haul routes would also improve connectivity for cargo activity.

Impact Assessment

User Benefits and Wider Economic Impacts

11.125 This section identifies and assesses the impacts in terms of benefits to users and wider socio-economic impacts of the increase in the number of passengers and aircraft handled by the airport up to the level of the new limits associated with the development.

11.126 The proposed development (Development Case) will create user benefits. These benefits include enabling people to undertake flights which they could not otherwise take and increased convenience and reduced costs for other users. In addition to user benefits there will be gains for the economy and society at large. Aviation creates economic and social benefits through several mechanisms:

- Access to air services is an important factor in encouraging business investment, including from overseas (inward investment), in the UK and in specific localities;
- Access to air services supports business growth and increased productivity by enhancing access to markets and the interchange of people, skills and knowledge;
- Access to air services facilitates trade in goods (especially high value goods) and services; and
- Air services support tourism. Air is the predominant mode of transport for international tourists to the UK. Air services also allow UK tourists to enjoy a wide range of overseas destinations with benefits in terms of access to recreation, culture and family members.

11.127 Table 11.2 set out the forecasts of passengers, ATM's and cargo tonnage for Stansted in 2028 with and without the proposed development. For the wider socio-economic effects, the characteristics of these passengers are particularly important. Figure 11.7 shows the breakdown of passengers by journey (i.e. business or leisure) over the period to 2028.

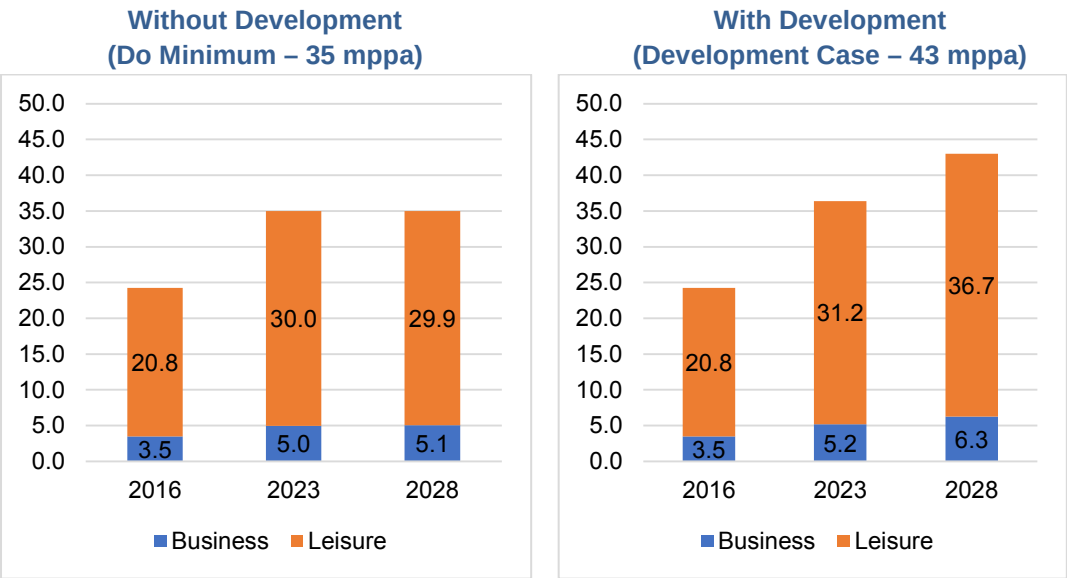

Figure 11.7: Stansted passengers by type, 2016 to 2028[43], (mppa)

11.128 In 2028 with the proposed development (the Development Case), it is forecast that there will be 6.3 million business passengers and 36.7 million leisure passengers using Stansted. This is an additional 1.2 million business passengers and 6.8 million leisure passengers over the Do Minimum scenario. Figure 11.8 shows the number of additional passengers in 2028 by their origin. The majority (57%) of additional passengers will be UK leisure passengers with a further 28% being foreign leisure passengers.

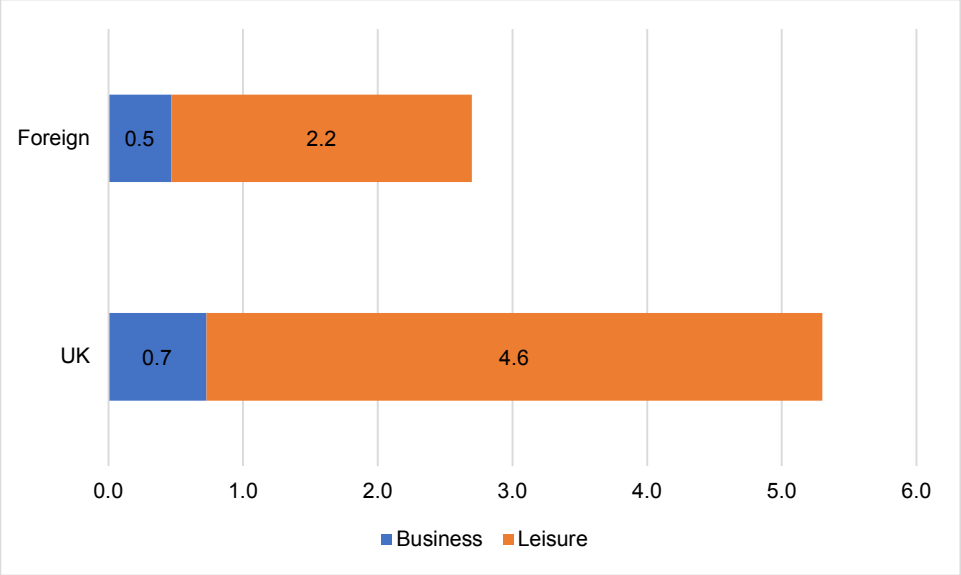

Figure 11.8: Additional Stansted passengers by origin & journey purpose comparision, Do Minimum v Development Case in 2028[44], (mppa)

11.129 Of the additional 5.3 million UK passengers, the place of residence is known for 4.4 million of them. It is forecast that 79%[xvi] will live in the East of England and London.

User Benefits

11.130 Additional airport capacity allows passengers to access flights more conveniently and/or at a lower cost. There is a direct benefit to people who would use the airport in any case from greater frequency of flights and flights to new destinations, making them more likely to be able to travel at their preferred time and providing access to a wider range of destinations without having to transfer. There will also be benefits for new passengers who can now fly from the airport. Some of these passengers would not be able to fly without the increased capacity and some will be passengers who would otherwise use another (less convenient) airport. The benefits from the proposed development to the users and providers of the additional capacity can be summarised as:

- Benefits to new (generated) passengers who would otherwise be unable to take these 'additional' flights;
- Existing users of the airport who will benefit from additional flight frequencies in terms of cost and convenience as a result of the additional capacity;
- Existing users able to fly direct to new destinations

[xvi] Also includes Buckinghamshire and Oxfordshire

- Freight users who will benefit from the cargo capacity;
- Benefits to airport businesses from increased throughput; and
- Government revenue including the air passenger duty paid by the additional passengers and other taxes from increased activity.

11.131 The proposed development will generate the types of benefit listed above. However, the quantification of user benefits is a complex process requiring large amounts of data for all UK airports along with forecasts of how provision of new capacity at airports would affect annual passenger numbers. As such, it is beyond the agreed scope of this study to value the user costs and benefits associated with the proposed development.

11.132 In 2028, the London airports system will be capacity constrained such that all demand will not be met. The proposed development at Stansted will enable 8 million more passengers to travel each year than would otherwise be the case. Even with the proposed development, there will still be an excess of demand for travel through the London airports system, but the excess will be reduced compared to the situation if the proposed development did not proceed (the Do Minimum scenario). The effect of the Development Case is assessed as **moderate beneficial**.

Wider Benefits

Inward Investment and Productivity

11.133 It is UK Government policy[45] to encourage investment in the UK by international businesses. Government policy aims to ensure the UK remains the leading destination in Europe for foreign direct investment (FDI) and becomes the leading destination for FDI from emerging economies. As stated in the Government's aviation policy call for evidence 'Beyond the Horizon', "*Aviation has a key role to play in achieving the government's ambitions to increase productivity and grow the economy*".

11.134 Air transport plays a major role in contributing to the attractiveness of an area to FDI. Appendix 11.2 provides further details of FDI to the UK and the role of transport in investment decisions.

11.135 A number of studies have found that expansion of air passenger traffic has a positive impact on economic growth and productivity. A study undertaken by Oxford Economic Forecasting (OEF)[46] in 2006 found that increased use of air services helps to improve the competitiveness of almost all aspects of companies' operations, including sales, logistics and inventory management, production and customer support. Moreover, by expanding the market in which firms operate, air services also act as a spur to innovation, increased sales and profits, and improved efficiency.

11.136 The OEF report set out calculations of impact which indicate that every additional business air passenger travelling will result in an increase of annual national income (GDP) after 10 years of approximately £1,000 (in 2016 prices).

11.137 A report produced by Oxera in 2009[47] set out various calculations of the wider impact of alternative policies (and thus passenger numbers) on the UK economy. These calculations implied that every additional passenger (of all types) would eventually create an impact on GVA of over £700 per annum through impacts on trade, investment and transport efficiency.

Contribution of Proposed Development

11.138 The evidence noted above shows that access to air transport is an important consideration in foreign direct investment decisions. Stansted is an important asset for the East of England and London and the proposed development will enable an additional 1.2 million business passengers to travel through the airport, the majority of which will have an origin or destination in the study area. While it is not possible to quantify the effect of the Development Case in terms of the number of additional investment projects to the area, the proposed development will enable the Airport to contribute to the 'attractiveness' of the area and its growth and vision, particularly the LSCC, the GCGP LEP area and the A120 Haven Gateway growth corridor in Essex..

11.139 If the figure derived from the OEF work referred to above is adopted, the wider impacts on business efficiency and productivity from the proposed expansion at Stansted would produce an increase in annual UK GVA of £1.2 billion. As around 79% of the passengers will be from the East of England and London the impact at that level is estimated to be £0.95 billion.

11.140 Were the figures implied by the Oxera work to be adopted, the wider impact would be even greater at around £5.6billion at the UK level and £4.4 billon at the London and East of England level.

11.141 On this basis, and using the criteria in Table 11.4, the effect of the Development Case is assessed as **major beneficial**.

Wider Benefits – Tourism

In-Bound Tourism

11.142 International tourism is a major worldwide industry and air travel is a key facilitator of the UK tourism industry. Appendix 11.2 provides details of the value of tourism to the UK economy. In summary, the main points to note are:

- In 2016, international tourists made 37.6 million visits to the UK and spent almost £22.5 billion;
- The majority of visits (74%) and spending (86%) were made by people arriving by air. Spend per visit of people arriving by air is almost £700 per visit compared to £310 and £330 for arrivals by sea and the Channel Tunnel respectively;
- Of the 37.6 million visits to the UK in 2016, almost 9.2 million were for business purposes with air transport being used by 63% of these visits. Expenditure per visit by business passengers arriving by air (£860) is, on average, eight times more per visit than those arriving by sea (£100) and four times more than those arriving by the Channel Tunnel (£200);
- Stansted is an important port of entry into the UK for foreign leisure passengers. Heathrow is the principal port of entry for visitors to the UK, accounting for 25% of all arrivals, with Gatwick, Stansted, Dover and the Channel Tunnel each accounting for between 10% and 13%. Stansted is the third busiest airport and fourth busiest port of entry accounting for almost 4.4 million arrivals (12% of all arrivals) with the majority coming from Europe; and
- London is the main tourist destination accounting for over 50% of all visits to the UK and 53% of all expenditure.

Out-Bound Tourism

11.143 The experiences, including cultural experiences, enjoyed by UK residents who are able to travel abroad is acknowledged in the Government's aviation policy call for evidence as a benefit and an enhancement to quality of life. Appendix 11.2 provides details of out-bound tourism from the UK in 2016. The main points to note are:

- In 2016 there were 70.8 million visits abroad by UK residents who spent £43.8 billion;
- Air transport accounts for 84% of visits abroad and 88% of spending abroad by UK residents. Almost 83% of all business trips are made by air; and
- Heathrow and Gatwick are the largest ports of exit for UK tourists traveling abroad, accounting for 9.9 million and 11.5 million UK residents respectively. Stansted is the fifth largest port of exit with 3.2 million people travelling through the airport (5% of UK residents travelling abroad), the great majority of who were travelling to Europe (97%).

Contribution of Proposed Development

11.144 The proposed development will enable more leisure trips to be made through Stansted, some of which will be inbound to the UK and some will be outbound from the UK. It has been argued that increasing airport capacity will have an adverse effect on the UK trade balance and the domestic tourism industry as an increase in overseas holidays by UK residents will be at the expense of domestic holidays.

11.145 However, in the event that the demand for overseas holiday trips was suppressed by failure to proceed with the proposed development, the result might be:

- An increase in people going abroad by rail or sea with associated increased expenditure;
- A reduction in the number of overseas trips made, but the trips taken could be for longer and be more expensive;
- An increase in people taking holidays in the UK with associated increased expenditure;
- People spending the money that would have spent on the trip on other things which may well be imported goods or services; and
- Increased savings.

11.146 It is also necessary to recognise that many overseas trips have a substantial element of 'home country' content such as locally based UK airlines; UK based staff and airport revenue and agent costs.

11.147 Hence, the effect of a constraint in air travel is likely to be some combination of the expenditure shifts described above, but the overall effect is impossible to quantify. It cannot

however, be assumed that the Do Minimum scenario at Stansted would improve the balance of trade as compared to the Development Case[xvii].

11.148 The UK economy will certainly benefit from the additional foreign leisure visitors using Stansted in 2028 as a result of the proposed development. Figure 11.8 showed that the proposed development would enable an additional 2.2 million foreign leisure passengers to arrive in the UK through Stansted. Assuming that these passengers would not be able to visit the UK without the expansion in capacity and that a passenger is counted twice (once on arrival and once on departure), the number of additional foreign visits to the UK via Stansted in 2028 is estimated to be 1.1 million. This is an increase in visits of 2.9% over the level of international visits to the UK in 2016.

11.149 Overseas visitors to the UK by air spend, as noted above, an average of almost £700 per visit. Applying this figure to the number of additional overseas visits yields an estimate of spending by these additional visitors of £779 million in 2028 (2016 prices). This additional expenditure is estimated to support an additional 13,900 jobs in the tourism industry which would create GVA of £336 million (2016 prices) in 2028. This estimate assumes that all the additional passengers who are able to fly to the UK through Stansted in 2028 would not visit the UK in the absence of the proposed development and is therefore the maximum estimate of the effect on in-bound international tourism.

11.150 While it is possible that some of the additional foreign tourists who will arrive through Stansted if the cap is lifted would otherwise make the trip by another route, the constraints on airport capacity and the existence of other holiday options mean that many, if not most, of these trips would not take place. If follows logically that the associated spending in the UK may not be made at all, without the increase in capacity at Stansted.

11.151 The proposed development would enable an additional 4.6 million UK leisure[xviii] passengers to make international trips in 2028 which would equate to 2.3 million additional trips. These additional trips by UK residents provide an increase in consumer benefit and social/cultural benefits to those individuals.

11.152 Using the criteria in Table 11.4 the effect of the proposed development on international tourism is assessed to be **major beneficial**.

Wider Benefits – International Trade

11.153 International trade is an important mechanism in promoting economic growth and in raising standards of living. The aviation industry plays an important role in facilitating international trade in goods to and from the UK. Appendix 11.2 provides details of the volume and value of UK exports and imports and the role of air transport. The main points to note are:

- In 2016, the value of UK exports and imports was £291 and £425 billion respectively[48]. London and the East of England together account for 21% of all exports and 25% of all imports;

[xvii] Stop Stansted Expansion (SSE) proposed in the High Court in February 2009, that the 'tourism deficit' had not been properly taken account of at the public inquiry to increase passenger throughput at Stansted to 35mppa (G1). This challenge was dismissed by the Judge who stated that *"by trying to bring the 'tourism deficit' into account against a particular air transport scheme (i.e. the G1 proposal), SSE were calling into question the Government's judgement of national economic policy which had already taken that phenomenon into account*".

[xviii] Leisure passengers include holidays, visiting friends and relatives, education and other social activities.

- The majority (55%) of UK imports are from the EU while just over half (51%) of UK exports are to non-EU destinations;
- In 2016, over 48 million tonnes of goods were exported and 158 million tonnes imported through UK ports from non-EU[xix] destinations with a value of £163 billion and £226 billion for exports and imports respectively;
- All UK airports account for 48% of exports and 46% of imports by value, but less than 1% of the total volume of exports and imports which reflects the high value, low weight characteristics of air freight; and
- In 2016, goods with a value of £6.3 billion were exported through Stansted to non-EU destinations while goods with a value of £6 billion were imported. Overall, Stansted accounted for 5% of all non-EU trade carried through UK airports in volume terms but almost 7% in value terms.

Contribution of Proposed Development

11.154 Stansted has a unique role in the London airports system, in that the majority of its freight is carried on cargo aircraft reflecting its role as a freight base for the main logistics operators and integrators. Table 11.2 showed that in 2028 the proposed development would enable an additional 800 tonnes of cargo to be carried through the airport. This represents an increase of 0.2% on the Do Minimum scenario and is thus assessed as a **minor beneficial** effect.

Employment Effects: Construction

11.155 The construction of the new stands and taxiway links to the runway will cost almost £48 million over a twelve month period between 2021 and 2022. This expenditure is a relatively small proportion of total forecast capital expenditure at Stansted of £481 million between the third quarter of 2016 and the first quarter of 2030.

11.156 Total employment related to the construction of the proposed development comprises the same components (direct, indirect and induced) as operational Stansted employment which were defined at the beginning of the Chapter. Using the methodology set out above, direct employment has been estimated as almost 200 over the twelve-month period between 2021 and 2022. The number of jobs per year is shown in Figure 11.9. Construction employment is forecast to be approximately 100 in 2021 and 2022. GVA associated with this employment is estimated to be £16.2 million in 2015 prices.

11.157 Optimal Economics has reviewed evidence on regional multipliers from other studies and concluded that the appropriate multiplier for airport construction work at the study area level is 1.5. The indirect and induced employment in the study area is thus estimated to be 100 over the twelve month period supporting GVA of £7.2 million. In total the construction of the new airfield infrastructure to support the proposed development will create a total of almost 300 jobs and support GVA of £23.4 million over the twelve-month period between 2021 and 2020.

[xix] Detailed information on the volume and value of international trade by UK port is only available for trade conducted with countries outside the EU.

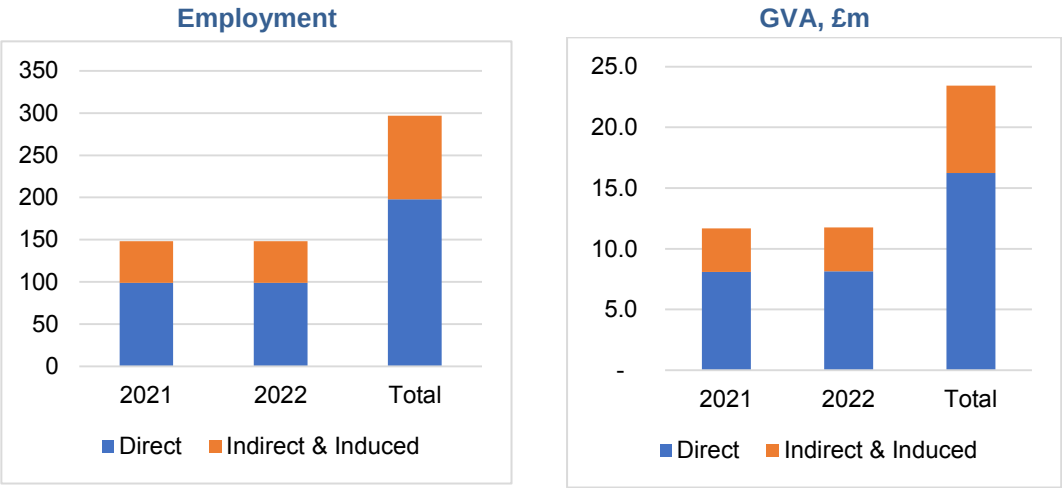

Figure 11.9: Construction employment and GVA, 2018 to 2020[49]

11.158 As referred to earlier in this chapter, in 2016 there were 384,000 people working in the construction industry in the study area. Construction work associated with the proposed development is estimated to create 100 direct jobs in both 2021 and 2022. These jobs represent 0.03% of construction employment in the study area. The number of indirect and induced jobs at 50 in each year is also very small relative to total employment in the study area (almost 8 million). Given the scale of forecast construction employment, the employment effect of the construction of the required infrastructure for the proposed development is assessed as **negligible**.

Employment Effects: Operations

11.159 The assessment of the employment effects associated with the operation of the proposed development requires forecasts of the future levels of Stansted related employment for the Do Minimum scenario and the Development Case. These forecasts have been made using the methodology outlined above. Table 11.10 shows the forecasts of Stansted related employment and GVA in 2028 in the Do Minimum scenario and the Development Case.

Table 11.10: Stansted related employment and GVA, 2028

	Without Development (Do Minimum)		With Development (Development Case)	
	Employment	GVA, £m	Employment	GVA, £m
Direct on-airport	13,200	866.9	16,200	1,065
Direct off-airport	300	20.6	300	21
Indirect & Induced	10,800	710.0	13,200	869
Total	**24,300**	**1,597.6**	**29,700**	**1,954.8**

11.160 Table 11.11 shows the effect of the proposed development on employment and GVA in 2028. By this time, the proposed development is estimated to support additional employment of 5,400 and GVA of £357 million in the operational study area compared to the Do Minimum scenario.

Table 11.11: Effect of proposed development on Stansted related employment and GVA, 2028

	Employment	GVA, £m
Direct (on and off-airport)	3,000	198.5
Indirect and Induced	2,400	158.8
Total	**5,400**	**357.3**

11.161 To assess the effect of the additional employment Table 11.12 sets out the forecasts of labour supply and demand in the study area. The Table shows that employment in the study area is forecast to be over 1.4 million in 2028 which is an increase of 131,100 from 2015. The availability of people to take up this employment is forecast to be 1.67 million which is an increase of 157,300 from 2015. In 2028, there are forecast to be 269,600 more people available for work in the study area than there will be jobs.

Table 11.12: Labour supply and demand in the study area

	2015	2028	Change 2015-2029	% Change 2015-2019
Labour Supply	1,515.6	1,672.9	157.3	10.4
Labour Demand	1,272.2	1,403.3	131.1	10.3
Supply minus Demand	243.4	269.6		

11.162 The additional jobs created by the proposed development (Development Case) would thus contribute to reducing this 'shortfall' of 269,600 jobs, reducing the need for out-commuting and to achieving the jobs target (117,745 new jobs) in the Economic Plan for Essex.

11.163 Changes in the level of employment in an area can, by affecting in and out migration, impact on housing demand, though demand can also be affected by changes in commuting patterns. As stated previously, in preparing their assessments of future housing need, local authorities consider future employment forecasts and whether adjustments are required to the housing delivery rate to balance jobs and workers. In work to support the emerging local plans of Uttlesford and East Hertfordshire (the two largest authorities in terms of Stansted employees), growth at Stansted of level now contemplated has been planned for. In the light of the very small labour market impact of the development relative to wider forces, Optimal Economics conclude that the scale of any consequential effects on the net demand for housing in the study area can only be very minor.

11.164 Using the criteria in Table 11.4 the operational employment effect of the proposed development is assessed as beneficial. In terms of the scale of the effect, the additional jobs represent 3.4% of the forecast increase in labour supply in the study area between 2015 and 2028 and would reduce the *growth* of the shortfall of jobs by 21%. On this basis, the employment effects are assessed as **moderate beneficial**.

Further Mitigation

11.165 No significant adverse effects have been identified during the assessment but, to ensure the socio-economic benefits of the proposed development are maximised, STAL will continue to develop and enhance the initiatives that are already in place. Stansted is one of the largest employment sites in the East of England and provides employment opportunities across all occupational groups.

11.166 STAL will continue to develop some key initiatives including the Stansted Airport Employment and Skills Academy with a particular focus on attracting employees from disadvantaged areas including Harlow, Braintree, other parts of Essex and North-East London. By 2028 STAL's aim is to increase employment of local people in line with airport employment growth to 700 per year.

11.167 The new Stansted Airport College will provide a purpose-built training facility for up to 500 young people per year to gain industry recognised qualifications and work experience around the airport. This will ensure the students have the correct skills to take advantage of the employment opportunities at the airport and will secure a pipeline of future employees.

11.168 As described in ES Chapter 6 (Surface Access and Transport and the Transport Assessment in ES Volume 3), the ASAS focuses on connections to areas targeted for workforce recruitment including North London Boroughs and the Airport Travelcard provides significant savings over standard fares to encourage travel by public transport.

Residual Effects

11.169 The residual socio-economic effects of the proposed development, accounting for the 'further mitigation', will remain at the same broad level of significance as identified in the impacts assessments above.

Cumulative Effects

11.170 The new draft Uttlesford Local Plan[50] includes the Northern Ancillary Area of Stansted Airport ('Northside') in its strategic allocation of employment land. This is a 55 hectare site allocated for B2 and B8 employment uses with a target provision of 145,500m^2 of B2 and B8 floorspace[xx]. Assuming an even split between B2 and B8 employment uses, it is estimated that the site could support employment of 2,900 when fully developed.

11.171 Table 11.13 shows the cumulative effect of developing this land and the direct employment required by Stansted in 2028 in the Do Minimum scenario and the Development Case. The development of additional capacity at the Airport under the Development Case combined with the full development of Northside is forecast to support employment of 19,400 in 2028.

Table 11.13: Cumulative effect of development of Northside and direct airport employment, 2028

	Without Development (Do Minimum)	With Development (Development Case)
Direct Airport Employment	13,500	16,500
Northside	2,900	2,900
Total	**16,400**	**19,400**

[xx] Uttlesford District Council, Regulation 18 Local Plan, Appendix 2 – Monitoring Framework

Conclusions

11.172 Table 11.14 provides a summary of the socio-economic impacts.

Table 11.14: Summary of socio-economic impacts

Impact	Description of Impact of Proposed Development	Assessment of Impact
User Benefits	Benefits to new and existing passengers from increased range of flights and improved flight frequencies. Enabling an additional 8 million passengers to travel at a time where there is excess ('unmet') demand for travel through the London airports.	**Moderate Beneficial**
Wider Benefits: - Inward Investment & Productivity	Enabling an additional 1.2 million business passengers to travel through the Airport and contributing to the 'attractiveness' of the area to inward investors.	**Major Beneficial**
Wider Benefits: - Tourism	Enabling 2.2 million foreign leisure passengers to arrive in the UK through Stansted and 4.6 million UK passengers to make a leisure trip abroad. In-bound leisure passengers are estimated to support 13,900 jobs and GVA of £336 million in 2028.	**Major Beneficial**
Wider Benefits: - International Trade	Enabling an additional 800 tonnes of cargo to be carried.	**Minor Beneficial**
Construction Employment	Employment constructing the physical works of 300 and GVA of £23.4 million over a ten month period.	**Negligible**
Operational Employment	Additional employment of 5,400 and GVA of £357.3 million compared to the Do Minimum scenario.	**Moderate Beneficial**

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