



Horsham
District
Council



Gatwick Northern Runway Project DCO (Project Reference: TR020005)

Deadline 3 Submission (19 April 2024)

Crawley Borough Council (IP Ref: GATW-AFP107), West Sussex County Council (IP Ref: 20044715), Horsham District Council (IP Ref: 20044739) and Mid Sussex District Council (IP Ref: 20044737)

1. Overview

1.1 This document provides a response at Deadline 3 (19 April 2024) from the above West Sussex Joint Local Authorities (hereafter the 'Authorities') on the following:

- Comments on the Gatwick Airport Limited (hereafter the 'Applicant') responses to the Issue Specific Hearings including:
 - **ISH2 - Control Documents / DCO**
 - ISH2-11 – To submit a draft S.106 Agreement
 - **ISH3 – Socio-Economics**
 - ISH3-1 – Applicant to provide a summary of controls within the existing S.106 and how these would be taken forward in the Northern Runway project S.106 Agreement
 - ISH3-4 – Applicant to respond to Crawley Borough Council's position in relation to the declaration of a Housing Emergency
 - ISH3-5 – Applicant to review the implications of using the 2011 census for the assessment of housing need during construction (possibly wider housing issues)
 - ISH3-7 – Applicant to provide signposting regarding the provision of data on health and well being and cumulative impact.
 - **ISH4 – Surface Transport**
 - ISH4-2 – Provide 2023 staff travel survey details and commentary in writing (Appendix D: Doc ref 10.9.7 2023 Travel to Work Survey Report)

- ISH4-3 – Provide commentary on the conflicting considerations for use of June traffic levels over the traffic levels in August (Appendix B: Doc ref 10.9.7 Technical Note on the Use of June in Transport Modelling)
 - ISH4-4 – Provide as requested by National Highways, further detail about the underlying assumptions in respect of post-COVID modelling
 - ISH4-5 – Respond to several issues raised by Interested Parties raised in Agenda Item 4.2 (includes Appendix C: Doc Ref 10.9.7 Technical Note on Rail Crowding Clarification)
 - ISH4-7 – Clarify that the provision of the 2,500 robotic car parking spaces is a net increase of airport car parking numbers. In addition, explain why if the Development Consent Order were granted such an increase should not be considered in the Project case.
 - ISH4-9 – Comments on the proposed revisions to the Surface access Commitments (SAC) submitted by National Highways at deadline 2.
- **ISH5 - Aviation Noise**
 - ISH5-3 – To consider nighttime noise sound levels at specific school raised by Cllr Lockwood, Lingfield Parish
 - ISH5-6 – Applicant to respond to the points of detail raised at the hearing by Interested Parties in its written representations.
 - ISH5-7 – Applicant to provide an updated annex of how the noise insulation scheme will be implemented (Appendix E; Doc ref 5.3v2 (REP2-031))
- Comments on Deadline 1 Submissions by the Applicant as stated in the Authorities Deadline 2 submission:
 - Para 2.31 - Air Quality Note responding to the Applicants Deadline 1 Submissions
 - Para 2.32 - Needs Case Technical Appendix (doc ref 10.6)
 - Para 2.32 - Capacity and Operations Summary Paper (Doc ref 10.7)
 - Para 2.32 - The accompanying Appendix Airfield Capacity Study (Doc ref 10.7)
- Review of Applicant's Deadline 2 Arboricultural Submissions
- The Joint Local authorities (JLAs) suggested approach to setting thresholds for key matters such as Air Quality, Aircraft Noise, Greenhouse Gases and Surface Access and aligning such thresholds with the future growth of the airport (Paragraph 1.3 of the West Sussex Authorities Deadline 2 Submission)
- Commentary on the Applicant's Engagement with the Authorities
- Cross referencing to submissions made by:
 - The Authorities Written Representation regarding the proposed changes to the DCO; and

- The Legal Partnership Authorities regarding Examiners Written Questions (ExQ1).

2. Comments on the Applicants responses to the Issue Specific Hearings

2.1 ISH2 Control Documents /DCO - Action Point 11: Draft S.106 Agreement

- 2.1.1 A full first draft of the Applicant's proposed DCO s106 Agreement was shared with the Joint Local Authorities (JLAs) on 1 February 2024. The JLAs provided their comments on the principle of the main commitments within the draft DCO s106 Agreement to the Applicant on 23 February 2024. An updated draft DCO s106 Agreement was then provided to the JLAs on 25 March 2024 which incorporated some amendments (where considered by GAL to be appropriate) made in response to the JLA's comments as well as those provided separately through the Written Representations, hearings, and Statement of Common Ground discussions.
- 2.1.2 The JLAs are in the process of reviewing the draft DCO s106 Agreement provided on 25 March 2024 and have been holding topic specific meetings to review the various obligations with their legal team. The JLAs have also reached out to organise meetings with GAL and its legal team on various topics and GAL have agreed that such meetings will be useful.
- 2.1.3 The JLAs were pleased to note that the draft DCO s106 Agreement provided on 25 March 2024 took into account some comments made by the JLAs on the first draft shared. We are confident that agreement can be reached on certain obligations and GAL and the JLAs will continue to work together and engage to make progress on the draft agreement.
- 2.1.4 However, the JLAs were frustrated to see that several obligations requested by the JLAs constituting mitigation for the proposed development have been rejected by the Applicant and are currently not provided for in the draft DCO s106 Agreement. This includes (but is not limited to):
- 2.1.4.1 Mitigation for housing (affordable and temporary) impacts in the form of a housing fund;
 - 2.1.4.2 The creation of a Landscaping and Ecology Enhancement Fund and provision for an associated Project Officer.
 - 2.1.4.3 CBC's request for a contribution towards Air Quality monitoring
 - 2.1.4.4 An obligation on GAL to update and review the Noise Action Plan
 - 2.1.4.5 Noise surveys to examine community annoyance
- 2.1.5 The JLAs are also considering whether obligations proposed in the draft DCO s106 Agreement would be more suitably or appropriately controlled by Requirements in the Development Consent Order. This applies in particular to provisions in the Surface Access Transport Schedule of the draft DCO s106 Agreement such as paragraph 2 (Gatwick Area Transport Forum), 3 (Transport Forum Steering Group), 4 (Surface Transport Fund) and paragraph 5

(Investment in Bus and Coach Services), given that they generally serve to provide an explanation as to how the SACs will be delivered, rather than constituting standalone obligations in their own right.

- 2.1.6 The JLAs are also considering the general principles of the proposed 'monitoring period' and the extent to which certain obligations are sufficiently precise and enforceable and fall within the parameters of section 106 of the Town and Country Planning Act 1990.

2.2 ISH3 Socio-economics - Action Point 4: Crawley Borough Council Housing Emergency

- 2.2.1 The Joint Local Authorities provide the following feedback in response to comments from the Applicant [REP2-005] regarding declaration of a Housing Emergency by Crawley Borough Council.
- 2.2.2 The applicant states at paragraph 3.3.3 that the Housing Emergency is not reflected in any planning policy document or other planning-related document relevant to this DCO application. Crawley Borough Council (CBC) has previously raised its concerns relating to impacts of the DCO on the need for and availability of temporary accommodation in its October 2023 Relevant Representation [RR-0935] at Para 18.1 (iii and vi) and through the West Sussex Local Impact Report [REP1-068] (Paras 18.49 to 18.56). Lack of availability of temporary accommodation is a very real and growing issue in Crawley, hence the council's declaration in February 2024 of a Housing Emergency. The Local Authorities' view is that the Non-Home Based (NHB) workforce associated with the Northern Runway Project construction phase will increase pressures on temporary accommodation - this represents a local impact, and it is right that the matter is considered and mitigated as part of the DCO.
- 2.2.3 At paragraphs 3.3.4 and 3.3.5 the Applicant refers to circumstances that have necessitated the Housing Emergency declaration, including a slowing of housing delivery due to water neutrality, pressures related to closure of Asylum Contingency hotels, and the wider issue of home ownership unaffordability - the Applicant considers these factors to be unrelated to the DCO. CBC would point out that whilst these are existing issues, a combination of slower affordable housing delivery and increased affordable housing need is placing pressures on the availability of temporary accommodation to house those households in greatest need. This pressure has exhausted the council's own short-term accommodation supply, necessitating a reliance upon bed & breakfast, hotel and private rented sector accommodation, including locations outside of the borough. A saturated short-term accommodation market has resulted in increased rents, and increased challenges for the council in accessing and funding this type of accommodation. CBC is concerned that introduction of a significant number of NHB workers during the construction phase will further add to these pressures, and therefore considers that it is appropriate for this increased impact to be mitigated through the DCO process.
- 2.2.4 At paragraph 3.3.6, the Applicant refers to a 'worst case' of 115 NHB workers seeking short-term accommodation in Crawley, based on an assumption of 20% of construction workers being non home-based. The Local Authorities have

repeatedly questioned whether this assumption is suitably precautionary, most recently through the West Sussex LIR (Para 18.47). It is noted that in the case of the lower Thames Crossing, Highways England (as promoter) suggested that 35% of the construction workforce (totalling 4,514 at peak) would be 'home based', i.e. the NHB proportion would be 65%. For Luton Airport, the Airport projected that 48% of the (1,410 at peak) construction workforce would be 'home based', with the other 52% 'NHB requiring temporary accommodation. Each has forecasted a much larger proportion of NHB workers than identified by the Applicant, and the Local Authorities remain concerned that the true impact of the construction workforce on temporary accommodation is being underestimated. Any increased competition for the limited available short-term accommodation in the borough will have an impact on the Borough Council's ability to house those it has a responsibility to house within the borough.

- 2.2.5 At paragraph 3.3.7, the Applicant sets out that the NHB workforce would not place additional demand on the affordable rented sector. CBC wish to clarify that the council is not disputing this point, as NHB workers would be highly unlikely to seek this type of accommodation and would in any case be a lower priority compared to others on the council's waiting list. The concern of CBC (and the wider Local Authorities) relates to the increased pressure that will be placed on market temporary and short-term accommodation due to the DCO. By taking up private short-term and temporary accommodation, NHB workers will impact negatively on the ability of CBC to accommodate people on its affordable housing waiting list as it is already having to use sources of private short-term supply having fully used all of the council's own short term accommodation stock.
- 2.2.6 At paragraph 3.3.8, the Applicant refers to NHB workers using tenures including Houses in Multiple Occupation and shorter-term accommodation forms such as hotels and B&Bs. With the council's own short-term accommodation stock at capacity, it is precisely these other forms of accommodation that the council is relying on accommodate those in need. This is an important point to clarify, as at paragraph 3.3.9 the Applicant refers to NHB workers not impacting on the demand for temporary emergency accommodation that is supported by CBC. As previously set out, CBC is not anticipating that NHB workers will use (or be eligible to access) the council's stock - this is not the key concern. Rather, it is the recognition that NHB workers will use short-term accommodation within the private sector, increasing existing pressures, that is the principal concern. The NHB construction workers related to the Project will be competing directly with CBC for the same accommodation.
- 2.2.7 At paragraph 3.3.10 the Applicant refers to Crawley's Draft Local Plan 2024-2030 examination hearing Stage 1 Written Statement to the Inspectors' Matter 3: Housing Needs (CBC reference [CBC.MIQ.003a](#)) dated November 2023. The Applicant specifically references text at Paragraph 3.2.3 of that document, considering this to appear inconsistent with the council's position on housing during the DCO process. CBC disagree with the Applicant's suggestion of inconsistency, and sets out the relevant paragraph below (CBC emphasis added in bold underline):

*"While CBC does **not** endorse the analysis set out in the Appendix **in full**, it does not disagree with its conclusions regarding the implications of the*

*project for the **overall** level of housing need during the period up to 2040. Accordingly the Northern West Sussex Housing Needs Statement of Common Ground, July 2023 (Submission Document Reference: SoCG/02), page 9, sets out that the Housing Market Area Authorities do not consider the DCO proposals as justifying an increase in housing need."*

2.2.8 CBC is agreeing (as set out in the Statement of Common Ground with the Applicant) that the overall level of housing need is not increased because of the NRP DCO. However, the council retains concerns that the NRP DCO will place further pressures on temporary accommodation during the construction phase, and on affordable housing which remains a significant need for Crawley that cannot be met in full through the Crawley Local Plan and will not be met through joint-working with neighbouring authorities. This is why CBC made clear in the Written Statement extract above that it does **not** endorse GAL's housing analysis **in full**. The Applicant appears not to have made what is an important distinction between **overall** housing delivery, and the delivery of affordable and temporary housing.

2.2.9 In further response to the Applicant's suggestion of inconsistency, which is refuted by the council, CBC wishes to draw attention to its Stage 1 Written Statement to the Inspectors' Matter 5: Gatwick Airport (CBC reference [CBC.MIQ.005a](#)) dated November 2023. Paragraphs 5.5.5 and 5.5.6 of the Written Statement explain the council's position, setting out that whilst it is agreed that the NRP will not create an overall need for increased housing numbers, there remains concern that the NRP could increase the need for affordable housing specifically. Relevant text from these paragraphs is provided below:

5.5.5: The councils agree that the evidence does not demonstrate that actual need with the DCO is higher than the Standard Method indicates. As the Crawley Borough Submission Local Plan, May 2023 (Submission Document Reference: CBLP/01) Policy H1 establishes a supply-led position for housing which maximises the amount of housing possible to meet within the borough boundaries and is unable to meet its existing housing needs in full, even if it was considered through the DCO Examination that additional housing is required to be planned due to the NRP this could not be accommodated within Crawley borough.

5.5.6: CBC is concerned about the need for affordable housing generated by the NRP, given the lower likelihood of staff in lower paid jobs travelling considerable distances to work at the airport...CBC considers the NRP could increase the demand for affordable housing in Crawley and its neighbouring authorities beyond that which the Submission Local Plan can plan for given supply constraints. Through the DCO process, CBC is seeking further information on the impact on affordable housing within the borough to ensure this can be mitigated, if required.

2.2.10 The position in relation to what is a significant unmet affordable housing need for Crawley, and linked to this, concern regarding impacts on temporary accommodation, is further explained by the Local Authorities through the West

Sussex response to SE.1.15 of the Examining Authority's written questions and requests for information (ExQ1) Issued 28 March 2024.

2.3 ISH3 Socio-Economics - Action Point 5: Census Data and Temporary Accommodation

- 2.3.1 The Examining Authority has asked the Applicant to review implications of using 2011 (as opposed to the 2021) Census data for its assessment of construction phase accommodation needs.
- 2.3.2 The Applicant's updated 2021 Census based analysis points to a greater availability of temporary accommodation compared to the 2011 data. The Applicant therefore considers its previous findings to be unchanged, if not strengthened, and reiterates its view that demand for temporary accommodation arising from NHB workers during the construction phase of the Project is unlikely to give rise to significant housing effects.
- 2.3.3 The Local Authorities welcome the updated work prepared by the Applicant, though retain concerns with regards to the impact of NHB workers in adding to existing demand for short-term accommodation.
- 2.3.4 Firstly, the Local Authorities would reiterate concerns raised in response to the Applicant's ISH3 Action Point 4 feedback [REP2-005], namely that the assumption of 20% NHB workers for the NRP DCO construction phase does not appear sufficiently conservative when compared to NHB workforce assumptions of 65% for the lower Thames Crossing DCO, and 52% NHB workers for the Luton Airport DCO. As discussed at 18.47 of the West Sussex LIR, [REP1-068] the Applicant's (Quod's) Gravity Model, in assuming for 20% NHB workers, does not appear to take account of current labour supply constraints within the local authorities located in the FEMA. It therefore does not appear realistic, and does not apply a worst-case approach. Clearly, maximising the role of locally based contractors will help reduce the reliance on short-term accommodation, but this is reliant on the success of the ESBS (West Sussex LIR paragraphs 18.33, 18.48, 18.68 to 18.72 refer) and, whilst constructive dialogue has recently commenced, the Authorities have separately highlighted concerns about this and the Local Authorities remain concerned that the true impacts of NHB workers on short-term accommodation may be under-estimated.
- 2.3.5 ['Through the Roof: recent Trends in Rental Price-Growth'](#) (Pacitti, 2024), a study prepared by the Resolution Foundation, considers recent rental market movements. In terms of the rental market during the pandemic (and thus the relevance of the 2021 Census data), the study finds that the significant Covid-era changes on daily life impacted on households' demand for housing, resulting in a deviation from long-run trends. The pandemic period saw rents falling significantly as a share of earnings, possibly due to the quality of earnings data over the period, but also reflecting systematic changes whereby urban areas of the country saw significantly lower demand for housing during the pandemic. The study attributes this to several factors:

- a. A 'freezing' of the rental market with legislation to lengthen notice periods for evictions and halt possession proceedings;
- b. furlough and lockdowns lowering labour market mobility;
- c. some young renters returned to living with their parents and some migrants living in the Private Rented Sector left the UK.

- 2.3.6 The study reports that there has now been a significant return to pre-pandemic norms, evident in some of the extremely high rental-price growth seen in urban areas. This reflects the situation in Crawley, where (as set out at 18.54 of the West Sussex LIR) average PRS rent is currently £1,373 per month, over £480 more than the monthly Local Housing Allowance. The increasing lack of affordability in the private rented sector is being driven up by increased demand putting significant pressure on social housing stock, as the housing register is increasingly becoming the only discharge option for those in housing need and in particular homeless households requiring emergency assistance for temporary accommodation.
- 2.3.7 As such, the CBC Housing Emergency declaration represents a necessary response to what is a very real situation, discussed in detail at 18.49 to 18.56 of the West Sussex LIR. As set out at 18.55 of the LIR: *"CBC has insufficient temporary accommodation within its own portfolio and cannot source sufficient short term private accommodation within the borough, resulting in some families having to be housed in accommodation which does not meet their needs, possibly out of the borough and for long periods of time. Of greatest significance is the impact on Emergency Temporary Accommodation, which has effectively trebled over the past four-years, and as a result the Council has had to resort to using expensive nightly paid accommodation in B&B's and hotels"*. This is relevant, as it points to a significant worsening in the availability of temporary accommodation in the years since the 2021 Census was undertaken.
- 2.3.8 The delivery of new affordable housing has been impacted by the advent of water neutrality, which has effectively stalled the vast majority of housing developments, with the exception of schemes falling outside of the affected water resource zone. The effect of this is that the Housing Register continues to grow with very little through-put of new affordable housing stock to alleviate this growth, with increasing numbers of people requiring emergency assistance in nightly-paid temporary accommodation.
- 2.3.9 Crawley Borough Council's housing register currently holds 2,450 applicants, of which 95% are in 'reasonable preference' and at risk of homelessness. With respect to temporary accommodation, the Council currently accommodates 501 households, of which 273 are in emergency nightly-paid accommodation, with 87 being accommodated out-of-borough due to the lack of supply within the Crawley borough.

2.4 ISH3 – Socio-Economics - Action Point 7: Data on Health and well-being and cumulative impact - Response to GAL's REP1-064 response:

- 2.4.1 An issue relating to the Community Fund has also been picked up from GAL's D1 response [REP1-064] regarding the Health Impact Assessment /health

equalities issues. This response states in various places that para 18.11.22 of the ES Chapter 18 (APP-043] sets out a process is in place to mitigate against severe and inequitable health outcomes and that this is linked to the use of the Community Fund.

2.4.2 The relevant paras in the ES Chapter 18 [APP-043] are set out below:

18.11.22 The new Community Fund can be used by GAL to provide discretionary support to individuals in local communities, particularly those falling into more than one vulnerable group, who experience particular hardship as a result of in-combination effects of the Project. The expectation is that such cases would be rare, but should they arise, a process is in place to mitigate against severe and inequitable health outcomes.

18.11.23 Illustrative uses of the fund include the offer of a finite period of temporary relocation to hotel accommodation or a finite period of extra carer support for individuals in the HLSA. The fund may also, at GAL's discretion, be used to provide targeted home improvements beyond that set out in the NIS. An illustrative example could be occupiers of a dwelling predicted to experience significant effects from the Project in ES Chapter 14: Noise and Vibration (Doc Ref. 5.1) and significant effects due to loss of visual screening of Project lighting activities as identified in ES Chapter 8: Landscape, Townscape and Visual Resources (Doc Ref. 5.1), who also have multiple vulnerability, due to, for example, receipt of Universal Credit for both low income and health conditions or disability. Such cases would need to be raised to GAL by West Sussex ICB on an individual basis and reflect a clear and evidenced statement of circumstances resulting in particular hardship. Details on eligibility for, and the value of support from, the fund would be the subject of post-submission discussion between GAL and the West Sussex ICB. The measure is secured through Section 106 agreement.

2.4.3 However, as currently drafted, the s.106 provides for sub-funds to be made available in Sussex, Kent and Surrey with an Award Panel (comprised of GAL, Local Authority and Community Foundation representatives) "giving priority" to applications for funding where those applications reflect the following criteria:

"those schemes, measures and projects which support:

- A. further employment, training and skills in the local area;*
- B. families and children in need;*
- C. combating social isolation and disadvantage;*
- D. providing opportunities for young people; and*
- E. improving access to facilities for the elderly and seek to reduce isolation in the older generation.*

and those schemes, measures and projects which:

- F. are not inconsistent with approved policies or plans of relevant local authorities;*
- G. have been identified as priorities to the communities within parish and/or community plans;*
- H. can demonstrate overall value for money in terms of cost and effectiveness;*

- I. *can demonstrate a contribution to developing and maintaining sustainable communities throughout the Area of Benefit Sussex; and*
- J. *complement other measures committed in this Deed or practised by the parties."*

2.4.4 Whilst schemes, measures and projects which provide discretionary support to individuals in vulnerable groups could foreseeably be funded in accordance with this criteria, GAL's comments do not reflect the process envisaged in the current drafting of the S.106. The Awards Panels are responsible for determining applications and GAL would not have the ability to liaise directly with the integrated care board to allocate funding; nor can GAL use the fund at its discretion. Furthermore, in GAL's response to our comments on the S.106, GAL have stated that applications for funding would only be open to:

"a constituted group with charitable objects, a registered charity, charitable incorporated organisation (CIO), community interest company (CIC) or a not-for-profit company (limited by guarantee and not shares)."

2.4.5 As such what GAL has proposed would be for community funding to charitable groups, rather than the mitigation of adverse health outcomes.

2.4.6 GAL's response on potential mitigations for health impacts does not align with its proposed approach to the Community Fund. The Authorities would welcome discussion with GAL on how funding could be made available for those experiencing particular hardship as a result of in-combination effects of the Project in order to mitigate against severe and inequitable health outcomes, and how the ICB could be involved.

2.5 ISH4 – Surface Transport - Action Points 2-7

2.5.1 Please find below the comments from the West Sussex Authorities in relation to the Applicant's Deadline 2 Submission – 10.9.7 The Applicant's Response to Actions – ISHs 2-5 (REP2-005) and specifically the response to action points raised at Issue Specific Hearing 4, associated with Surface Transport (EV9-005).

2.5.2 **Action Point 2 2023 staff travel survey** – the Applicant was required to provide the 2023 staff travel survey details and commentary in writing. WSCC as Highway Authority have reviewed the updated staff travel survey data, which shows a slight increase in car travel and a reduction in other modes compared to the 2016 survey. The 2016 survey was used to develop the Applicant's transport model. The change in the data appears to be relatively small, therefore the Highway Authority do not feel that this raises any significant new issues with the modelling that has been presented. As set out within the LIR the Highway Authority would still wish to see any modelling reports produced including the Local Model Validation Report, Forecasting Report and the model files for the various scenarios, to be able to fully appraise the modelling.

2.5.3 With regards to the specific results of the 2023 staff travel survey, which are shown on slide 7 of Appendix D. It is noted that in 2023 the percentage of staff

who travelled to the airport by public transport, shared travel and active modes appears to be only 30% (4% car share (as a driver or passenger with others that work at Gatwick), 1% (as a passenger – dropped off by someone not working at Gatwick), 10% bus, 13% train, 1% cycle and 1% walk). Commitment 2 in the Surface Access Commitments (APP-090) requires the Applicant to achieve 55% of airport staff journeys to and from the Airport to be made by public transport, shared travel and active modes by 2032. Concerns are raised that insufficient mitigation is being provided to meet this commitment, given existing levels of travel.

2.5.4 The latest 2023 staff travel survey also raises doubts as to the likelihood that Commitment 4, in the SACs (APP-090) can be met. Commitment 4 requires that at least 15% of airport staff journeys originating within 8km of the airport to be made by active modes, by 2032. The 2023 survey shows that cycling has fallen from 2% to 1% since 2016 and that walking has remained static at 1%. Whilst it is acknowledged that these percentages are for all staff trips, rather than just those staff trips originating within 8km of the airport, concerns remain as to the likelihood of meeting this without additional mitigation, above that already put forward by the Applicant, to incentivise active modes. Without any additional investment on key routes between the airport and residential areas within 8km of the airport there is doubt as to whether the required levels of modal shift can reasonably be achieved.

2.5.5 We also raise the following points in relation to Action point 2:

- It remains unclear if/how the 2023 survey has informed the Surface Access Commitments. Whilst appreciating that the airport continues to recover from a pandemic which has (among other impacts) potentially affected staff travel modes on a temporary basis, is there not a risk that a reliance on 2016 survey data means that staff travel patterns moving forward are not adequately factored into the SACs?
- At paragraph 4.2.3 of REP2-005 the Applicant provides a helpful overview of key differences between the 2016 and 2023 surveys. This explains that staff mode share under 'company transport' has reduced by 6%, and this is attributed to company transport provided by airlines no longer running – is there a particular reason why airlines were providing company transport in 2016 but are no longer doing so - is this an ongoing position?
- Paragraph 4.2.3 refers to a current reduction in rail services compared with pre-pandemic levels, and separately to the impacts of industrial action. Is it the case that the overall number of rail services has reduced compared to pre-pandemic levels, and is there a reason why this is the case?
- Appendix D (Slide 4) refers to a "smaller proportion of staff living in Crawley as a key challenge". Do we know how this figure has changed? This could mean that a greater number of staff are travelling from further afield, potentially with implications for staff mode share targets. This would lend further weight to ensuring that the SACs are informed by the latest staff travel data and are demonstrated to be achievable.

- Appendix D (Slide 18) refers to Sussex post codes, but this should really be showing wider travel to work areas, for example Surrey and Brighton & Hove.

2.5.6 **Action point 3 use of June traffic levels over the traffic levels in August** – the applicant was required to provide commentary on the conflicting considerations for use of June traffic levels over the traffic levels in August. The applicant has produced a technical note which can be seen at Appendix B (Technical Note on the use of June in Transport Modelling (Doc Ref. 10.9.7)). The Highway Authority have no specific comments to make on this.

2.5.7 **Action point 4 detail about the underlying assumptions in respect of post-COVID modelling** – the applicant was required to provide, as requested by National Highways, further detail about the underlying assumptions in respect of post-COVID modelling. The Highway Authority has no specific comments to make on this.

2.5.8 **Action point 5 Applicant’s response to several issues raised by Interested Parties** - the Examining Authority has asked the Applicant to respond to several issues raised by Interested Parties raised in Agenda Item 4.2 off ISH 4. In response to this action point, the Applicant has prepared the technical note, Appendix C: Rail Passenger Modelling Clarification Note (Doc Ref. 10.9.7). The Highway Authority have no specific comments to make on this note but would look for the Applicant to continue to engage with Network Rail and the Train Operating Companies (TOCs) to address their concerns. Rail is a key mode of travel to the airport and is instinctively linked with the overall highway impact of the proposals.

2.5.9 **Action point 7 clarification on provision of 2,500 robotic parking spaces** – the Examining Authority has asked that the Applicant clarify whether the provision of the 2,500 robotic parking spaces is a net increase of airport parking numbers. In addition, to explain why if the Development Consent Order were granted such an increase should not be considered in the Project case. Paragraph 4.6.3 of the Applicant’s Response to Actions – ISHs 2-5 (REP2-005) clarifies that the 2,500 robotic spaces are a net increase and form part of the Future Baseline (as opposed to the DCO) because these spaces would cater for passenger growth that would occur in the absence of the Project. This is useful context although the Local Authorities still question whether it is appropriate for the Future Baseline to simply assume that these spaces can come forward through Permitted Development given the current S106 requirement to demonstrate ‘sufficient but no more’ parking than is required, which will need to be demonstrated when the prior approval consultation is submitted.

2.5.10 In paragraph 4.6.5 the Applicant confirms that the Hilton Hotel car park permission has now lapsed, meaning that the 820 passenger spaces associated with this no longer form part of the Future Baseline. The Applicant sets out that the Hilton car park area is co-located (in terms of access points) with other car parks, so the loss of spaces is not considered to lead to any potential traffic redistribution effects and is not significant within the wider parking capacity on offer for passengers and therefore does not materially impact on traffic volumes

or mode shares. It would be helpful if the Applicant could provide further detail and justification for this assumption.

2.6 ISH4 Surface Transport – Action Point 9: Joint Authorities (West Sussex County Council & Surrey County Council) Response to National Highways annotated commentary on the Surface Access Commitments [REP2-056]

2.6.1 During Issue Specific Hearing (ISH) 4 National Highways was asked to “Provide an annotated commentary on the Surface Access Commitments document [APP-090], to highlight its concerns”. This document has been prepared by the Joint Authorities in response to National Highways’ document REP 2-056 *ISH4: action point 9: commentary on surface access commitments*. The comments in Table 1 below relate to our reflections on the Surface Access Commitments document [APP-090] as well as comments on National Highways’ comments and proposed amendments.

2.6.2 It is the opinion of the Joint Authorities that the Surface Access Commitments document [APP-090] can be much improved to reflect the needs of all relevant transport authorities and that the proposed amendments by National Highways are not the only changes that should be made.

2.6.3 We Joint Authorities welcome the opportunity to discuss our comments with the applicant (including as part of the ongoing Section 106 discussions and propose to include a demonstration of how Green Controlled Growth could be incorporated into the SAC as part of our Deadline 4 submissions.

Table 1 - Joint host comments on existing SAC and National Highways proposed amendments

	Comments on the existing SAC	Comments on NH amendments
Para 2.1.4		No comment on proposed change
Para 3.1.1	<p>The Joint Authorities do not believe that the SAC document is sufficient to ensure that the outcomes which have been identified in the Environmental Statement (ES) (Doc Refs. 5.1-5.4) and Transport Assessment (TA) (Doc Ref. 7.4) are delivered.</p> <p>Instead, the Joint Authorities propose Green Controlled Growth (GCG) as a means to ensure that the identified outcomes are delivered and that growth at the airport is restricted to ensure that outcomes are not worse than identified in the Environmental Statement (ES) (Doc Refs. 5.1-5.4) and Transport Assessment (TA) (Doc Ref. 7.4).</p>	<p>The proposed change is not as strong as Green Controlled Growth in terms of enforceability and introducing limits on development. Therefore it does not provide the certainty of outcome to ensure that growth at the airport is linked to performance against key criteria in relation to surface access.</p>
Para 3.1.12		No comment on proposed change

Para 4.1.3	We intend to propose a monitoring regime that will support Green Controlled Growth as part of our Deadline 4 submission.	The proposed change to adopt a quarterly average is not reflected in a quarterly monitoring report (Commitment 16) and actions. Instead, we intend to propose a monitoring regime that will support Green Controlled Growth. It will include more frequent monitoring and could align with National Highways' wishes.
Para 4.2.1	We propose changing Commitments 1-4 to reflect Green Controlled Growth (GCG) and further details will be provided at Deadline 4.	No comment on proposed change
Commitment 2		No comment on proposed change to create Commitment 2a and 2b
Commitment 4	We propose changing to: <i>For those staff living within 8km of the airport, at least 15% of their staff journeys (to and from the airport) are to be made by active modes</i>	We acknowledge that improvement is required to this comment and have suggested an alternative which achieves the same thing
Para 4.2.2		No comment on proposed change relating to <i>airport related facilities</i> No comment on proposed change relating to <i>public transport – although the definition must be consistent with the data collected.</i> No comment on proposed change relating to <i>active travel</i> No comment on proposed change relating to <i>shared travel</i>
Table 1		No comment on proposed change
Commitment 5	The Joint Authorities are of the view that this is not to be funded through the STF (ie calculated by parking spaces) but a commitment associated with the Scheme.	Point 2 should include <i>following consultation with relevant highway authorities and National Highways by GAL</i> No comment on proposed change to point 3
Table 2		No comment on proposed change
Commitment 6		No comment on proposed change
Commitment 7		No comment on proposed change
Commitment 8		No comment on proposed change
Commitment 9		Where the SRN is mentioned, the Local Road Network should also be included and where National Highways is mentioned, the local

		Highway Authority should be included.
Commitment 10		Where the SRN is mentioned, the Local Road Network should also be included and where National Highways is mentioned, the local Highway Authority should be included.
Commitment 12		No comment on proposed change
Commitment 13	<p>The Joint Authorities are of the view that, given that the commitments contained in the SACs would need to be delivered in accordance with the DCO regardless of cost, the proposed obligations in the draft S106 agreement provided by GAL at D2, specifically relating to the Gatwick Area Transport Forum, Transport Forum Steering Group, Surface Transport Fund and investment in bus and coach services would be better expressed though a revised and more comprehensive Surface Access Commitments (SACs) document and secured by way of requirement, rather than being standalone obligations in the section106 agreement.</p> <p>In relation to the Gatwick Area Transport Forum and Transport Forum Steering Group the Joint Authorities would look for further detail to be included in the SACs which properly sets out how the Applicant intends the forums to operate, administer funds and assist in delivery of the SAC and other detail as to how the SACs will be appropriately funded.</p> <p>With regards to the Sustainable Transport Fund and investment in bus and coach services the Joint Authorities do not consider that the section 106 obligations are necessarily the most appropriate and enforceable means of providing these measures. The STF is presented as a contribution, but in fact is a means of funding (or part funding) commitments in the SACs document. It is considered that references to how the SACs may be funded (such as through the STF) would best be</p>	No comment on proposed change

	<p>included within the SACs document itself.</p> <p>The Joint Authorities have requested a meeting to discuss these matters in more detail with the Applicant.</p>	
Commitment 14	As response to Comment 13 above	<p>The proposed change may be better inserted into the TFSG governance to ensure that all parties benefit from the same terms.</p> <p>No comment on proposed inclusion of Commitment 14a</p>
Commitment 16	We intend to propose a monitoring regime that will support Green Controlled Growth as part of our Deadline 4 submission	
Para 6.2.5		No comment on proposed change
Para 6.2.6		<p>Whilst we have no comment on proposed change, how will the SoS have the power to approve the action plan?</p> <p>Furthermore, we intend to propose a reporting regime as part our Green Controlled Growth proposal as part of our Deadline 4 submission that will reduce the lag between monitoring, reporting, planning and action.</p>
Para 6.2.7		No comment on proposed change
Commitment 17		Where the SRN is mentioned, the Local Road Network should also be included and where National Highways are mentioned, the local Highway Authorities must also be included.

2.7 ISH5 Aviation Noise - Action Point 3: The Examining Authority has asked the Applicant to consider night-time sound levels at a specific school raised by Cllr Lockwood, Lingfield Parish.

2.7.1 The Applicant provides details on daytime noise levels and has not addressed the request to consider night-time noise levels at the schools.

2.8 ISH5 Aviation Noise - Action Point 6: The Examining Authority has asked the Applicant to respond to the points of detail raised at the hearing by Interested Parties in its written submissions.

Ref	Summary of IP Comment	Applicant’s Response	Joint Local Authority Comment
6a	<p>Noted the aviation policy framework where it says the average metrics are not always indicative of the real effects, and other metrics should be used.</p> <p>Also highlighted the issue of additional awakenings, and queried whether that might be used in connection with determining a nighttime SOAEL (by comparison to Heathrow, proposing to use a threshold of one additional awakening over the 92 day summer period to define that as a SOAEL for intervention).</p>	<p>As discussed in the hearing, Leq is weighted and not an average in the commonly accepted meaning of the word, and the ES uses a variety of secondary noise metrics to describe the effects of the Project in line with DfT and CAA guidance.</p> <p>The Heathrow expansion PEIR may have commented on the significance of awakenings but the project was not taken forward. The Physiological Sleep Disturbance Assessment reported in ES Appendix 14.9.2: Air Noise Modelling [APP-172] concludes that even in the worst affected area the greatest extent of additional awakenings would be 0.8 per night.</p> <p>When discussing awakenings is it important to keep in mind an average healthy person awakens about 20 times a night for various reasons not connected with noise.</p>	<p>The JLAs do not consider the response addresses the issues raised in connection with the use of event based as well as average metrics. Neither does the response address the shortfall in the information provided in relation to the secondary metrics for different assessment years.</p> <p>The JLAs continue to be of the opinion that there need to be a range of SOAELS set for the 8 hour night period. These need to include a SOAEL of, an average of no more than one additional noise induced awakening per night over the 92 day summer period.</p> <p>The West Sussex joint LIR refers to this at paras 14.52, 14.99-14.103 and 14.250 [TR020005-00101749]. The Surrey joint LIR refers to this at paras 12.120 – 12.122, 12.169, 16.48 [TR020005-001676].</p> <p>Additional noise induced awakenings as a metric was proposed in the Preliminary Environmental Information Report for Heathrow. The single average noise induced awakening is derived from the work by Basner cited in both local impact reports. Basner’s work was used to inform the World Health Organisation Night Noise Guidelines and Environmental Noise Guidelines. The proposed threshold is based on the recommendation of that work and is cited as being</p>

		<p>necessary for the protection of health. This is clearly a requirement of the Noise Policy Statement for England for SOAEL: "Avoid significant adverse impacts on health and quality of life...".</p> <p>The proposals in the Heathrow PEIR were a part of a formal submission in a formal process and the JLAs consider that they continue to be relevant.</p> <p>The JLAs have also noted that while dismissing the awakening information for Heathrow they have sought to adopt the Unacceptable Adverse Effect Level (UAEL) of 71 dB LAeq,16h from the Heathrow Expansion PEIR when typically other airport projects apply a UAEL of 69 dB LAeq,16h.</p> <p>In relation to secondary metrics the applicant has not provided all the secondary metrics for all years. It is particularly concerning that the overflight information is absent for scenario years.</p> <p>The Applicant has provided a small amount of detail on supplementary noise metrics at seven 'community representative locations'. These locations do not provide adequate coverage of the area affected by aircraft noise.</p> <p>Due to the way information has been presented it is difficult for individuals to understand how they may be affected by the proposed expansion.</p> <p>The supplementary metrics are used to provide context on how noise would affect communities; however, they should be used to</p>
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		<p>supplement the assessment of likely significant effects.</p> <p>This is particularly important for newly overflowed areas or areas seeing a change.</p> <p>The JLAs acknowledge that the interpretation of the metrics requires some degree of specialist knowledge and is of the view that there are better ways to communicate how noise will be experienced to people who live or may move to the area including use of audio visual techniques to recreate aircraft noise event experiences.</p> <p>In relation to the comment about the impact of additional awakenings due to the runway the JLAs consider that it is inappropriate to consider only the impact of the northern runway and that the total number of awakenings must be taken into consideration to then quantify significance of effect and at present the work ignores this matter and as such under-represents the impact of aviation on the local community.</p> <p>The Relevant Representation by the United Kingdom Health Security Agency [Link] of the 20 October 2023 also refers to the way the information is presented in the documentation needs to accord with the work of Basner.</p> <p>The number of naturally spontaneous awakenings is not relevant as it is the impact of the additional aircraft noise induced awakenings that are relevant.</p>
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			The JLAs request that the Examining Authority require the airport to present the information in the manner as specified by the UKHSA.
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2.9 ISH5 Aviation Noise - Action Point 7: The Examining Authority has asked the Applicant to provide an updated annex of how the noise insulation scheme will be implemented.

2.9.1 The West Sussex joint LIR refers to noise insulation at Table 14.1 and substantively at paras 14.244-14.260, [TR020005-00101749]. The Surrey joint LIR refers to noise insulation at a variety of locations as well but substantively at 12.166 – 12.174 [TR020005-001676]. Both raise a variety of concerns and seek improvements to the scheme by the Applicant that are broader than the comments below which are related to the updated annex.

2.9.2 It is noted that due to the timing of the hearings that neither the Examining Authority nor the Applicant had sight of these documents before the request made by the Examining Authority for additional information.

2.9.3 The Applicant submitted a Noise Insulation Scheme Update [REP2-031]; however, the document raises more questions than it answers. The JLAs consider that more information is still required on a large number of aspects of the noise annex to the Noise Insulation Scheme and suggest that this is requested from the applicant by the ExA. A list of comments relating to the contents of the document are covered in the table below. In addition to the points covered below, the JLAs would like to see information on the following:

- How will the scheme rollout?
- Will properties be insulated prior to significant noise effects occurring?
- Is there sufficient market availability to deliver insulation prior to significant effects occurring?

Document Reference	Commitment	JLA Comment
Paragraph 2.1.3	All properties that qualify for insulation would be contacted	Can the Applicant provide details regarding how contact would be made with owners of properties that qualify for noise insulation?
Paragraph 2.1.3	GAL will make further contact with any households that require assistance understanding what is on offer	How will the Applicant determine that they need to make further contact? Will there be reliance on a property owner making contact with the Applicant or would there be a follow up if no response was received?
Paragraph 3.1.2	GAL will consider the application and confirm eligibility	How long would it take the Applicant to confirm eligibility?
Paragraph 3.1.2	GAL will pass on property owner details to the appointed contractor who will make contact with the property owner to begin the	Would there be any option for property owners to pick a contractor? How long would it take for the contractor to contact the property owner and start work?

	process of identifying and installing insulation.	
Paragraph 4.1.1	The scheme will not replace acoustic insulation installed under the previous NIS unless its acoustic performance has significantly reduced below the level expected.	How will it be determined if the performance has significantly reduced? What is considered to be a significant reduction in performance?
Paragraph 6.1.3	The acoustic ventilators are provided to allow windows to remain closed more often in warmer weather, but not to completely negate the need to open windows in certain circumstances.	<p>The provision of noise insulation is based on the 92-day summer period when aircraft activity is presently the most intense. Insulation only works if windows are kept closed to prevent noise exposure. However, keeping windows closed results in an increasing frequency of increasingly elevated temperatures. The JLAs do not consider that the Applicant has taken this into proper consideration. Both the Surrey and West Sussex LIR (previously referred) refer to this issue (para 12.170 for the former and para. 14.248 for the latter).</p> <p>The option for the resident is that they experience thermal discomfort as a result of temperature <u>and</u> humidity, or exposure to noise by opening windows. Exposure to either or both can have direct health impacts as well as affect quality of life.</p> <p>The JLAs consider that failing to take this into consideration and include a means of preventing and mitigating the effects of overheating is inconsistent with national noise policy and national planning policy on good design and is an essential element of any noise insulation scheme.</p> <p>The JLAs would encourage the Examining Authority to require the applicant to make such amendments and provide such information to satisfy the JLAs that this matter has been reasonably addressed together with the other comments on noise insulation within the LIRs.</p>
Paragraph 6.1.5	Where external doors to noise sensitive rooms are judged to provide at least 5dB(A) less sound attenuation than the acoustic windows provided, an acoustically superior door or where appropriate and practicable a secondary door will be available.	How would the Applicant judge whether external doors provide at least 5dB(A) less sound attenuation than acoustic windows? Why is 5dB(A) or less chosen as a trigger level?
Paragraph 6.1.6	Where ceilings to bedrooms are judged to provide at least 5dB(A) less sound attenuation than the building fabric with acoustic windows provided, the property	How would the Applicant judge whether ceilings of bedrooms provide at least 5dB(A) less sound attenuation than acoustic windows?

	owner can request an acoustic survey to determine if there is a practicable design to upgrade the ceiling or roof space insulation to reduce noise ingress from above.	Why is 5dB(A) or less chosen as a trigger level? Can the Applicant provide a further explanation to demonstrate that a suitable internal environment is provided following the adaptations as a result of preventing noise ingress and not introducing noisy plant to achieve ventilation rates?
Paragraph 7.1.2	Whereas the noise insulation scheme will be based on noise contours modelled from future forecasts of Air Traffic Movements in the ES, the Home Relocation Assistance Scheme will be based on standard mode noise contours reported in the Noise Envelope Annual Noise Monitoring and Forecasting Report reported each year.	Why are different noise contours used for the Home Relocation Assistance Scheme? Why is there not consistency with the noise insulation scheme?

3 Comments on Deadline 1 Submissions by the Applicant as stated in the Authorities Deadline 2 submission

- 3.1 Appendix A sets out a technical note prepared by the Joint Local Authorities Air Quality Consultants to provide further information on the technical air quality issues which require further information/clarification, beyond the issues raised in the Principal Area of Disagreement Summary Statement (PADSS). Details regarding progress on these issues, following the submission of information by the Applicant at Deadline 1 are also provided where relevant.
- 3.2 Appendix B sets out the Joint Local Authorities response to Technical Document **[REP1-047, REP1-052, REP1-053 and REP1-054]** regarding the Needs Case Technical Appendix (Doc ref 10.6), the Capacity and Operations Summary Paper (Doc Ref 10.7) and the accompanying Appendix Airfield Capacity Study (Doc Ref 10.7).

4 Commitments made by the West Sussex Authorities at Deadline 2

- 4.1 Previously at Deadline 2, West Sussex County Council (WSSCC) stated that at Deadline 3 they would respond to the **revised Surface Access Highways Plan – Structure Section Drawings (REP1-015 Application Document Reference 4.8.3), submitted by the applicant at Deadline 1**. These plans were changed to address National Highways’ request that the indicative central reserve safety barrier provisions is reflected on the Structure Section Drawings and to address errata in relation to the position and direction of sections for Airport Way Bridge over A23 London Road and Balcombe Road Underbridge. WSSCC have now had the opportunity to review these plans and can confirm that they have no further comment to make in relation to them.

5. Review of Deadline 2 Arboricultural Documentation submissions made by the Applicant

5.1 Appendix C sets out the West Sussex Authorities Review of the Applicants Arboricultural submissions at Deadline 2.

6. Approach to setting thresholds for key matters such as Air Quality, Aircraft Noise, Greenhouse Gases and Surface Access and aligning such thresholds with the future growth of the airport

6.1 As stated at Deadline 2 paragraph 1.3 ([Deadline 2 Submission - Comments on any submissions received by Deadline 1 \(PDF, 593KB\)](#)), the Joint Local Authorities (JLAs) confirm their intention to present their proposed approach for setting thresholds for key matters such as air quality, aircraft noise, greenhouse gases and surface access and alignment of these thresholds with mechanisms to control the future growth of the airport where necessary.

7. Commentary on the Applicant's Engagement with the Authorities

7.1 The Authorities are aware of some specific technical discussions on issues included in the Statements of Common Ground (SoCGs) and the Principal Areas of Disagreement Summary Statement (PADSS) concerning Capacity and Forecasting with the JLAs consultants York Aviation and they have also arranged a topic working group session with officers and consultants regarding Air Quality matters for the 22 April 2024. Additionally, there are discussions taking place between the Applicants and the Joint Legal Partnership Authorities legal advisors regarding S.106 obligations. However, beyond those commitments, no other approach has been made by the Applicant to engage on technical matters.

7.2 The Authorities are therefore concerned that the Applicant has not substantively or comprehensively engaged with the Joint Local Authorities in progressing discussions on SoCGs and PADSS's since the submission of the DCO in July 2023. As a consequence, the Authorities are concerned about the progress that can be made on resolving current issues of difference with the Applicant and that this could potentially lead to significant resourcing and timing issues should the Applicant attempt to resolve a multitude of issues towards the later stages of the Examination.

8. Written Representation to the Applicant's proposed changes to the DCO

- 8.1 A Written Representation regarding the Project Changes accepted into the Examination on 8th March 2024 has been submitted separately by Crawley Borough Council on behalf of the West Sussex Local Authorities as part of its Deadline 3 submission.

9. Response to Examining Authority First Written Questions (ExQ1)

- 9.1 Responses to the ExA's Written Questions (ExQ1) has been submitted separately by West Sussex County Council on behalf of the Joint Legal Partnership Local Authorities (Crawley BC, Horsham DC, Mid Sussex DC, Mole Valley DC, Reigate and Banstead BC, Tandridge DC, East Sussex CC, Surrey CC and West Sussex CC) which includes all the West Sussex Authorities involved in the Examination.



Project name:
Gatwick DCO Review

From:
Rachel Perryman
David Deakin

Date:
April 2024

Gatwick Airport Development Consent Order Review of Progress on Technical Issues

Introduction

This technical note has been prepared to provide further information on the technical air quality issues which require further information/clarification, beyond the issues raised in the Principal Area of Disagreement Summary Statement (PADSS). Details regarding progress on these issues, following the submission of information by the Applicant at Deadline 1 are also provided where relevant.

Identified Primary Areas of Concern

Assessment Scenarios

There are a number of clarifications required to understand the assessment scenarios utilised in the air quality assessment. This is particularly the case for those scenarios where both construction and operational activities are underway at the same time, but the assessment has treated them separately. The concern is that the scenarios assessed in the Environmental Statement (ES) do not provide a realistic worst case assessment.

Specific clarification points include:

- Clarification is required on how the use of two parallel scenarios for 2029 provide a realistic worst case to be evaluated. A single scenario reflecting the anticipated operation of the increased capacity at the airport with the surface access construction works is the realistic worst case in 2029.
- Clarification is required as to how operational activities and ongoing construction works in 2032 have been assessed.
- General clarification is required as to how the selection of assessment years and their configuration of operational and construction was made and how this aligns with the requirements of the Airports National Policy Statement including paragraph 5.33, specifically '*... Including when at full capacity... including interaction between construction and operational changes*'.
- Table 2.1.1 page 24, UK Health Security Agency identifies that for some assessment scenarios, construction and operation will overlap and that this needs to be addressed. The response points to cumulative effects and Inter-relationships chapter as covering this matter, however a review of this chapter (Chapter 20) indicates that this is incorrect.

Update: Supporting Air Quality Technical Note to Statements of Common Ground, Version 1.0, March 2024, Ref TR020005.

Further information is provided in Appendix D of the above document. The document describes the phases included in each assessment year and provides further information with regards to how the construction and operational phases were

assessed. Section 2.4 'Assessment of cumulative construction and operational impacts', acknowledges that there is overlap between the construction and operational phases but does not provide clarity as to whether the traffic flow for the construction and operational phases have been included in the same traffic model and if this has then been compared against a baseline situation with neither activity. Therefore, the above points still require further clarification.

Ecology Assessment

In addition to the above issue relating to whether a worse-case scenario has been modelled as part of the air quality assessment, the following points in relation to the ecology assessment have been raised.

Specific clarification points include:

- The Ecology and Nature Conservation chapter utilises the predicted air quality results for NO_x and nitrogen deposition to determine whether there are significant effects on designated habitats. The chapter concludes there are none in relation to air quality. However, this is based on the scenarios assessed within the air quality chapter that need further review to determine if the scenarios do represent a realistic worst case.
- The HRA (Habitat Regulations Assessment) utilises the predicted air quality results for NO_x, ammonia and nitrogen deposition to determine whether there are habitat integrity risks to European designated sites. The HRA concludes there are none in relation to air quality both for the proposed development in isolation and in combination. However, this is based on the scenarios assessed within the air quality chapter that need further review to determine if the scenarios do represent a realistic worst case.

The concern is that the scenarios utilised do not represent a realistic worst case for the proposed development.

Emission Ceiling

Linked to concern around the assessment scenarios considered in the air quality assessment, the same concerns apply to the emissions ceiling calculations as to how realistic these are, particularly when the construction and operational activities are on-going and the emissions ceiling calculations treat these separately.

Specific clarification point include:

- Clarification is sought as to why in the 2024 construction scenario, when traffic management is in place to maintain traffic flows that roads emissions for both Airport and Non-Airport reduce? (See Table 13.10.1). The same query is raised for 2029 construction and separate operational Non-Airport Emissions (See Tables 13.10.2 and 13.10.5), for 2032 (See Table 13.10.6), 2038 (See Table 13.10.7) and 2047 (See Table 13.10.8).
- Clarification is also requested on why changes in the Central Area Recycling Enclosure (CARE) emissions even with the capacity of the facility doubling do not change? (See Table 13.10.6, 13.10.7 and 13.10.8). Heating plant emissions improvements are also typically predicted overall. Clarification on why this is and what future assumptions concerning any additional hanger and hotel heating emissions have been made. There is concern on how appropriate the emissions scenarios are.

Further clarification is required on the scenarios considered in the emissions ceiling calculations and further clarification is needed on some counterintuitive changes predicted in the emissions ceiling calculations as described above.

Base Year

The concern is that the most up to date year (2022) of baseline information has not been used. If this had been used, it may have increased confidence in the air quality assessment.

Specific clarification point include:

- Paragraph 13.5.18 of the ES, Chapter 13 Air Quality, states that 2018 is the baseline year for assessment, with data from 2020 and 2021 not being representative due to COVID-19 lockdown periods and due to traffic data being available from 2018. No reference is made to 2022 data which should have been available during the preparation of the air quality assessment. Additionally, the traffic model has a baseline year of 2016, with data extrapolated to 2018 by the traffic team.

Further clarification is required as to why a 2022 baseline year was not adopted to reduce the amount of projection in air quality predictions between scenario years and increase the confidence in predicted outcomes.

Year of Assessment

The following concern is with regards to the consistency of assessment years.

- Paragraph 12.6.63 of the traffic and transport chapter identifies that 2032 is an interim assessment year, whilst paragraphs 12.6.65 to 12.6.67 have the design year listed as 2047. Table 12.7.1 also includes the same description of years as above. Similar descriptions are also provided in paragraph 12.4.4 of the traffic and transport chapter. This is in contrast to the air quality chapter which lists 2032 as the interim year and 2038 as the design year (See para 13.5.23). Paragraph 12.4.5 of the traffic and transport chapter states that 2038 is also utilised by some topics, noting this is not a requirement for traffic and transport. This scenario is described as a design year in the air quality chapter.

Further clarification is sought on the above point. It should be noted that the design year is typically 15 years after opening year.

Modelled Scenarios

Additional information regarding if the approach used for the 2024 and 2029 scenarios is considered conservative.

A specific clarification point is:

- Background maps from Defra have been used in the air quality assessment, as well as the Defra Emissions Factors Toolkit (EFT) for scenarios after 2030. This provides a conservative assumption as the last available years for these scenarios within these tools is 2030. There is no discussion on whether this is conservative for the 2024 and 2029 scenarios. The concern is that more recent years of assessment are not worst case.

Further clarification should be provided which background and EFT years for which scenarios.

Monitoring data

Clarification is required on two points in relation to the monitoring data provided in the ES.

Specific clarification points include:

- Paragraph 3.2.1 of the ES Air Quality Appendix 13.6.1 which refer to monitoring data in 2019, rather than 2018. Confirmation is requested that this is a typo.
- It is understood that the monitoring data presented in Table 3.2.1 in the ES Air Quality Appendix 13.6.1 are the monitoring data included within the affected road network (ARN). Clarification is requested as to what data is presented in Table 2.3.4, as additional data not presented in this table, is presented in Table 3.2.1, for example site CR101. It is unclear what the differences are in the information presented between tables.

Affected Road Network

A figure is requested of the ARN for all modelled scenarios.

Specific clarification points include:

- There is no clear figure provided of the ARN for the different assessment years. It is not possible to understand which routes are affected in which scenario. Paragraph 13.5.5 of the ES air quality chapter refers to a 'wider study area' beyond the 11 km by 10 km domain, plus the modelled ARN outside this area and that this is shown on Figure 13.4.1.4.1.1. The ES Air Quality Figures – Parts 1, 2, 3, 4 and 5 have been reviewed and this figure cannot be identified. Currently, figures within Part 3 just show a wider study area domain, not the actual roads meeting the ARN criteria (e.g. Appendix 13.6.1 Figure 2.3.1). Figures should be provided to illustrate the roads affected in each scenario.
- No further information on the road traffic air quality study area was identified in ES Appendix 13.4.1: Air Quality Assessment Methodology. However, reference to the above missing figure is made within this ES Appendix document, suggesting it has been missed in the collation of this ES Appendix. The limitation of the approach described in Figure 13.4.1.4.1.1 to presenting the ARN in the 'wider study area' may be that it is not possible to distinguish between the construction phase and operational phase ARNs unless this is disaggregated on the figure, which the text reviewed to date suggest it is not. The lack of clear study area information makes it very difficult to understand the changes in traffic during the different scenarios and therefore understand if the effects being presented at receptors are reasonable between the construction and operational phases.

It is requested that the roads within the 11 km by 10 km domain which have met the ARN criteria are illustrated separately for the construction and operational phases on figures. This will inform our understanding of where the greatest air quality effects should be anticipated in this domain.

Update: Air Quality Figures – Part 2 Version 2.0, March 2024, Ref TR020005

The updated figure 4.1.1 includes the modelled road network but not the ARN. It is also unclear if this is for the operational phase and construction phase assessment.

Heavy Goods Vehicles (HGVs)

Further information is required regarding several issues identified concerning HGVs.

Specific clarification points include:

- Paragraph 15.4.2 of the Transport Assessment identifies a different definition of HGVs and light goods vehicles (LGV) to that typically utilised in air quality assessments, as noted in the Construction Traffic Management Plan (CTMP). Confirmation is required to check that this definition has not been used within other aspects of the ES, specifically within the air quality assessment.
- A key issue considered in the assessment are the changes in emissions as a result of staff and passenger vehicles and changes due to car park provisions. There is no mention of changes due to HGV associated with the operation of the proposed development e.g. freight and deliveries. The concern is that changes in heavy vehicles are not being considered.
- Additionally, the traffic data comprised a fleet mix of cars, LGVs and HGVs, for both Airport and Non-Airport vehicles. With Airport vehicles also including buses, coaches and staff cars. Clarification is sought that the HGV and LGV split of data provided for the air quality assessment does not consider HGVs to be just vehicles over 7.5t and that HGVs have been considered for vehicles greater than 3.5t. The use of fleet mix suggests that further details of fuel types and vehicle ages were provided. Is this correct? And if so, how was this data used with the Emissions Factors Toolkit? Further details are therefore required on the technical aspects of the roads air quality assessment methodology to confirm that emissions for HGVs have been calculated correctly.

Technical Issues regarding the Air Quality Assessment

Further information is required to clarify the following points regarding the air quality assessment:

- Paragraph 13.5.57 of the ES sets out that ADMS-Airport and ADMS 5 dispersion models were utilised. Clarification is requested on what emission sources could not be accommodated in ADMS-Airport and how these were re-combined with all the other contributions from ADMS-Airport to provide total changes in pollutant concentrations.
- The CARE Facility assessment presented in paragraphs 13.10.71 to 13.10.97 of the ES appears to have been undertaken in isolation to the other pollutant sources associated with the proposed development. Clarification of where the combined change in pollutant concentrations is presented within the ES is required.
- A qualitative discussion of 2047 is provided in paragraphs 13.10.163 to 13.10.173 of the ES along with a summary of annual pollutant emissions. Previous years have been assessed quantitatively. This has shown that in increasingly later years that generally increased numbers of designated habitat sites are affected and that these require evaluation by the ecology team to determine whether effects are likely to be significant or not. It is not clear if the ecology team was involved in this qualitative evaluation.
- Paragraph 3.10.11 of the ES Air Quality Appendix 13.4.1 identifies how congestion has been assessed around junctions, but not away from junctions.

Air quality receptors

More detail is required with regards to receptor locations and cross-referencing between the ES and air quality figures.

Specific clarification points include:

- It is not possible to relate the figures to the results set out in the appendices tables using the application documents as receptor figures do not include any receptor identification numbers. Additionally, receptor tables do not identify which figure the receptor listed is shown in as would be expected or which local authority a receptor is located within.
- Receptor figures require an update to present receptor IDs and an additional column in the results tables identifying which local authority a receptor is located in would be very useful.

Update: Supporting Air Quality Technical Note to Statements of Common Ground, Version 1.0, March 2024, Ref TR020005.

Tables have been provided indicating which local authority each human health and ecological receptor are located in. However, the air quality figures have not been updated so cannot be cross-referenced to the report.

Modelled receptor height

Further clarification is required regarding the height at which receptors were modelled.

A specific clarification point is:

- Paragraph 3.1.4 of the ES Air Quality Appendix 13.4.1 indicates pollutant contributions are calculated at ground level. This is appropriate for vegetation, but for human health breathing height would be expected. It is unclear if a breathing height has been used in the air quality predictions or just ground level.

AM Modelled speeds

Further clarification is required regarding the speed modelled during the AM period within the air quality assessment.

A specific clarification point is:

- Two AM time period speeds were provided, with the lower one was utilised, which in some circumstances could result in lower emissions. Was any testing done to inform this decision? It is unclear whether the AM speed used in the air quality assessment provides a worst-case assessment.

Clarification is required as to why the lower speed was used.

Cumulative Effects and Inter-Relationships

The CIA (cumulative effects and inter-relationships) for air quality is incomplete.

Specific clarification points include:

- Table 20.7.1 includes several rows to capture cumulative air quality effects. The table includes the majority of assessment scenarios but omits the surface access construction scenario and so is incomplete.
- Table 20.7.1 describes the results of a qualitative assessment undertaken for 2047. It is unclear why this is considered to be a cumulative assessment.
- Table 20.7.1 does not include any discussion of the cumulative effects of the overlaps between construction activities and operational activities. This is however, discussed in Table 20.8.3, but through a sequential discussion of periods and the assessment of those periods without recognising that some of the periods being described sequentially are actually anticipated to occur concurrently and as such cannot be relied upon.

Methodology to determine short term air quality effects

Further clarification is required regarding the methodology utilised to determine short term air quality effects.

Specific clarification points include:

- Paragraph 13.5.33 of the ES and paragraph 3.1.3 of the ES Air Quality Appendix 13.4.1 describes an approach to determining whether short term standards may be exceeded or not based on Defra guidance LAQM.TG(22). This approach is based on monitoring adjacent to roads and does not address situations where there are multiple sources of emissions, such as Airports. This approach has also been utilised for the CARE facility specifically, as set out in paragraph 13.10.84 which as a point source would have been expected to have had modelling undertaken for the relevant short-term criteria. The concern is that an inappropriate method has been used to consider short-term effects.

Model noise

Model noise is cited in a number of the scenario years to explain adverse changes in air quality. It is surprising that areas of traffic model noise have been included in the air quality assessment.

Clarification is sought as to whether areas of model noise are just isolated features within the model or if they will have affected the overall performance of the traffic model.

Ammonia

Paragraph 3.1.8 of the ES Air Quality Appendix 13.4.1 identifies ammonia from road traffic. Is there any ammonia contribution from the CARE facility associated with any abatement equipment? There is a risk that a pollutant could be missing from the assessment.

Further clarification should be included as to whether ammonia needs to be assessed.

Verification

There are a series of clarification sought to establish if the air quality model verification is robust.

Specific clarification points include:

- There is no figure to show where the different model verification zones have been applied. It is not possible to relate the model verification information in the technical appendix to the receptors assessed. A figure showing verification zones and receptors is required.
- One of the criteria stated for excluding air quality monitoring data for verification is the removal of sites with less than 75% data capture, i.e. 9 months. This is not considered to be an appropriate reason and may have resulted in the loss of suitable data for inclusion in the verification process. Kerbside sites are listed as being excluded. This is generally acceptable unless the sites are representative of exposure. The final exclusion criteria relates to the exclusion of sites influenced by local characteristics which were not explicitly modelled. This may be acceptable in some circumstances but not all and verification may be used to capture these variations. 173 sites were excluded from a total of 420 sites. This is over 40% and seems very high. This may indicate that too stringent and/or inappropriate exclusion criteria as described above have been utilised. The concern is that excessive numbers of monitoring sites may have been excluded from model verification which could have improved the quality of the air quality verification and so the confidence in outputs.
- Clarification is requested on what distance has been used to exclude monitoring locations in relation to the sites excluded due to sites being 'set back from modelled road sources'. Clarification is also requested as to whether this was the case or not for any kerbside sites excluded. Further details on the sites excluded on this basis is required.
- Several verification zones have less than 6 monitoring sites and so statistical analysis may be difficult for these zones. Additional sites, as described above, may increase numbers in some of these zones. Additionally, the statistical model performance of some zones remains at the boundary of acceptable, particularly Croydon, Park Lane. It is noted that within the Hazelwick Roundabout zone that one of the tubes, HR11, has very different monitored concentrations and model performance and so may require a review to consider if it belongs in the zone. Lastly the Crawley zone is listed to have 3 monitoring sites, but only two are shown in Diagram 3.3.4. There are some technical details that further information is needed concerning air quality model verification.

Update: Supporting Air Quality Technical Note to Statements of Common Ground, Version 1.0, March 2024, Ref TR020005.

Within this document, figures have been provided indicating verification zones which addresses the first point. However, further information regarding the remaining points have not been provided.

Low emission buses

Section 7.7, paragraph 7.7.1 refers to the possibility of low emission bus fleet vehicles to minimise air quality effects. This would be beneficial and further details and discussion would be useful. Due to the magnitude of the works, discussion is proposed on how this can be committed to and secured within the DCO.

Further information on low emission buses and securing these is required.

Modal shift

The following clarifications are sought regarding modal shift:

- Paragraph 12.8.6 of the traffic and transport chapter sets out a variety of measures that will be implemented to encourage the modal shift assumed with the proposed development. Within the assumptions there are controls on on-site parking numbers, parking charges and forecourt access charges. There is concern over whether the modal shift can be achieved and if this is not achieved what the air quality effects may be. Further details are requested to understand what assumptions concerning off-airport parking, both approved and unapproved and how sensitive the achievement of the anticipated modal shift is to any variation in these assumptions.
- Paragraph 12.8.11 of the traffic and transport chapter identifies that the proposed interventions achieve at least the committed modal share shift three years after opening of the new northern runway. This may mean there is a risk that an operational scenario after 2029, but before 2032 is the worst case i.e. 2030 or 2031 for air quality. Further details are required to understand this risk.

Works not being completed to schedule

Paragraph 12.9.67 of the traffic and transport chapter indicates that 'It is anticipated that the highways works will be required to be completed by the summer period after the third anniversary of the opening of the northern runway.' The concern is that there could be adverse air quality effects if works are not completed to schedule.

Clarification is requested on the phrase 'required', to understand if there is anticipated to be disruption on the road network without the works being completed by this stage?

Operational phase point sources

The ES indicates that no emission measurement data for point source modelling were available and so default emission factors were used. Were data on the stack height, hours of operation, flow rates and stack diameters available or were assumptions utilised?

Further clarification is required.

Heating plant modelling

Paragraph 3.9.17 of the ES Air Quality Appendix 13.4.1 identifies heating plant modelling has been undertaken for the Hilton Hotel and other airport facilities including hotels and hangers. This appears to relate to existing sources. It is unclear what modelling for heating plant has been done for which scenarios in the future situation with and without the proposed development.

Clarification is sought as to whether this is for both existing and future hotels and plant, both with and without the proposed development.

Construction phase point sources and asphalt batching

Clarification is required on the following points regarding construction phase point sources and asphalt batching:

- Clarification is sought as to whether there are one or more proposed concrete batching plants. The modelling technical appendix indicates 6 concrete batching plants, is this correct?
- Within the Code of Construction Practice (CoCP) concrete and asphalt batching are identified in a list of construction activities. Concrete batching is identified in the air quality chapter of the ES and has been quantitatively modelled. This appears not to be the case for the asphalt batching plant. There is uncertainty over the potential inclusion of an asphalt plant in the construction phase.

Dust Management Plan (DMP)

The following clarification is requested regarding the DMP:

- The CoCP includes a series of 5 Annex documents, such as a Water Management Plan and Outline Traffic Management Plans. No DMP or Outline DMP is included. A DMP or outline DMP should be developed during the examination and the CoCP updated accordingly to secure the DMP. There is no reason why a DMP or outline DMP has not been prepared. The monitoring portion of Section 5.8 suggests that further detailed plans are needed to design a DMP. This is not considered to be correct.

A draft construction dust management plan has now been prepared. A detailed review of the document will be undertaken.

Management Plan

Paragraph 2.2.8 of the ES Appendix 5.3.2 identifies that management plans will be prepared prior to construction works.

Further agreement is required on the timescales that are appropriate in advance of the works to gather baseline air quality data.

Communications and Engagement Management Plan

Paragraph 4.12.1 of the ES Appendix 5.3.2 identifies that a Communications and Engagement Management Plan will be prepared and that this will be an internal GAL document. This document should be shared with the local authorities. The need to have this type of plan is also identified as a general control measure for dust in paragraph 5.8.2, reinforcing this cannot just be a GAL internal document.

Agreement that the Communications and Engagement Management Plan should also be available to local authorities is required.

Complaints information wording

Paragraph 4.12.7 of the ES Appendix 5.3.2 identifies that a complaints procedure will be established but does not reference the sharing of complaints and their resolution with local authorities. This measure is also identified within the site management air quality section as something that will be made available to local authorities. It is however noted that local authorities are to be provided the compliant information when asked.

This text should be amended such that complaints information is provided to local authorities when complaints are received.

Method statement

Paragraph 2.1.2 of the ES Appendix 5.3.2 sets out that contractors will be required to provide the applicant with construction method statements to demonstrate compliance with the CoCP. This information should also be available to local authorities.

Agreement is sought that the method statement information will be available to local authorities.

Air quality monitoring

The monitoring portion of section 5.8 suggests one type of air quality monitoring, Osiris monitors; however, different types of monitoring may be required in addition to Osiris monitoring.

Different types of monitoring should be discussed and agreed through the preparation of the DMP.

Document cross referencing

The operating vehicle/machinery and sustainable travel section identifies the need for travel plans but does not cross reference the outline plans already developed. Application documents should be integrated and cross references should be updated.

Odour mitigation

The odour management section makes reference to best practice guidance without specifying what this is and only lists one specific measure to mitigate odour. It is therefore unclear how well secured odour mitigation is during the construction phase.

Clarification is required on how odour mitigation is secured.

Construction Traffic Management Plan (CTMP) Consultation

A full CTMP will be developed and approved by the relevant highways authority, in conjunction with the relevant planning authority. However, information is not set out on how this will be secured within the DCO. Nor is it identified that multiple local authorities may be affected by traffic changes during the works and as such may require wider consultation.

Wider consultation is recommended in the development of the full CTMP.

CTMP Access

Section 6.3 of the CTMP describes contingency access that would deviate from primary access arrangements. Concern over how much any contingency access could be used.

Further details on when this would be used is required during the examination.

CTMP monitoring

Section 6.5 Restrictions and Monitoring of the CTMP identify risks associated with construction traffic utilising routes through the J10 M23 and Hazelwick Air Quality Management Areas. Reference is made to a monitoring system that 'it is envisaged' will be developed in the full CTMP.

Further details on the monitoring system are needed to understand how this would protect air quality.

CTMP measures

Section 7 of the CTMP includes Measures to Reduce Impacts. The use of low emission construction plant and fleet is identified in paragraph 7.2.15. This is welcomed as a potential measure. There may be the opportunity to reduce impacts further during construction from low emission plant and fleet.

Further discussion on how this can be further developed and secured within the DCO potentially as an additional construction fleet management deliverable is proposed.

Paragraph 7.5.2 of the CTMP identifies wheel washing will be provided where necessary. This is considered necessary for all egress points where unmade routes have been tracked through. The concern is how wheel washing will be secured.

Discussion required on how these measures will be secured is required in the DCO during the examination, potentially through the DMP.

Buildability report clarity

Section 7 of the Buildability report (work and Traffic Management Areas) describes the sequence of works and associated traffic management in different areas of the surface access construction works. The text often refers to maintaining existing arrangements or existing traffic flows but does not make reference to the additional traffic that would be expected in the future situation.

It is unclear if the plan takes into account additional traffic associated with the natural growth of airport traffic, nor additional traffic growth associated with the additional capacity already created in the first phase of construction.

Travel plan monitoring framework

The travel plan refers to a monitoring framework that will be prepared to monitor how well the plan is performing and allow measures to be refined. This is helpful, but further information is needed as the monitoring framework is unclear.

More information is required during the examination on the monitoring framework.

No reference to Environmental Permitting Legislation in reference to an Asphalt Plant

No reference to Environmental Permitting legislation is included in the Legislation and Policy section, Table 13.2.1. However, it is noted that within the List of Other Consents and Licences, Book 7 Table 2.2.1, under Geology and Ground Conditions, that appropriate reference to potential permit requirements are included for concrete batching and crushing. No reference to Asphalt batching is included herein the list of consents, but Asphalt batching is referenced in the Code of Construction Practice (CoCP). Reference to environmental permit requirements is also included within the Code of Construction Practice, Annex 5 Construction Resources and Waste Management Plan (para 4.5.7). There is uncertainty in relation to whether there will be an Asphalt plant and if this will require a permit.

Clarification is required as to whether there will be an Asphalt plant, and if so, if this will require a permit.

Clean Air Strategy 2023

The planning context section is incomplete as the reference to the 2023 Clean Air Strategy is not included in the Planning Policy Context section, Table 13.2.3.

The Clean Air Strategy 2023 should be included in the Planning Context section of the ES.

A draft construction dust management plan and draft air quality action plan have been developed by the Applicant. A detailed review of these will be undertaken.

APPENDIX B



Gatwick North Runway Project Response to Technical Document [REP1-047, REP1-052, REP1-053 and REP1-054]

1. York Aviation (YAL) has been appointed by the Host and Neighbouring Authorities, collectively known as the Joint Local Authorities (JLAs), to provide advice in relation to aviation capacity, need and forecasting, and aspects of the socio-economic case for Gatwick Airport Ltd's (GAL) North Runway Project (NRP). This submission is prepared in response to the above listed documents.
2. At the outset, it is important to highlight that there is an interdependence between the physical capacity deliverable with the NRP, in terms of hourly and daily capacity available having regard to acceptable standards of service for the airlines [see **RR-1256, RR-1493, REP1-198**], and its ability to attract a share of the underlying market within which Gatwick competes with other airports to attract airlines to operate services to meet passenger demand.
3. Throughout the process, we endeavoured to address these issues holistically so as to provide a consolidated view on the number of passengers and aircraft movements that might reasonably be expected to use Gatwick Airport with and without the NRP development in future years so as to inform consideration of the impacts.
4. The piecemeal nature of the material submitted by GAL has made this challenging. In this submission, we summarise our current understanding on the likely throughput attainable with the NRP and without in the Baseline Case drawing on the material submitted by the Applicant. Although we have attempted to deal with each document individually, there is inevitable cross over in the material. However, there are areas where there remains lack of clarity and these are highlighted where relevant. Discussions remain ongoing with the Applicant.

Note: paragraph references throughout refer to GAL's submitted documents unless otherwise stated.

NEEDS CASE TECHNICAL APPENDIX [REP1-052]

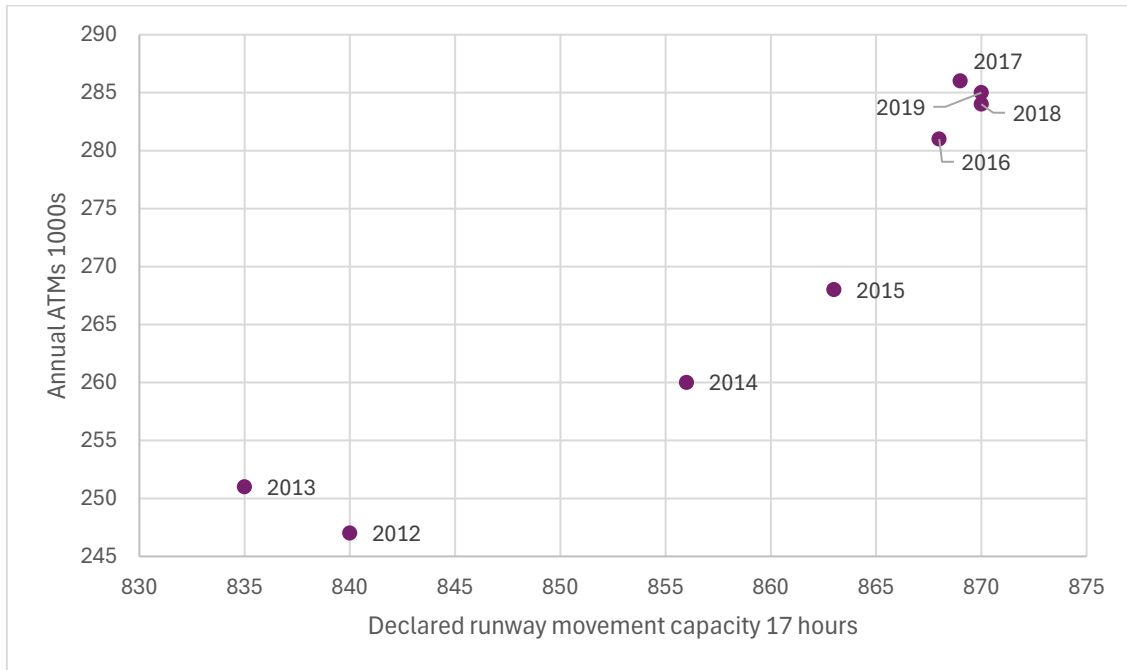
Section 1 – Gatwick Airport Today

5. We note, that at paragraph 1.2.1, GAL acknowledges that growth has slowed since 2016 because of the Airport's inability to meet demand in peak periods. We consider this to be material to establishing the reasonable baseline case for assessment as no clear evidence has been provided as to why such constraints would not continue to slow growth, making the attainment of 67.2 mppa in the baseline case highly unlikely. As set out at paragraph 12 of Appendix F to the Joint West Sussex LIR [**REP1-069**], recovery at Gatwick has lagged other major airports in the UK, particularly Heathrow and Stansted, and we believe that this is not unconnected with the airlines' ongoing concerns about the level of service and delays at the Airport and is also reflective of the lack of peak period capacity meaning that airlines cannot obtain slots at the times they require. Despite GAL's claims of excess demand (paragraphs 1.3.2, 2.7.4), the number of seats being offered by the airlines in Summer 2024 remains

1.5% less than in 2019 whilst the airlines at Heathrow are offering 3.1% more seats and those at Stansted 7.7% more seats¹.

6. Although there is some evidence historically of growth through peak spreading in terms of an increase in activity in the winter months (Figure 3), growth appears to have been more closely related to increases in declared runway movement capacity. These increases appear to have largely stalled since 2016, potentially reflecting the risk of increased delays from any further intensification in the number of movements on any given day. This is illustrated in **Figure 1** below.

Figure 1: Relationship between Annual ATMs and declared 17 hour runway movement capacity² at Gatwick

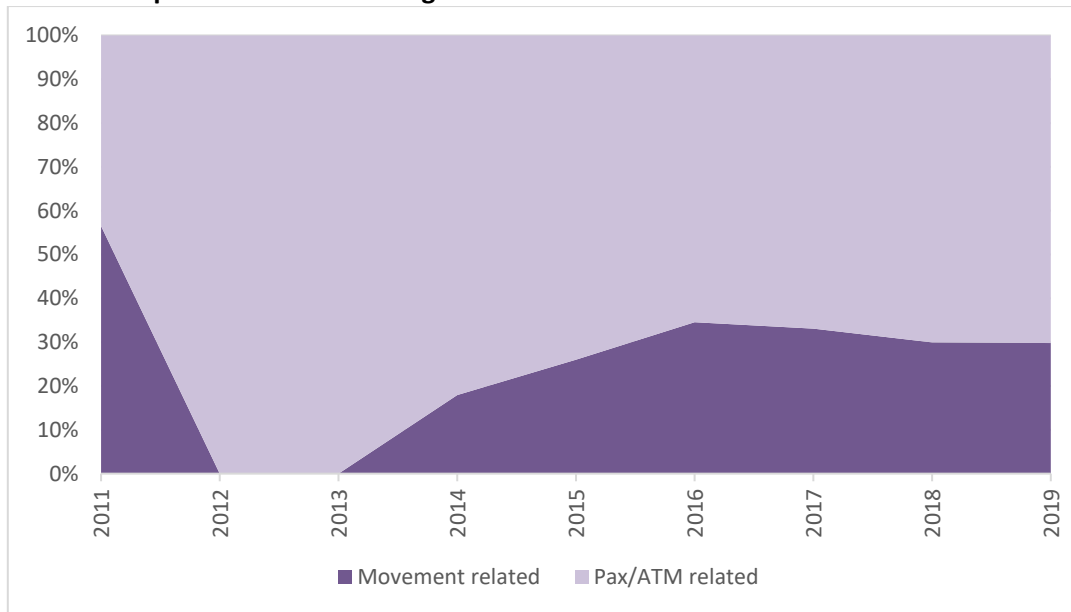


7. In terms of overall passenger growth, we have analysed the components of growth and disaggregated how much of the overall passenger growth was due to increases in aircraft movements and how much from increases in the number of passengers on each movement. Overall, we assess that, prior to the pandemic, 70% of passenger growth was accounted for by growth in the number of passengers per aircraft and only 30% due to intensification of the use of the runway as shown in **Figure 2**. This is relevant to considering the extent to which further growth is attainable with only a single runway in use in the baseline given the absence of the scope for material growth in available slots.

¹ Online Airline Guide as at 14.4.24.

² Airport Coordination Ltd, Gatwick Summer Season Capacity Declarations.

Figure 2: Gatwick Airport Drivers of Passenger Growth.



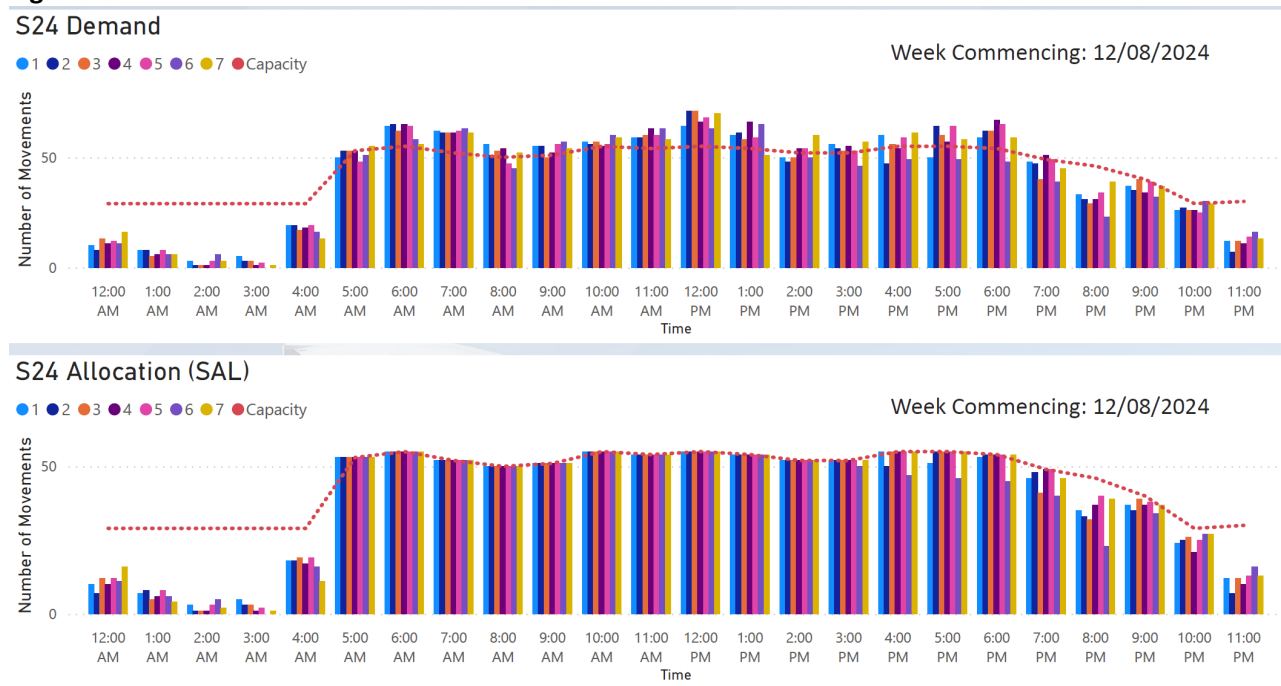
8. We return to the consequences of this further in relation to the Technical Note on Future Baseline [REP1-047] later in this submission.

Section 2 – The London Aviation Market

9. Generally, we concur with the scale of the London aviation market as set out by the Applicant in this section but, in relation to the existence of constraints, these are specific to individual airports and less relevant at the overall market level except in so far as they inform consideration of what traffic is likely to 'spill' from one airport to another when constraint bites. In this regard, understanding Heathrow's unique role in relation to transfer traffic is important to understanding the extent of spill that Gatwick might attract if Heathrow remains constrained. In that regard, we believe that the scale of point to point demand claimed by GAL (paragraph 2.3.2) may be too high, see paragraph 26 below. This is material to considering forecasts of future demand and throughput.
10. Whilst noting the historic levels of excess demand for Gatwick claimed at paragraph 2.7.4, it is unclear how this excess demand could be accommodated in the baseline case. In **Figure 3**, we illustrate the demand for slots and the allocation of slots for summer 2024 at Gatwick³. This demonstrates that, despite excess demand for slots on most days of the week through the main part of the day, there has still been limited willingness of the airlines to use spare capacity available in the evening period. We consider the implications for demand forecasts further later in this note.

³ Airport Coordination Ltd, Gatwick Airport Start of Season Report Summer 2024.

Figure 3: Slot Demand and Allocation Summer 2024



Section 3 – Gatwick’s Position

11. This section provides secondary contextual material as to the case for growth at Gatwick.
12. In relation to capacity required at other airports to accommodate growth (paragraph 3.5.2) over the next decade and more, with the exception of Heathrow, the other airports have planning applications already in the decision- making process to provide adequate terminal capacity to meet their assessed demand and, in the case of Stansted, approval has already been granted⁴. Additional terminal capacity will also be required as part of the DCO works at Gatwick.

Section 4 – Gatwick’s DCO Forecasts, Principles and Approach

13. Whilst a bottom up forecast, such as presented by GAL in its application documents, is a useful approach over the short term – typically 5 to 10 years maximum – as it can better reflect short term airline decisions as to deploying capacity at an airport, we do not accept that it is a uniquely preferred approach in the case of a constrained airport or airport system. A bottom approach is necessarily subjective and relies almost entirely on the judgement of the forecaster as to the capacity that the airlines will be willing to offer. We also note that, in so far as GAL sets out the basis of its bottom up forecasts in Annex 6 to the Forecast Data Book [APP-075], this addresses only the period to 2032 and there is no underpinning detailed analysis to support the growth over the longer term. We do not agree with GAL’s position that it is not possible to model the effect of constraint through the use of shadow costs, as applied in the Department for Transport’s (DfT’s) passenger allocation model⁵. As discussed in Section 6, GAL has gone on to build a pseudo-allocation model but adopted a more basic deterministic approach to ‘spill’ than the calibration of a dynamic model including the use of shadow costs to drive re-allocation.
14. For the reasons set out later in this submission, we do not accept that the bottom up forecasts are superior to reasoned analysis through a properly calibrated allocation model. Although some doubts remain about the robustness of GAL’s allocation model, due it being overly deterministic, we believe

⁴ The Planning Inspectorate, Decision Notice and Statement of Reasons, Application Reference: s62A/2023/0022, 31st October 2023.

⁵ Department for Transport, UK Aviation Forecasts 2017, paragraph 2.38.

that the results of the additional top down modelling carried out by GAL are to be preferred to the original DCO forecasts as presented and that the updated modelling should be used to inform the assessment of impacts, subject to the caveat that the results are ultimately based on the attainability of the assumed uplift in capacity, which we address later in this submission.

Section 5 – Gatwick’s DCO Forecasts, Detailed Build-up

15. This section discusses the assumptions used in each step of building up the demand forecast in the baseline and the NRP case.

Peak Period Capacity

16. As is clear from paragraph 5.2.8, the fundamental approach to the demand forecasts is based on developing ‘busy day timetables’ that appear to assume that, at any given point in time, all available runway capacity is taken up. Given the methodology adopted by the Applicant, the outcome of the forecasting exercise is entirely dependent on the robustness of the assessment of capacity available over a busy day, including in critical busy periods of the day, as, in essence, the forecast simply fills available capacity based on GAL’s assertion that demand, both now and in the future, will always exceed available capacity. In relation to the first principle of GAL’s approach - capacity available, this is addressed further later in this note in relation to the Capacity and Operations Paper **[REP1-053]**. We comment here on the approach taken to how capacity would be used without prejudice to whether the quantum of capacity to be delivered by the NRP has been validated.
17. Given that no further increase in runway movements is proposed in the baseline case over the main 13 hour period (05:00-18:00 UTC) on a busy day, as considered in Table 12, with 693 movements already declared for this period in summer 2024⁶ compared to an assumed 683 such movements assumed in future on page 3 to Annex 7 to the Forecast Data Book **[APP-075]**, it is difficult to see how a higher proportion of the unmet demand could be met in future in the baseline as the only additional slots would be in the evening and, to the extent that some of these additional movements are expected to be departures to short haul points, are likely to generate a demand for increased arrivals in the night period and these do not appear to have been allowed for by GAL in the noise assessments. This means that, effectively, all growth in the baseline will need to come through movement growth in the off-peak seasons and through growth in the average numbers of passengers per aircraft movement, including to the extent that long haul operations displace short haul within the constrained number of slots available.

Annual Throughput – Seasonality

18. In relation to seasonality, Figure 25 shows the assumptions made by GAL as to how the ratio of the peak to average month would continue to fall at Gatwick. However, little explanation is provided as to what drove the reduction in seasonality over the period 2014-2019 and what is expected to drive ongoing change. Notably, Table 13 omits Gatwick’s largest operator easyJet. We believe that much of the change over the 2014-2019 period derives from the decline in seasonal charter operations, as shown in Figure 33 with the loss of Thomas Cook, Monarch and XL as well as the decline in operations by TUI, and that this change may not be replicated in the future. Hence, we do not believe that the current assumptions as the extent of change in the seasonal profile of aircraft movement operations at Gatwick can be considered robust and are likely to overstate the growth attainable in both the baseline and NRP cases. This topic is addressed further below in relation to the separate paper on baseline capacity **[REP1-047]**.

⁶ Airport Coordination Ltd, Gatwick Summer 2024 Season Capacity Declaration.

Aircraft Sizes and Load Factors

19. We note that GAL has updated its fleet transition assumptions for the purpose of considering seat capacity available (paragraph 5.2.28). Whilst this information is used to present a more 'bullish' estimate of seats and passengers per aircraft, it also means that the original assumptions as the modernisation of the aircraft fleet for noise assessment purposes are also out of date and need to be updated to reflect the new aircraft orders. This has implications for the assessment of aircraft noise and, in particular, for the setting of the Noise Envelope.

Airline Mix

20. In terms of the future airline mix and the realism of the assumptions, it is unhelpful that Tables 16 and 18 are heavily redacted, but we note that cross reference is made to Annex 6 of the Forecast Data Book [APP-075]. Although this report provides illustrative examples of market growth anticipated to different world markets, e.g. China, India, North and South America, as well as the short haul and domestic markets overall, it covers only the period to 2032 and simply estimates how many additional flights there would be required to meet demand growth cross the London airports and appears to assume that Gatwick would capture all or most of the increase (10 out of 14 additional flights to China for example) with the NRP. The baseline is consistently assumed to be able to capture half of the increase. We do not consider this a robust basis for developing a long term forecast.
21. The premise for GAL's analysis at the individual market level appears to have been simply to grow the assumed London area frequencies in line with the expected growth in the passenger market divided by the assumed average aircraft size (see India example on page 15 of Annex 6). However, in claiming that Gatwick could realistically capture the majority of the estimated increase in flights if it had capacity with the NRP, no account was taken of the fact that some 49.9% of passengers on current flights to and from India were connecting at Heathrow⁷ and a further 11.6% were originating in or destined for regions beyond the South East or East of England and might not choose Gatwick as a realistic alternative. For China, the pattern is somewhat different with 12.2% of all passengers transferring at Heathrow but 25% of passengers originating in or destined for regions beyond the South East and East of England. There is no evidence that GAL has considered such factors in developing its bottom up forecasts, highlighting why little reliance can be placed on that approach and the demand forecasts submitted with the application as a consequence. We note that, in terms of long haul⁸ growth, the number of seats and flight frequencies at Gatwick in Summer 2024 remain below 2017 levels in aggregate terms.
22. A further consideration with these 'bottom up' projections is that they only address the period to 2032 and there is no information provided as to how the growth beyond 2032, at 72.3 mppa, to achieve the 80.2 mppa forecast for 2047 would arise.

Section 6 – Top Down Forecasts

Unconstrained Demand

23. As has been the difficulty with the material submitted by Gatwick since the original consultation in 2021, it is very difficult to verify the sources of data that have been used in the assessments and to derive the demand sources.

⁷ According to CAA passenger survey data for 2019.

⁸ Excluding Mediterranean North Africa.

24. At the outset, it is important to note that, when considering the DfT's demand projections underpinning the Jet Zero Analysis, whether the original forecasts⁹ or those updated in March 2023¹⁰, account has to be taken of the basis upon which the demand forecast was prepared, as discussed at ISH1. These forecasts assumed growth in capacity across all of the airports consistent with them making best use of their existing capacity, including the NRP Gatwick as well as Luton, London City, Stansted and the full range of regional airports. These forecasts also allowed for a third runway at Heathrow so as to test the climate change implications of all such growth being accommodated. To the extent that some of these capacity increases are not delivered, there would be some demand lost due to a combination of higher prices and loss of convenience, not all of this potentially lost demand at other airports would be available to Gatwick. Most significantly, the potential growth in transfer traffic at Heathrow would be lost, particularly given that GAL does not envisage the growth of Gatwick as a major hub [REP1-056, paragraph 4.1.6].
25. When considering different options for airport expansion in the London area, the Department for Transport modelled different scenarios, including with a third runway at Heathrow or with the development of a fully spaced southern parallel runway at Gatwick. This was published by the DfT in *UK Aviation Forecasts 2017*¹¹. At the time, the future demand forecasts were somewhat more optimistic than the more recent post-pandemic forecasts, with the expectation that unconstrained demand would reach 420 million passengers in 2040¹² in the central growth case, which is similar to the most recent 2023 unconstrained growth projection of 430 million passengers in 2050 in the 2023 DfT dataset. What is notable is that, at an unconstrained demand of 420 million, there was a 17 million passenger difference in the forecast total UK demand that could be met between the scenario with a new northwest runway at Heathrow and a full second runway at Gatwick¹³, which would have delivered substantially more capacity than the NRP. This can be accounted for by the specific hub role at Heathrow that would not be replicated elsewhere, as acknowledged in the ANPS¹⁴. In practice, with constraints still assumed at other airports in the DfT's 2017 forecast, only 370 million¹⁵ out of the 420 million passenger demand was predicted to be met with a full second runway at Gatwick, absent capacity expansion elsewhere. Notably, despite excess demand in the system, not all of that was anticipated to use Gatwick as an alternative to a preferred airport despite Gatwick being projected, in 2040, to be using only 78% of the assumed capacity of the two runways at 560,000 annual aircraft movements for a fully spaced runway pair. Put simply, it cannot be assumed that all demand that cannot be met at one airport will necessarily use Gatwick simply because it has capacity available, yet this appears to be the underpinning assumption in GAL's approach to forecasting.
26. In its latest report, the Applicant has sought to correct for the transfer passenger issue by setting out analysis based on point to point demand using the London airports only, excluding transfer passengers in 2018. However, the source of the starting figure for 2018 of 160 million 'London for LGW, exc. Transfer' (Table 19) is unclear and appears to have been overstated as a start point. We understand from a note provided to us by GAL on 29th February that it has estimated that 69% of total UK point to point demand of 228 million passengers in 2019 uses the London airports. It is still unclear to us how these market estimates have been derived.

⁹ Department for Transport, Jet Zero: further technical consultation, March 2022.

¹⁰ Department for Transport, Sustainable aviation fuel mandate dataset, March 2023.

¹¹ Department for Transport, UK Aviation Forecasts 2017, October 2017.

¹² Ibid, Figure 6.1.

¹³ There was additional unmet demand in these projections as, at the time, the Government had not modelled other airports than Heathrow or Gatwick expanding to make best use of their runways and some demand that would have chosen to use those airports if capacity was available was assumed lost to the system, all traffic does not necessarily spill the next alternative airport and, when any airport becomes constraint, some element of the demand that would have chosen to use it decides not to fly.

¹⁴ Department for Transport, Airports National Policy Statement, June 2018, paragraphs 3.20 and 3.21.

¹⁵ Department for Transport, UK Aviation Forecasts 2017, Table 34.

27. Using CAA Survey Reports for 2018¹⁶, the number of point to point passengers starting or ending their air journeys using the 5 main London airports (Heathrow, Gatwick, Stansted, Luton and London City) was 140.7 million. Southend was not surveyed in that year but even if it was assumed that all passengers using Southend were travelling point to point, the total point to point demand would not exceed 142.2 million passengers. Hence, it would appear that ICF for the Applicant has overstated the base level of point to point demand for the London airports (155 mppa in 2018 in Table 20) from which it prepares its top down forecasts by some 13 mppa.
28. Applying the latest DfT overall market growth rate of 1.3% CAGR¹⁷ to the true estimate of point to point demand using the London airports in 2018 would yield an estimated passenger demand of 215 million in 2050 compared to 277 million indicated as Table 19 as the original GAL forecast, or GAL's updated 235 million derived using the same 1.3% CAGR as shown in Table 20. On this basis, the Applicant appears to have started from an overstatement of the scale of the point to point London market from which it will draw passengers by of the order of 20 million passengers by 2050.

Airport Allocation

29. In Forecast Data Book [APP-075, Annex 5.3] and previous consultation materials, a 'top down' assessment was simply used a cross check for the reasonableness of the specific 'bottom up' demand forecasts by reference to the estimated scale of total demand for the London airports compared to existing consented capacity, albeit with some sensitivity testing. In REP1-052, the Applicant has now produced some further allocation type modelling to provide further validation of its forecasts using a quality of service index (QSI) derived from surface access time and the scale of the network. It is not entirely clear how this QSI metric has been calibrated and the extent to which it is used dynamically within the model to reflect network changes over time, which would be particularly relevant in scenarios where other airports are assumed to increase capacity.
30. Fundamentally though, as we understand the methodology, it simply cascades passengers from an airport that is deemed full to the next best alternative until all capacity is filled up within the London system (paragraph 6.3.48). For the reasons set out in paragraph 25, this is not realistic as it is reasonable to assume that some passengers would decide not to travel at each iteration not only those assumed to be spilled from the London system overall. This is demonstrated by the outcomes of the DfT's modelling. If GAL's approach had been considered valid by DfT in its 2017 forecasts, it would simply have filled up Gatwick's capacity when other airports became full. When rigorously modelled, this is not the expected outcome.
31. Also, to the extent that a part of the demand currently using the London airports originates in or is destined for regions outside of the South East or East of England, regional airports are also developing their services over time and are generally less constrained in terms of capacity and so would be expected to re-capture at least some of their local traffic that currently uses the London airports. Nd Birmingham Airport may compete for some London traffic once it is connected to HS2.
32. Hence, notwithstanding that the Applicant has apparently done some more detailed modelling of the demand that would choose to use Gatwick if it had capacity available, some concern remains that the model is deterministic in simply assuming that passengers will always spill to the next best alternative within the London area, so this 'top down' approach remains highly theoretical and may tend to overstate the level of demand that would in fact remain in a constrained system and, hence, how many passengers would actually use Gatwick with or without the NRP. This is not least because, as pointed out at paragraph 64 of Appendix F to the Joint West Sussex LIR [REP1-069], the Applicant's economic case [APP-251] postulates materially higher air fares in a constrained system than an unconstrained system, which would lead to some suppression of demand at each individual airport. There is some

¹⁶ Available on the Civil Aviation Authority website.

¹⁷ Compound Annual Growth Rate.

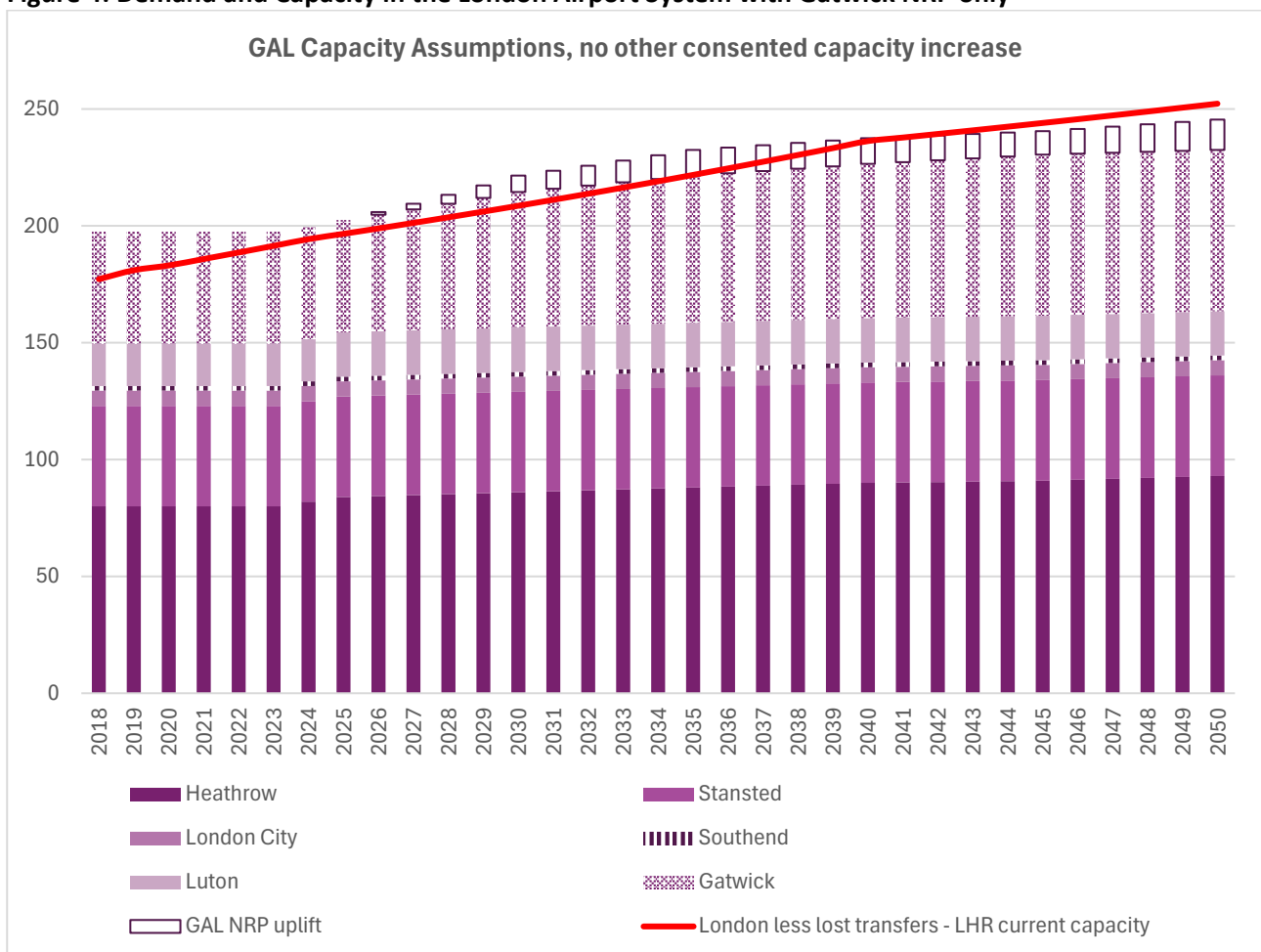
inconsistency, therefore, between the demand case being made by the Applicant and the economic benefits case.

33. We note that, even so, the forecast comparison in Table 29 does show substantially slower growth in the early years, with passengers using the Airport with the NRP some 9% lower than the original 'bottom up' forecasts in 2032. This is material as the original 2032 forecast of 72.3 mppa in that year has been used to set the proposed Noise Envelope for the 1st Noise Envelope period, which means it has been set too large, leaving aside noted concerns about the fleet mix of aircraft assumed (see para 19). This will provide no incentive to deliver even the cautious fleet transition put forward by GAL over the early years of the project.

Outputs

34. Having noted the apparent discrepancies in the data used and, whilst it is not apparent how the estimate of the net scale of the London unconstrained demand has been estimated by GAL from the explanation provided in the paper, our estimate of the scale of the market after having allowed for the loss of some transfer passengers from Heathrow that would not be replicated elsewhere is similar to that shown in Figures 43 and 47 – see **Figure 4** below, albeit this is before accounting for any fare related demand suppression at the individual airport level and without accounting for clawback of demand by regional airports. For the purpose of this chart, we have assumed that the capacity deliverable in the Baseline and NRP cases is as stated by GAL, notwithstanding our reservations as to the achievability of the full levels of throughput claimed.

Figure 4: Demand and Capacity in the London Airport System with Gatwick NRP only



35. The principal concern remains that GAL has put forward a case that simply assumes no additional capacity is provided in the London system over the period to 2050, other than that already consented

at Stansted and the 1 mppa increment at Luton. It is unclear to us why GAL considers that its scheme is uniquely consentable when other development proposals are not, including those already in the consenting process for Luton and London City Airports, leaving aside any future proposal in respect of Heathrow or, indeed, the other airports. It is also not possible to test the sensitivity of its case to changes in the underlying economic or cost assumptions.

36. For the reasons set out earlier in this note, we cannot agree that the ‘bottom up’ approach upon which Gatwick relies is robust and is to be preferred, as the Applicant asserts at paragraph 6.6.5, to a robustly modelled assessment of the demand that could realistically use Gatwick. To that end, GAL’s modelled results would be preferred over the bottom up analysis but only subject to appropriate allowance being made for the probability of at least some additional capacity being consented at other airports over the period to 2050 and subject to the caveat above regarding the realisable capacity in the Baseline and with the NRP.
37. It should also be noted that, to the extent that GAL’s updated modelling of the rate at which capacity provided by the NRP would be taken up is slower than in its original forecasts, this has implications for the economic case as a slower take up of capacity would result in lower benefits in the earlier years, disproportionately impacting on the net present value (NPV) calculated. This concern is over and above more general concerns about how the benefits in terms of air fare savings have been calculated within the UK level economic impact assessment [APP-251].

Section 7 - Sensitivities

38. In the first instance, GAL has considered the potential impact of a third runway at Heathrow on its forecasts and then considered separately, but not in combination with Heathrow, the impact of current applications for growth at Luton and London City Airports being approved. The outcomes from the updated modelling¹⁸ compared to the original bottom up forecasts without capacity growth elsewhere are set out in **Table 1**.

Table 1: GAL’s Forecasts and Sensitivity Tests

	2029	2030	2032	2035	2038	2044	2047
GAL Original	61.3	65.3	72.3	73.8	75.6	78.7	80.2
GAL Top Down Modelled	57.1	61.1	65.7	70.8	75.6	78.7	80.2
GAL Top Down Modelled with Heathrow R3	57	61	66	64	65	68	70
GAL Top Down Modelled with London City and Luton	67	60	65	70	74	78	80

39. We illustrate in **Figures 5, 6 and 7** the demand capacity balance if other potential increases in airport capacity are approved, including at Luton, London City and Heathrow Airports. We have illustrated both an increase with mixed mode at Heathrow, assumed to add 15% to capacity, and a full third runway.

¹⁸ As set out in Table29, Figure 52 and Figure 55.

Figure 5: Demand and Capacity in the London Airport System with Gatwick NRP and Growth at Luton and London City

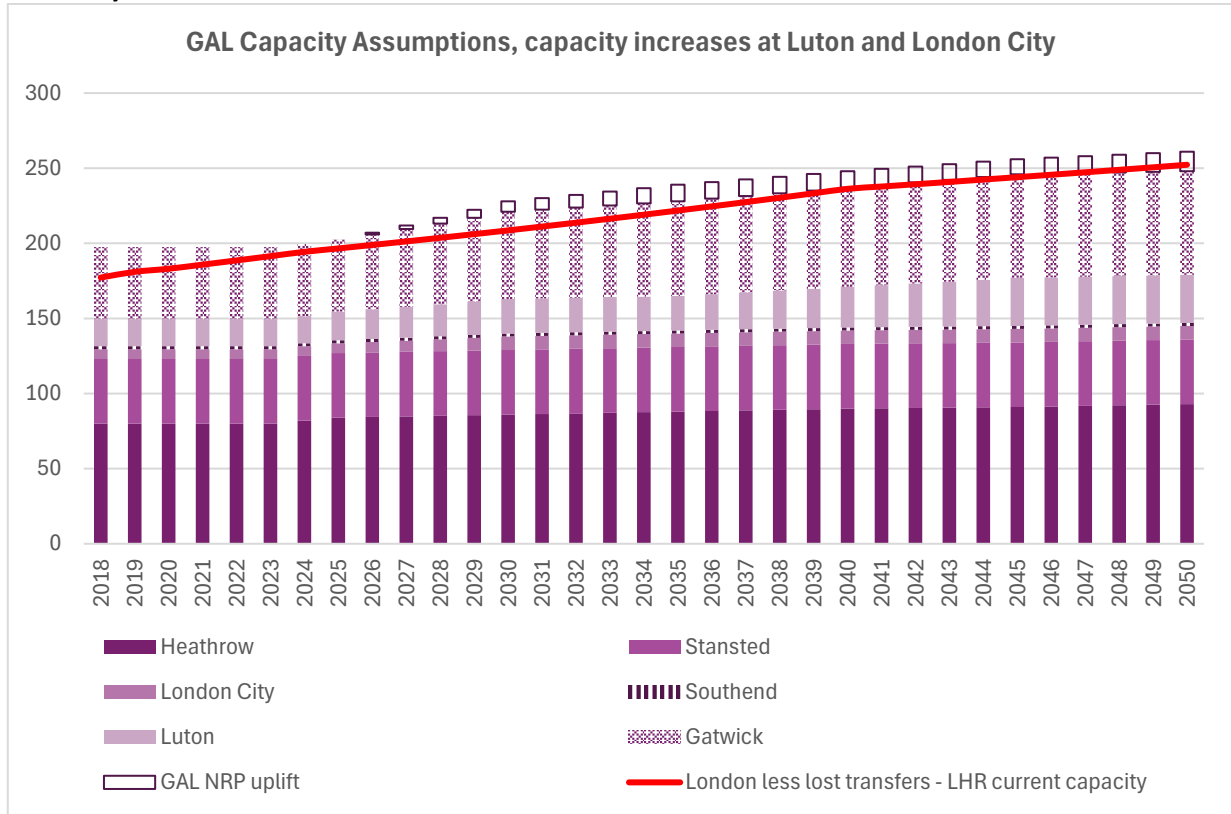


Figure 6: Demand and Capacity in the London Airport System with Gatwick NRP and Growth at Luton and London City plus Mixed Mode at Heathrow

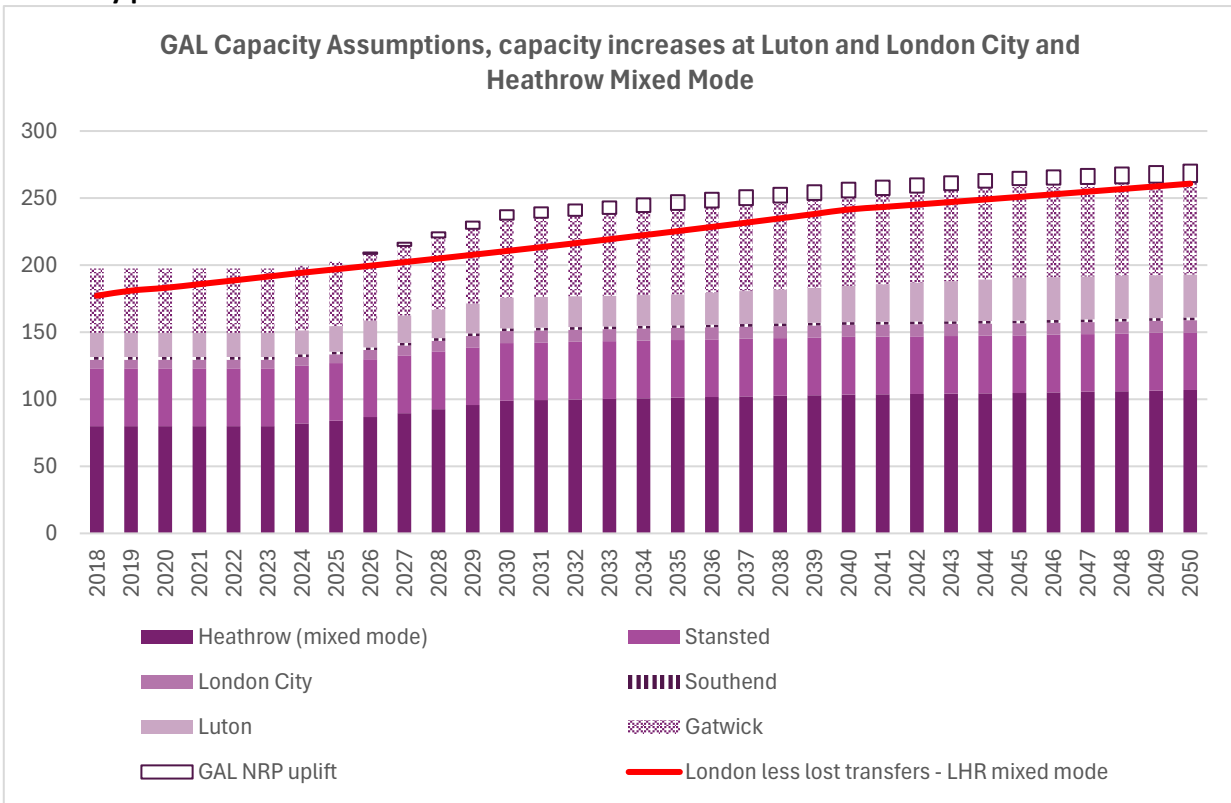
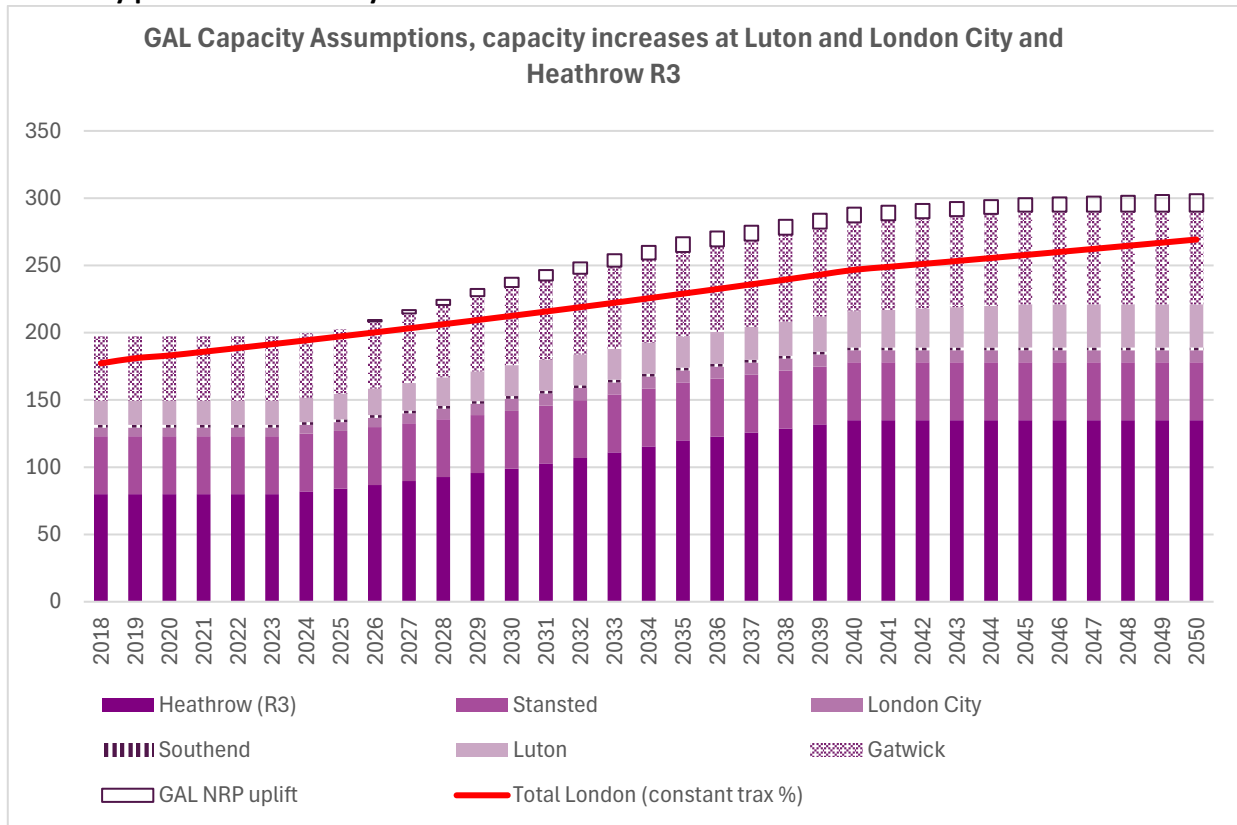


Figure 7: Demand and Capacity in the London Airport System with Gatwick NRP and Growth at Luton and London City plus a Third Runway at Heathrow



40. The above charts illustrate how sensitive the level of demand for Gatwick is likely to be, dependent on the capacity provided elsewhere. At the very least, these considerations highlight a real risk that Gatwick will not achieve the rate and, potentially, level of overall growth in demand projected to use the Airport over the period to 2047 with the NRP in place. This has implications for the assessment of impacts and the controls that would need to be put in place at different points in time, including but not solely the Noise Envelope.

TECHNICAL NOTE ON FUTURE BASELINE [REP1-047]

41. This note repeats much of the analysis in relation to the factors driving baseline growth and the market contained in the Needs Case Technical Appendix [REP1-052]. As we have already explained, there appears to be some inconsistency between the assertion that there is going to be an increase the number of runway movements during the main part of the day [at paragraph 1.4.2 of REP1-047] and the information provided as to the hourly movement rate scheduled today and planned for the future.

Peak Growth

42. Based on our understanding of current and future anticipated hourly capacity, it would appear that the increase in busy day operations is all expected to be after 18:00 (19:00 local time in summer). It is not clear to us that there is sufficient airline demand to operate solely in the evening to deliver an uplift on a diurnal basis. Furthermore, it is not clear the extent to which this assumption would place pressure on any limits on night time operations of new departures added after 19:00 and needing to return to the Gatwick base so as to be ready for the next day. Similar considerations could apply to new long haul arrivals in this period as allowance would need to be made for realistic aircraft turnaround times. We note that GAL states at paragraph 3.5.1 of REP1-054, that no increase in movement levels in the

night period has been assumed but we are not yet convinced that this would be the commercial reality flowing from increased operations in both the baseline and NRP cases.

Peak Spreading

43. For the reasons explained earlier in this submission, it is not clear that continued flattening of the seasonal profile of short haul operations is likely and to the extent to which there are realistic doubts about the scale of long haul growth claimed, especially for the baseline case, a reduction in seasonality seems less likely for this reason.
44. Figure 1.7 appears to suggest that airlines will be willing to grow simply outside of the peak period, i.e. they will add flights in shoulder periods even though they cannot add capacity in the peak. Whilst this may be true on the margin for airlines with large based fleets at the Airport that make less use of their aircraft in winter currently, such constraints are likely to present a substantial deterrent to airlines introducing new routes, including to long haul destinations that would need to be able to offer year round operations. We believe that this is one reason why excess demand from airlines for peak period slots in recent and pre-pandemic years has not converted to overall growth in aircraft movements at Gatwick as the ability to grow in terms of the overall number of aircraft movements relies on peak capacity being available.
45. For the above reasons, we do not consider it reasonable to assume a further 7 mppa growth in the baseline (Figure 1.2) coming from increases in aircraft movements over the day or over the year.

Aircraft Size and Load Factor

46. The major part of the claimed growth in baseline airport throughput derives from aircraft size increases and increases in load factor. Whilst the assumptions as set out in Table 1.3 regarding aircraft size appear more realistic in the light of recent aircraft orders by the principal carriers using the Airport, this does have implications for the fleet mix assessed in terms of environmental impact and ensuring that controls are set at the appropriate level. The changes in fleet mix are assumed to deliver around 9 mppa growth over 2019 passenger levels.
47. There is also an assumption that load factors will continue to rise (Figure 1.14). This will be more challenging given that much of the rise in load factor was driven by growth in low fare carrier operations at Gatwick and scope for further load factor growth may be more limited. This is for two reasons:
 - To the extent that some of the growth is expected to come in off-peak periods, such services, including those from long haul full services airlines, will tend to have lower load factors than peak period services, for which growth will be constrained; and
 - There are always asymmetries in demand that mean that there is an effective ceiling on average load factors that can be attained.
48. Having regard to all considerations, we do not believe that it is realistic to assume that Gatwick will be able to handle 67.2 mppa in the baseline case over the period to 2047. A more reasonable baseline case would be in the range 55-60 mppa. Adopting a lower baseline has implications for the assessment of the effects of the NRP as it would imply a capacity uplift greater than 13 mppa, subject to validation of the capacity attainable with the NRP, as discussed further below.

CAPACITY AND OPERATIONS SUMMARY PAPER AND APPENDIX [REP1-053, REP1-054]

Current Conditions - Baseline

49. At paragraph 1.2.7, it is claimed that the single runway “reliably” accommodates 55 aircraft movements an hour. It is clear from representations from some of Gatwick’s largest customer airlines

[RR-1256, RR-1493, REP1-196] that accommodating this level of throughput is not being achieved at standards of service that they deem acceptable.

50. In terms of considering the level of capacity available, we have focussed on runway (Rwy) direction 26 as this is used for c.70% of the time. It is clear from Figure 11 of **REP1-054**, that although total departure delays may average 9.7 minutes across the day currently (2018) in the Rwy 26 direction [**REP1-053**, Table 2], they peak at an average of over 15 minutes in key peak periods of the day [**REP1-054**, Figure 11]. Delays at this level exceed the normally acceptable level (to the airlines) of 10 minutes average delay in busy periods (typically 3-4 hours) and goes some way to explaining the concerns expressed by the airlines regarding the resilience of the current operation, notwithstanding that we do understand that GAL has been clear of the delay implications in declaring capacity available at the current levels.
51. We understand that these delays are being mitigated to some degree now that the new rapid exit taxiway is in operation enabling many arriving aircraft to clear the runway more quickly. However, we understand from the documents that it is not GAL's intention to make further increases to peak hour declared capacity and to allow airlines to realise the benefits in terms of reduced delay. At paragraph 3.3.2 of **REP1-053**, GAL suggests that there are further enhancements that could be in prospect to improve the resilience of the operation. However, as we note below, these enhancements have been assumed not just to add resilience in the case of dual runway operations with the NRP but to be factors enabling higher capacity to be delivered and usable by the airlines. We have doubts that this is robust at this stage as GAL, itself, acknowledges that the real impact of these on the operation and how much capacity gain they might deliver is not yet known.
52. At paragraph 1.2.8 of **REP1-053**, GAL presents an entirely theoretical calculation of how 108 movements per hour could be achieved – 60 departures and 48 arrivals - in the airspace around Gatwick assuming there were no practical constraints on how it operates its existing runway or two runways in future and taking no account of the realities of having to interleave arriving and departing aircraft, the mix of destinations and departure routes required and the variations in the fleet mix. This is simply not relevant to establishing the capacity deliverable with or without the NRP save to make the point that airspace of itself is not expected to be a constraint. As is made clear at paragraph 2.10.1, attaining 60 departures an hour requires a theoretical perfect mix of aircraft in terms of all being of a single wake vortex category and a perfectly balanced alternation of flights onto divergent departure routes. To achieve this perfect mix, air traffic control necessarily has to hold and sequence aircraft onto the runway or, indeed, two runways in order to maximise the runway movement rate. This, in essence, requires a permanent queue of aircraft from which controllers can pick to optimise performance, which necessarily gives rise to some aircraft being delayed. Ultimately, the number of aircraft that can be scheduled to use an airport each hour has to be moderated between optimising throughput and ensuring that delays are not excessive.
53. Paragraph 2.8.5 sets out the impact of aircraft following the same departure route on the achievable separation between departing aircraft. Although the majority of departure routes from Gatwick on Rwy 26 proceed straight ahead, such that 60 second separations between departing aircraft cannot be attained, as shown on Figure 5 of **REP1-053**, Routes 1, 7 and 8 do diverge further out from the Airport. On this basis, GAL has estimated that the average attainable separation between aircraft departing on these three routes is 106 seconds rather than 120 seconds as would normally be required on aircraft following the same route. Assuming this is correct, the effect is already reflected in the current performance of the single runway but is material to the updated modelling presented in **REP1-054**, which differs from that presented in the Needs Case [**APP-250**]. We note that the effect of this and of the new rapid exit taxiway is included in the modelling of the baseline case, as set out in **REP1-054** and provides some explanation as to why delays in the baseline are expected to fall compared to 2018 actual levels. The updated modelling of the NRP case is discussed further below.

54. Although GAL asserts, at paragraph 2.10.2 of **REP1-053** that it would be theoretically possible to attain 53 departures an hour, this does not seem feasible with the distribution of aircraft by departure route shown in Table 5 of **REP1-054**. With 34% of aircraft following the fully divergent Route 4, perfect sequencing would mean that 60 second separations could only be attained for 68% of movements, the remaining 32% would require 106 seconds on average, with some risk that 120 seconds might actually be required. This would imply, at best, an average of 75 seconds between departures, resulting in a ceiling on departure capacity of 48 movements an hour, which is the peak departure capacity assumed with the NRP [Forecast Data Book **APP-075**, Annex 7, page 6]. At worst, with 120 second separations between aircraft on Routes 1, 7 and 8, the rate would drop to 45 departures an hour. This demonstrates, that based on current rules and procedures, the capacity claimed for the NRP is at the theoretical maximum of what might be attained if air traffic control could sequence aircraft perfectly. As noted above, however, it is the delay consequences of this that will determine whether the capacity is actually capable of being declared and, if declared, taken up by airlines willing to accept the potentially high level of delay implied. Currently, peak scheduled departure rates are 37 and 36 departures an hour¹⁹.
55. Paragraph 3.1.5 of **REP1-053** further explains the mathematics of how 55 movements per hour can only be obtained from the single runway with a perfect balance of arriving and departing aircraft, again requiring precise sequencing by air traffic control. We accept that there will always be circumstances, for example in good weather conditions or with a favourable mix of aircraft movements when the sustainable capacity of a runway can be exceeded, as noted at paragraph 3.1.7 but this does not impact on the sustainable declarable movement capacity which is the basis for airlines scheduling their operations and, ultimately, the passenger throughput.
56. Achieving increases in runway capacity do, of course, depend on the assumption that airspace is modernised such that overall congestion does not become a constraint in the longer term. As is made clear at paragraph 2.3.7 of **REP1-053**, this is simply not relevant to considering the capacity deliverable by the single runway in baseline conditions. Currently, the single runway is more constraining than the airspace.
57. We note that paragraph 1.2.12 of **REP1-053** does assume that airspace modernisation across the London area is achieved by Q1 2027. Given the levels of airspace congestion generally, as shown on page 12 of Annex 7 to the Forecast Databook [**APP-075**], this does highlight some risk to the attainment of the totality of capacity uplift at an early date if airspace modernisation is delayed or not delivered. As highlighted at paragraph 23 of Appendix F to the Joint West Sussex LIR [**REP1-069**], this does pose some risk that greater use of WIZAD SID may be required in future, accepting that this would require a modification to the Manual of Air Traffic Services.
58. In relation to baseline capacity then, we consider it prudent to assume that there is unlikely to be scope to materially increase the declared capacity of the single runway above summer 2024 levels. For the reasons set out in paragraphs 10 and 17 above, we doubt that GAL will be able to achieve an additional 20 movements on a busy day in baseline conditions as claimed at paragraph 3.4.2 of **REP1-053**.

NRP

59. We accept that the NRP will provide efficiency improvements and enable increased runway movements but the focus of GAL's analysis appears very much on optimising number of movements handled on the runways themselves in terms of the runway service rate (the theoretical maximum hourly capacity that can be handled), regardless of implications on the ground, i.e. delays prior to departure (or arrival). The capacity of the airfield system as a whole requires consideration of both aspects as ultimately capacity has to be delivered at a level of service acceptable to users. This means that commercially acceptable capacity is likely to be below the theoretical maximum.

¹⁹ Airport Coordination Ltd, Gatwick Summer 2024 Season Capacity Declaration.

60. At the time of the original consultation in 2021, we had some doubt about operational and safety aspects of the proposed dual runway configuration. At paragraph 4.2.3 of **REP1-053**, it is stated that there is a Statement of Common Ground in place with the CAA covering Safety and Operations and we await consideration of this before commenting on whether there are any residual safety concerns.
61. We note that in section 4.2 of **REP1-053**, GAL cites Dubai as an example of an airport operating a similar runway configuration safely. However, it is not strictly comparable as the use of the runways in segregated mode optimises both arrival and departure sequences. We are also aware that the operation at Dubai can involve long taxi times and high levels of delay. To some degree these are absorbed in the longer turnaround times inherent in the mainly longer haul operations at that airport. This is not feasible for an airport, like Gatwick, with a preponderance of operations by low fare airlines that rely on fast turnaround times and optimising aircraft utilisation over a day, for whom the implications of high levels of airfield congestion and delay can be more commercially damaging.
62. As with the Needs Case, Table 2 of **REP1-053** presents only delay data averaged over the whole day when it is delays in specific busy periods, particularly in the departure heavy hours early in the morning that may be more impactful on the commercial viability of operations at least by airlines seeking to base aircraft at Gatwick.

Appendix [REP1-054]

63. This Appendix sets out in more detail the updated fast time simulation modelling undertaken in relation to the baseline and NRP cases.
64. We are assuming that the schedules modelled are the same as those set out on pages 3 and 6 of Annex 7 to the Forecast Data Book [**APP-075**]. From discussion with GAL, it would appear that the schedules were derived from an initial, off-model, estimate of the capacity that could be made available to which the commercial team at the Airport developed busy day schedules, in line with Annex 6 of the Forecast Data Book, which were then tested for the delay implications through the fast time simulation modelling.
65. Table 7 summarises the assumptions made by GAL in its latest capacity modelling. Whilst the new rapid exit taxiway has been allowed for in both the baseline and NRP cases, we understand from elsewhere in the documents that there is no expected capacity gain in the NRP case.
66. However, not only has the capacity modelling been adjusted by reference to the actual achieved separation between departures following the same initial departure route (see paragraph 53) in the cases based on current performance, GAL presents results for future performance on the assumption that technology will allow it to attain 90 second separations between departures following the same route (Reduced Departure Separation) and has made further off model adjustments to reflect enhanced sequencing capability that it claims will further reduce delays.
67. We are currently concerned at the robustness of assuming that these potential technological enhancements will necessarily deliver the capacity uplift/reduction in delay, at the movement rates tested, as assumed by GAL. This is not least because of the caveats stated at paragraph 4.4.9 as to the extent to which they will assist capacity on 'normal' operating days. Our view is that, for the present, the modelled 'future performance' outputs should be given less weight than those based on 'current performance', contrary to the view expressed by GAL at paragraph 5.1.1.
68. We are also seeking clarification as the validity of the reductions in modelled delay more generally compared to previous model results shared with us by GAL as shown at Figure 3 of Appendix F to the JLA's LIR [**REP1-069**], which we had understood to have been based on the attainment of 60 second separations between all departures. Currently, we cannot account for why the modelled delays are so much lower than previously modelled and we are seeking further clarification and discussion with GAL

to understand the reasons for the changes and the implications for the attainable capacity over the longer term from the NRP.

SUMMARY OF KEY POINTS

Baseline:

69. It is noted that GAL is only assuming a very modest increase in the number of aircraft movements on a typical busy day at Gatwick compared to the available capacity declared for summer 2024, with no increase assumed for the main part of the day 05:00 to 18:00 UTC.
70. On that basis, it is difficult to understand, and GAL has not evidenced, how new year round services can be accommodated without displacing other services given that any new slots appear likely to be in the evening where there is already some degree of spare capacity that has not been taken up despite excess demand over capacity for the main part of the operating day. As a consequence, the level of growth through peak spreading in the baseline case seems unlikely to occur, meaning that the scope for volume growth will largely come from increases in the number of seats on each aircraft and the load factor.
71. Of the baseline growth above 47 mppa, GAL ascribes 13 mppa of the increase to growth in average passengers per movement [REP1-052, Figure 36]. However, in part, this is reliant on some shift from short haul to long haul operations through accommodating new year round services. For the reasons noted above, this seems less likely and so we believe that a more realistic assessment of the passenger throughput deliverable in the baseline case is in the range 55-60 mppa.

NRP Case

72. GAL has updated its modelling of the performance of the NRP in terms of handling the future projected number of aircraft movements to accommodate 75.6 mppa in 2038 (growing to 80.2 mppa in 2047). This updated modelling uses some modified assumptions about the current operational performance of the single runway, including allowing for the new rapid exit taxiway and taking into account actual achieved separations between aircraft when following the same initial departure route (Routes 1, 7 and 8) after take-off. Additional assumptions have been made regarding the scope for further improvements in sequencing of departing aircraft to optimise runway use and the potential use of time based separations to improve capacity for arriving aircraft. This updated modelling indicates better performance in terms of reduced levels of delay compared to the original model results as presented in Working Group meetings prior to the commencement of the Examination and as set out in Section 7 of the Needs Case [APP-250] and further clarification is being sought so that we can test its robustness.
73. Ultimately, the hourly capacity deliverable with the NRP will place an upper bound on the passenger throughput attainable at any point in time having regard to the new routes and services that will be able to be accommodated. Discussions are ongoing with GAL to validate what reasonable estimates would be for the ultimate capacity deliverable with the NRP both over the day and in critical busy periods. The outcome of these discussions will be reflected in submissions at future deadlines and in the Statement of Common Ground.
74. Whilst achievable capacity represents one dimension of likely throughput of Gatwick with the NRP, the extent to which demand will be attracted to take up that capacity represents the second important dimension.
75. The principal forecasts relied on by GAL derive from a 'bottom up' judgemental assessment of how many new services might be attracted that does not appear to be underpinned by any consideration

of the characteristics of demand in each market and the likelihood of Gatwick attracting a specific number of new services. In our view, little reliance can be placed on these forecasts without better evidence as to their realism and deliverability having regard to the specific nature of each market, including how much of the demand might prefer Gatwick over other airports around London and beyond that might have spare capacity and could be attractive to airlines to meet a greater share of their local demand.

76. Although we have some technical concerns regarding the robustness of the top down passenger allocation modelling undertaken for GAL, this modelling better reflects more recent overall forecasts of UK air passenger demand, taken from the Department for Transport's Jet Zero modelling. Some account has now been taken of the element of transfer traffic within those forecasts that could only realistically be expected to use Heathrow. The revised modelling now shows a slower take up of the NRP capacity having regard to the scale of market available to it, see **Table 1** above. Prima facie, this appears more robust than the 'bottom up' analysis relied on by the Applicant to date.
77. A further consideration is the extent to which it is realistic to base the assessment of the impact, positive and negative of the NRP solely on the basis that no additional airport capacity is consented in the London system (or beyond) over the period to 2047. We do not consider this to be a reasonable basis for considering the implications of the NRP and the Applicant's approach poses substantial risks that ultimate controls, such as the Noise Envelope, are set too lax leaving a risk of the detrimental impacts being realised but without the equivalent benefits deriving from growth.

Overall

78. A final consideration is in relation to fleet mix. Although not covered in these new technical papers, as made clear at point 7 of the JLA's post-hearing submission on ISH5-Aviation Noise [REP1-066], there are overarching concerns that the fleet mix assumptions have not been updated since 2021 and now appear out of line with assumptions underpinning the fleet forecasts used to project the scope for growth in passengers per aircraft movement. Hence the effect of this understatement of the rate of fleet transition to newer generation quieter aircraft could compound any overstatement of the demand forecasts in terms of setting controls too lax.
79. In summary, GAL needs to:

Baseline

- Evidence more clearly how movement growth can be attained in the baseline case, having regard to the likely take up of available slots by airlines in short and long haul markets by showing the specific assumptions as to what flights and aircraft rotations (long and short haul, based and non-based) are added to the busy day timetable compared to today and how these carry through into off-peak months (paragraphs 42-45 and 70).
- In the alternative, if this cannot be demonstrated, GAL needs to adjust downwards its baseline case and assessments to reflect only the realistic scope for increases in the number of passengers per aircraft movement (paragraphs 46-48 and 71).

NRP

- Provide robust simulation modelling evidence on the attainability of the claimed increase in runway movements with the NRP based on current and known operational enhancements. This needs to take into account the specific capacity deliverable in peak periods, including the morning departure peak (paragraphs 67-68 and 72) and its acceptability to the airlines.

- ➔ Provide further information on the validation of its 'top down' passenger modelling and how changes in capacity at other airports are reflected in the model (paragraphs 29-33), including the effect of pricing on demand and how the QSI scores have been validated and adjusted as growth occurs at other airports, including those beyond the South East of England (paragraphs 29-32).
- ➔ Adjust its 'top down' demand modelling to take into account realistic assumptions regarding the current London airport demand that would be clawed back by regional airports, including ensuring that the correct number of point to point passengers is used as the start point (paragraph 28).
- ➔ Allow for capacity increases to be realised at one or more of the other airports serving London over the period to 2050 (paragraphs 38-40 and 77) and adjust its NRP case assessments to the top down passenger forecasts accordingly as a base case.
- ➔ Provide further evidence to support the specific growth claimed in individual markets, having regard to the point to point demand available to Gatwick within its catchment area, in the 'bottom up' modelling of the first 10 years to validate the assumed market mix of flights and passengers (paragraphs 20 and 21).
- ➔ Following further validation and confirmation of the capacity deliverable by the NRP, adjust is with development assessments to reflect the outcome of the fully validated 'top down' demand modelling over the longer term (paragraph 76).

Fleet Mix

- ➔ Adjust its fleet mix assumptions used for noise and other impact assessments to reflect the latest fleet transition assumptions assumed for demand forecasting purposes (paragraph 78).

YAL/19.4.24

Gatwick NRP – Review of D2 Arboricultural Documentation Submissions -

Jordan walker – County Arboriculturist, WSCC

Summary

The Applicant has provided arboricultural documentation during Deadline 2 in support of the proposed Project, inclusive of an Arboricultural Impact Assessment and supporting Outline Arboricultural Method Statement. These provide an assessment of the impacts to arboricultural features and set out how retained features are mitigated from adverse impacts, as well as identifying how measures will be secured by the DCO.

Further clarification is required in demonstration of the need for numerous proposed tree removals where construction impacts have not been identified. The recognition and demonstration of accordance with local planning policies has not been demonstrated and is also required.

Impacts to Horleyland Wood (Ancient Woodland and Local Wildlife Site) have not been evaluated in adequate detail, with no specific outline protection measures being identified in mitigation of potential construction activities which could lead to the deterioration of ancient woodland.

Policy Context

Policies considered to be of most relevance to trees, woodlands and hedgerows have been stated within section 9 of the Joint West Sussex LIR [REP1-068]. Whilst the arboricultural documentation supplied addresses many of the policies stated with the LIR, there is no recognition or adherence with Local Planning Policy CH6 'Tree Planting and Replacement Standards' of the Crawley Borough Local Plan 2015 – 2030 (CBLP), as well as accordance with paragraph 5.103 of The Airports National Policy Statement (Department for Transport, 2018) regarding the loss or deterioration of ancient woodland.

In addition to policies presented within the LIR, Policy NHE3: Protecting trees, woodland areas and natural habitats of the Reigate & Banstead Local Plan Development Management Plan (2019) is of relevance as a result of tree loss which is covered by a Tree Preservation Order (TPO) within the authorities jurisdiction.

Applicants Approach to Assessment

Arboricultural impacts have been presented as a worst case scenario within the Tree Survey Report and Arboricultural Impact Assessment [REP1-026, REP1-027, REP1-028, REP1-029 & REP1-030]. This has been undertaken in general accordance with BS5837:2012 which is nationally recognised guidance for assessing and managing arboricultural impacts from construction related projects.

These findings should inform topic specific assessment of effects within the Environmental Statement, including Ecology and Nature Conservation, as well as Landscape, Townscape and Visual Resources.

The Arboricultural Impact Assessment has not identified the construction components/works which has lead to the worst case scenarios presented, such as proposed tree loss. Chapter 6 of the ES, Approach to Environmental Assessment [APP-031], states that assessments are based on 'realistic

and likely' worst case options (see paragraph 6.3.40); therefore, the assessments which inform topic environmental assessments should adopt this approach. However, it's apparent that tree loss is proposed in numerous construction/works areas whereby no obvious reasoning for removal has been demonstrated or identified from project descriptions stated elsewhere. Examples are detailed below.

Construction Phase Impacts

Tree Loss

An estimated 11,588 trees are proposed for removal to facilitate the Project.

For individual trees, this requires the removal of 51.87% (360 trees) of the total surveyed (748 trees); of which, 25.28 % (91 trees) are 'category A' trees of high quality and value, 18.61% (67) are 'category B' trees of moderate quality and value, and 53.06 % (191 trees) are 'category C' trees of low quality and value. Whilst apparent the design has a greater impact to individual trees within 'category C', there remains a significant loss in quantity of 'category A and B' trees which must not be misinterpreted to be considered as good design as a result of this alone.

A total of 359 tree groups & woodlands were surveyed, 152 (42.33%) of which require complete or partial removal, resulting in an estimated loss of 11,228 trees. No evaluation of impacts based on quality and value categorisation has been presented for tree groups & woodlands.

A majority of the proposed tree loss forms structural landscaping adjacent the A23/M23 road corridor as a result of the proposed surface access works. Conclusions within the Arboricultural Impact Assessment states "the impact of the tree loss is somewhat negated by the low quality of the existing highway infrastructure trees that were planted following construction of the airport roads". However, the tree surveys supplied demonstrate otherwise, with a high proportion of trees adjacent the A23/M23 road corridor found to be assessed as A and B categories (high or moderate arboricultural quality and value). Collectively, they form a functional and integral landscape feature providing screening and numerous ecosystem services which should not be dismissed. No evaluation has been made to demonstrate that proposed reinstatement landscaping will enhance upon the existent structural landscaping features.

The following extensive list of arboricultural features are proposed for complete or partial removal whereby project descriptions and associated figures have not demonstrated the extent of removal is required at a realistic worst case scenario (where appropriate, trees which are not suitable for retention are also listed):

Longbridge Roundabout Junction Improvements

- W5 (A2/3 category), woodland group shown for complete removal despite only a small area of potential impact due to surface access works having been demonstrated. This is not considered to be compliant with local policy NHE3 due to the presence of TPO (ref. RE1467) which covers the group.
- G19 (C2 category), only accounts for single specie within a large mixed specie group. Removal of group is unclear (incomplete canopy shown).
- G50 (C2 category), shown for complete removal for unknown reasoning.
- G52 (A2/3 category), shown for partial removal for unknown reasoning.
- G54 (C3 category), shown for partial removal for unknown reasoning.
- G57 (B3 category), shown for complete removal. Within contractor compound, though retainable without significant impact on the available compound area.

- G69 (A2 category), shown for partial removal for unknown reasoning (incomplete canopy shown).
- G70 (A2 category), shown for partial removal for minor surface access changes. Partial removal not considered possible here.
- G71 (C2 category), shown for complete removal despite only a partial interaction with minor surface access changes.
- T20a & T21a (both C2 category), shown for removal for unknown reasoning.
- T60 x2 (C2 category), shown for removal for unknown reasoning. Could be translocated.
- T104 (B2 category), shown for complete removal though only adjacent minor surface access changes.

Active Travel Improvements

- G26 (B2 category), shown for complete removal for unknown reasoning.
- G76 (B2 category), shown for complete removal for unknown reasoning.
- G77 (C2 category), shown for complete removal for unknown reasoning. Only partial removal is likely required.

North Terminal Junction Improvements

- T76 x16 (C2 category), could be translocated as opposed to removal.
- T82 x2 (B2 category), shown for removal for unknown reasoning.
- T84 x2 (C2 category), shown for removal for unknown reasoning.
- T90 x22 (C2 category), shown for removal for unknown reasoning.
- T91 x3 (C2 category), shown for removal for unknown reasoning.
- G60 (C2 category), shown for partial removal for unknown reasoning. Partial removal not considered possible here.
- T94 x4 & G65 (C2 category), unsure if retention or removal is suitable due to lack of detail for surface access plans here.
- T95 x2, T96 x2, T101 x5, & G66 (C2 category), shown for removal for unknown reasoning.
- T98 x2 & T99 (B2 category), shown for removal for unknown reasoning.
- G67 (B2 category), shown for partial removal for unknown reasoning.
- T100 x2 (A2 category), shown for removal for unknown reasoning.

South Terminal Junction Improvements

- T116 x10 (C2/B2 category), shown for removal for unknown reasoning.
- G75a (B2 category), shown for complete removal for unknown reasoning. Only partial removal likely required.

Car Park B Compounds

- T115 x10 (C2), unsure if retention is possible given its use as compound and landscaping plan.
- G4 (C2/3), shown for partial removal. Within contractor compound, though retainable without significant impact on the available compound area.

The removal and replacement of an existing hedgerow between the A23 London Road and Perimeter Road East, as shown on the Illustrative Landscape Overview and Key Plan (figure 1.1.1) of the OLEMP [REP2-021]. This has not been considered nor identified within Tree Removal and Protection Plans (Appendix 5.3.2 Annex 6 [REP1-024]). Only partial replacement has been shown within the OLEMP, with 250m to its northern extremities not replaced. Further, section 5.4 of the OLEMP states that hedgerows adjacent to the highway will be maintained at 600mm in height; maintaining the hedge at

such a low height in this location provides limited ecological benefit and limited screening from the A23.

Due to the above, it is not demonstrated that a realistic worst-case scenario has been applied. Tree loss has been identified from the Tree Removal and Protection Plans (Appendix 5.3.2 Annex 6 [REP1-023, REP1-024 & REP1-025]) which will require amendment should tree retention be possible in reflect of the above.

T192 and T193 are both A category oak trees situated centrally within a spoil receptor site for soils, known as Pentagon Field, Crawley. T193 is a visually important tree from Balcombe Road (B2036) providing good amenity due to its tall crown breaking up the skyline between the road and very distance trees, the tree contributes significantly to the setting of the field. T92 displays many important ecological features of a slow declining oak tree, such as dead wood, epicormic growth, stem wounds and decay; the tree is an important habitat feature at present and well into the future whilst it enters its latter life stage. Loss of high quality and value trees such as these should be avoided wherever possible, in this instance, amended design could retain these trees within the soil receptor site.

Tree pruning

Tree pruning is proposed to be assessed during the detailed design stage of the Project. This is suggested to be specified within the Detailed Arboricultural Method Statements which are to be approved by the relevant planning authority. However, the delivery of a tree work schedule has not been secured within the Outline Arboricultural Method Statements [REP1-023] to enable this approach.

Preservation of Arboricultural Features:

Proposed mitigating tree protection measures are identified within sections 3 and 4 of the Outline Arboricultural Method Statement [REP1-023]. This has accounted for eventualities where direct or indirect damage could occur to retained trees during construction activities, it also provides considerations which need to be adopted or reviewed throughout detailed design. The following aspects of tree protection measures need further consideration:

- Section 1.3 needs to confirm that protection measures within sections 3 and 4 will be identified on detailed Tree Removal and Protection Plans.
- Section 3.3 needs to secure the delivery of a tree works schedule within the Detailed Arboricultural Method Statements proposed.
- Section 3.4 needs to include the general provision for arboricultural input or supervision throughout.
- Paragraphs 3.4.4 and 3.4.5 need to reflect recommendations made with section 7.2 of BS5837:2012 with regard to avoiding and limiting root damage during excavations.
- Section 4.4 needs to propose an auditable/audited system of arboricultural site monitoring, including a schedule of specific site events requiring input or supervision.

The Tree Removal and Protection Plans [REP1-023, REP1-024 & REP1-025] identifies only the indicative locations for temporary protective fencing surrounding retained trees. Temporary fencing alone does not demonstrate that trees identified for retention are mitigated from adverse construction related impacts; however, providing the measures within sections 3 & 4 of the Outline Arboricultural Method Statement [REP1-023] are adopted and shown on detailed Tree Removal and Protection Plans, adequate mitigation can be demonstrated at discretion and approval of the relevant planning authority.

An additional contractor compound for the reed bed treatment system is identified within figure 5.2.1f of the Project Description Figures [AS-135], a proposed Project change (change request 1). No mitigating tree protection fencing has been identified for trees surrounding this compound.

An indicative haul route, providing linkage to the airfield satellite contractor compound (and laydown area), remains present within figure 5.2.1f of the Project Description Figures [AS-135]. This appears to enter land known as Museum Field through tree group G16 (B2/3 category) which is covered by a TPO (ref. P16.5.6:A1) within Crawley Borough Councils jurisdiction. This group of trees is proposed for retention with protective fencing preventing access and requires further consideration.

Ancient Woodland

The Joint West Sussex LIR [REP1-068] identifies concerns regarding ancient woodland within section 9.

Concerns regarding Horleyland Wood (LWS) remain due to the lack of demonstration that protection measures will be implemented to exclude construction activities within its buffer zone preventing construction activities which can lead to adverse impacts (in accordance with statutory planning guidance¹). This concern directly relates to the proposed indicative corridor for a pipeline east of Horleyland Wood as shown within figure 5.2.1e of the Project Description Figures [AS-135].

Further, tree removal has not clearly been discounted from being required through detailed design within the ancient woodland site, nor to adjacent trees creating an existing physical buffer zone (as indicated on Tree Removal and Protection Plan, drawing no. 744 of the Outline Arboricultural Method Statement - Part 2 [REP1-024]).

The Arboricultural Impact Assessment has not assessed impacts which could occur to ancient woodland, other than stating that stating, “No trees within Ancient Woodlands or that are Veteran Trees are proposed for removal.”, which is contrary to the above finding.

Operational Phase Impacts

No additional operational phase impacts have been identified. See section 9 of the Joint West Sussex LIR [REP1-068] for previously submitted arboricultural concerns.

Required Mitigation

An evaluation of the quantity of proposed tree planting in comparison to the quantity of tree loss is provided within section 7 of the Arboricultural Impact Assessment. This does not demonstrate proposed tree planting proposals accord with the CBLP policy CH6 as further discussed within section 9 of the Joint West Sussex LIR [REP1-068].

Avoidance of adverse impacts need to be demonstrated within regard to the Ancient Woodland site, Horleyland Wood (LWS). Where impacts cannot be avoided, mitigating or compensatory measures need to be presented in adherence with the statutory guidance mitigation hierarchy¹.

The Outline Arboricultural Method Statement [REP1-023] needs to identify and provide methodology for areas of new structural tree planting that need protecting from construction activity to ensure suitable soil conditions and structures are retained. Where not practical or appropriate, preparatory works for new landscaping needs to be specified. For example, Car Park B and Pentagon Field proposes tree planting where these considerations are required.

¹ Ancient woodland, ancient trees and veteran trees: advice for making planning decisions (Natural England & Forestry Commission, 2022).

Further clarification is required demonstrating how detailed design principles can look to reduce tree loss as the project progresses. Wherever possible, the translocation of suitable young trees should be facilitated in mitigation, as opposed to their removal and compensatory replacement.