Gatwick Airport Northern Runway Project

The Applicant's Response to Deadline 5 Submissions – Response to York Aviation

Book 10

VERSION: 1.0

DATE: JUNE 2024

Application Document Ref: 10.52.1

PINS Reference Number: TR020005

APFP Regulations 5(2)(q) **Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009**

Table of Contents

1 Introduction

1.1.1 This document continues the engagement on matters relating to need, forecasts, capacity & operations in the light of submissions at Deadline 5 from York Aviation on behalf of the JLAs [REP5-094]. However, GAL is very conscious of the amount of information already submitted by parties on these issues. Consequently, for Deadline 6, GAL has focused its attention largely on trying to move the Statement of Common Ground forward (and has provided a detailed revised draft to York and the JLAs, with the intention of submitting an updated version at Deadline 7).

1.1.2 Instead, this document seeks to take stock – setting out GAL's view of the consequence of the exchanges so far, including where significant progress has been made. Where there are outstanding issues, this document seeks to put them into perspective but also only to summarise and reference GAL's case, again so that those matters can be seen clearly, both for their merit but also for their relevance and significance.

1.1.3 The document takes the following form:

- Section 2 provides an overview;
- Section 3 considers outstanding issues relating to forecasting; and
- Section 4 sets out GAL's view of principal progress and outstanding issues related to Capacity & Operations.

2 Overview

2.1 Introduction

2.1.1 At Deadline 5, the JLAs submitted two documents prepared by York Aviation, both of which formed appendices to the principal submission from the authorities [REP5-094].

2.1.2 The first Appendix (Appendix I to REP5-094) was a review of GAL's revised Fleet Mix sensitivity and is the subject of a separate freestanding response document submitted alongside this at Deadline 6.

2.1.3 The second Appendix (Appendix III to REP5-094) was itself a wide-ranging response to submissions made by GAL at Deadline 4 and can be read together with York's **Rule 17 Response to Further Information Request PD-018** [REP4-049] (on forecast sensitivities) and its **Response to Additional Submissions at Deadline 3: Case for the Scheme and Related Matters** [REP4-052].

2.1.4 The ExA might observe that there are now a number of submissions covering similar territory and that some issues are becoming repetitive. For example, GAL does feel that it has responded comprehensively to many points which are still being raised and that it may be unproductive to do so again. GAL will be guided by the ExA in this respect, including through its second round of Written Questions.

2.1.5 GAL does recognise, however, that the examination has been helpful in testing its case and also that a significant amount of common ground has been established.

2.2 Strategic Case

2.2.1 The JLAs don't dispute the need for the NRP:

> *"16. We note that improving the resilience of the sector and reducing delays is a part of national aviation policy, as set out by GAL in Section 3 of REP3-079 and accept that Gatwick, with its single runway, was fully used, to the limits of acceptable delay, in 2019 and will be so again the near future. Prima facie, then, there is a capacity argument for the use of the Northern Runway, subject of course to the environmental impacts of its use being considered acceptable having regard to the benefits*." [REP4-052]

2.2.2 They do refuse to recognise the weight which government policy attaches to that need or to the need to support and grow the aviation sector because of its

national importance to the UK economy and the importance of international connectivity, but that reluctance reflects on the lack of balance in their overall case. GAL does not need to agree the nature and weight of government policy with the JLAs – the decision maker will be well aware.[1]

2.2.3 In so far as the JLAs' principal dispute is with the scale of growth in the future baseline, they do recognise that, if it is lower, the case for the project is even stronger [REP4-052] at paragraph 17.

2.3 Approach to Forecasts

2.3.1 Whilst there was originally much criticism from York of GAL's use of a "bottom-up" forecasting approach, it is now agreed that this is the only sensible basis for forecasting at least the future baseline:

"9. The reason that we have necessarily focussed on the detail of how growth will be attained in the Baseline Case (REP4-022, paragraph 2.19) is because, at a capacity constrained airport, the key question is how airlines will be able to add additional flights within the capacity available rather than it being fundamentally a question of underlying demand. This necessarily relies on a more granular bottom-up assessment of how additional services can be accommodated within the constraints, having regard to the operating patterns of the airlines in different markets." York Aviation: [REP5-094] paragraph 9.

2.3.2 In GAL's view the same applies to the NRP forecasts. York's criticism is that longer term forecasts are best approached top-down ([REP3-117] Appendix B, paragraph 13). However, York do recognise that:

"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." York Aviation [REP3-117] Appendix B.

2.3.3 There should be very little between the parties on this now. The nature of demand and the lack of alternative capacity in the south-east is such that both parties forecast that the NRP would fill relatively rapidly. GAL works with its airlines and with new markets very closely – it is well placed to forecast how they would respond to the release of new capacity at Gatwick over the next 5-10

[1] [REP4-054] paragraph 9 represents the extent of the JLA's response to GAL's Policy Response set out at [REP3-073] – see GAL's comments at [REP5-072] paragraph 3.10.6.

years and it has set out its forecasts and its commercial expectations as openly as commercial considerations allow [2], as well as demonstrating the strength of airline demand and support for growth at Gatwick (see the **Summary of Airline Support** [REP5-071]). A different approach may have been necessary at Luton where significant growth was not forecast until the opening of the new Terminal in 2037 and there was no evidence submitted of airline demand. At Luton, the promoter was the local authority, not the airport operator. There, a more theoretical econometric model may have been necessary where consideration of slot allocation rules and pent-up demand may not be relevant.

2.3.4 The examination has also seen how the Secretary of State preferred a bottom up forecast at Manston[3] despite the fact that it was far less informed than Gatwick's[4] and how York itself has favoured a bottom up forecast for long term long haul growth at Luton, recognising the limitations of its more theoretical modelled top down approach when dealing with change[5] (such as opening the NRP).

2.3.5 If there does continue to be a difference of view relating to the method to be used in the NRP forecast, that may now be relatively academic given that, in the context of demand and forecasting, York now accepts that 80 mppa is an appropriate forecast (in time) ([REP5-094] Appendix III paragraph 16) and that, in the context of capacity "*it may be plausible for a throughput of 80.2 mppa to ultimately be handled, subject to the comment above regarding the rate of build up to that traffic level*." [REP4-052] paragraph 44.[6]

2.4 The Principal Position on Forecasts

2.4.1 GAL's primary forecasts are that the airport will reach 67.2 mppa if the NRP is not developed and 80.2 mppa if it is.

2.4.2 York agrees with GAL's assumptions for aircraft size and load factors ([REP5-094] at paragraph 13), which simplifies the debate – if the parties agree about PAX, there should be no dispute about ATMs (and vice versa).

2.4.3 At Deadline 5, York accepts that Gatwick could achieve 80mppa "*in time*" (see above). York does not suggest a higher figure and, in its Rule 17 sensitivity

[2] Anticipated airline demand was set out in the Pipeline reports submitted as appendices to the Forecast Data Book [APP-075], and in the Needs Case Technical Appendix [REP1-052] at Section 5.2 including Tables 16 to 18, and with more detail added at [REP3-084] in response to the ExA's Question CS 1.17.
[3] See [REP3-079] at paragraph 6.1.17.
[4] At Manston, the airport had closed because it was not viable, there were no incumbent airlines and the bottom-up forecast was criticised because details of the asserted airline inters were not disclosed.
[5] See [REP1-079] at paragraph 6.1.21.
[6] York's High scenario forecast for the purposes of sensitivity testing was consistent with GAL's forecast (80.2 mppa) and was presumably considered realistic [REP4-049] Table 2.

cases, its upper sensitivity was 80.2 mppa. For the NRP case, therefore, the issues outstanding are limited.

2.4.4 There are two principal areas of continuing dispute about the NRP forecast;

- Timing – the rate of growth
- Seasonal distribution.

2.4.5 On timing, York's assumptions can be seen in their Rule 17 submission [REP4-049] with lower growth by 2032 but comparable growth by 2038 (the York and GAL forecasts for these purposes are shown side by side in GAL's **Response to Rule 17 Letter – Future Baseline Sensitivity Analysis** [REP5-081] at Table 3.2.1, which is reproduced below as **Table 1**).

Table 1 York Aviation passenger forecasts for High and Low sensitivity cases compared to GAL forecasts

	2032			2038			2047		
	Baseline	NRP	Gap	Baseline	NRP	Gap	Baseline	NRP	Gap
GAL Submission	**59.4**	**72.3**	12.9	**62.4**	**75.6**	13.2	**67.2**	**80.2**	13.0
York Low	**53.5**	**61.0**	7.5	**55.4**	**71.0**	15.6	**56.8**	**74.8**	18.0
York High	**55.5**	**64.2**	8.7	**57.5**	**75.6**	18.1	**60.5**	**80.2**	19.7

2.4.6 In support of that slower trajectory York cites GAL's construction programme - [REP4-052] at paragraph 45 – which shows Charlie Box not fully open before 2032.[7]

2.4.7 York suggests that the level of delay at the airport would deter airlines taking up NRP capacity but GAL does not agree and is also aware that Charlie Box can be built in phases and could be brought forward if that was found to be desirable. However, the exchange highlights York's concern for the airlines who York asserts (without any evidence) would decide not to take up additional slots at Gatwick because of concern about delay.

2.4.8 GAL's proposed timing for Charlie Box evidences that GAL does not agree – and it is of course GAL who is much closer to its airline customers than York Aviation.

[7] GAL's indicative construction programme is set out in **ES Appendix 5.3.3: Indicative Construction Sequencing** [REP2-016]. At Deadline 5 in the JLAs' EMG Appendix [REP5-093] it is asserted that Charlie Box may not be in place before 2035 but GAL does not recognise any source for that statement.

York no doubt would refer again to the representation from easyJet, so this is one issue which is addressed again in Section 3.

2.4.9 But, to what extent does the disagreement matter? The Rule 17 exercise was helpful in demonstrating several things, including that a later growth trajectory would largely generate lesser environmental effects, for example, for noise and air quality.

2.4.10 No doubt the precise calculation of economic benefits would be different (although the assessment set out by GAL in its **Future Baseline Sensitivity Analysis** [REP5-081] at Section 6 forecast a slightly higher net economic benefit for the NRP in the context of York's sensitivity forecasts) but the benefits are substantial, whilst the defined significant adverse effects are relatively slight and the overall case for the NRP would not be significantly affected if the growth trajectory was slower.

2.4.11 In this context, it may be helpful to identify that similar matters were debated at the Stansted planning inquiry, where the Inspectors found:

*"30. **It remained unclear throughout the Inquiry, despite extensive evidence, why the speed of growth should matter** in considering the appeal. If it ultimately takes the airport longer than expected to reach anticipated levels of growth, then the corresponding environmental effects would also take longer to materialise or may reduce due to advances in technology that might occur in the meantime. The likely worst-case scenario assessed in the ES and ESA, and upon which the appeal is being considered, remains just that. Conversely, securing planning permission now would bring benefits associated with providing airline operators, as well as to other prospective investors, with significantly greater certainty regarding their ability to grow at Stansted, secure long-term growth deals and expand route networks, potentially including long haul routes".* (emphasis added)

2.4.12 A similar issue arose at Luton and the applicant's Closing Submissions in that case recorded:

"*4.5.1 The only outstanding issue is regarding the timescale over which 32 mppa would be attained. **The Applicant does not consider this to be a material consideration** and has submitted detailed sensitivity analysis which demonstrates that, to the extent that risks exist, the timing when the airport would*

reach 32 mppa would be within the range assessed between the Faster and Slower Growth Cases." [8] (emphasis added)

2.4.13 The sensitivity assessments set out in **Future Baseline Sensitivity Analysis** [REP5-081] reach the same conclusion.

2.4.14 The same applies to seasonal variations in the profile of Gatwick with and without the NRP in place. These matters were explored in GAL's **Future Baseline Sensitivity Analysis** [REP5-081, from paragraph 3.5.4.]. For the reasons set out there. GAL believes that York significantly overstated the busy period capacity of the NRP. The principal conclusion, however, was that, even if one was to take York's different assumptions at face value, the consequent differences in overall environmental effects would be relatively limited.

2.4.15 Against this background, York's representations at Deadlines 4 and 5 present two principal residual concerns regarding forecasting:

- Airlines are reluctant to take up capacity that is remaining at Gatwick without the NRP, because it is available only at off peak times, weeks or seasons and that, without a peak slot, airlines won't commit to new flights at other times.
- GAL's forecasts are unreliable because they do not take sufficient account of planned or potential capacity at other airports.

2.4.16 These matters are addressed in Section 3.

2.5 The Position on Capacity

2.5.1 Outstanding issues on capacity appear more granular. York's submission at Deadline 5 [REP5-094] Appendix III and its Deadline 4 submission [REP4-052] contained more text in relation to Capacity and the exchange has tended to develop a paragraph by paragraph response to responses. The nature of those exchanges, however, tends to disguise the fact that there is substantial agreement on a number of matters.

2.5.2 Current peak hour capacity of 55 movements per hour (mph) in the baseline is not now questioned[9], and the capacity of the NRP expanded airport to accommodate c. 80.2 mppa is also now common ground[10]. It is also accepted that the NRP would add resilience and reduce holding times / delay[11]. Remaining issues of principle relating to capacity, therefore, are few and arguably of

[8] Luton examination document reference REP11-049.
[9] REP4-052 at pages 27/28 and 33/34.
[10] REP5-094 Appendix III paragraph 16.
[11] REP4-049 paragraph 32.

relatively limited consequence, particularly given the outcome of the sensitivity modelling and assessment reported in GAL's **Future Baseline Sensitivity Analysis** [REP5-081].

2.5.3 York continues to maintain that airlines may not take up available capacity in the baseline, but that is a question of demand, not capacity and is addressed in Section 3.

2.5.4 A number of York's remaining concerns would be addressed if York was satisfied with the modelling results presented on delay, and these matters are addressed in Section 4. GAL's case is that the modelling results have not been faced up to by the JLAs – the new RET, enhanced NATS resources etc, are already showing enhanced performance and operations which are demonstrably acceptable to airlines.

2.6 Conclusion

2.6.1 There may be a continuing debate between the parties around a range of issues but it is not obvious that these are now central to a determination of the DCO application.

2.6.2 It is in that context that the next sections examine outstanding issues relating to forecasting and capacity.

3 Forecasts

3.1 Introduction

3.1.1 GAL's case on forecasting is set out in the following principal documents, namely:

- the application documents: the **Needs Case** [APP-250] and the **Forecast Data Book** [APP-075]
- **Technical Note on the Future Baseline** [REP1-047]
- **Needs Case Technical Appendix** [REP1-052]
- **The Applicant's Written Summary of Oral Submissions from ISH1: Case for the Proposed Development** [REP1-056]
- **The Applicant's Response to Actions – ISH1: The Case for the Proposed Development** [REP1-062]
- **The Applicant's Response to the Local Impact Reports - Appendix A – Note on the Principles of Development** [REP3-079]
- **The Applicant's Response to the Local Impact Reports - Appendix B - Response to the West Sussex Authorities Appendix F – Needs Case** [REP3-080]
- **Appendix A - Response to York Aviation - Forecasts** [REP4-022]
- **The Applicant's Response to Actions ISH7: Other Environmental Matters** [REP4-037]
- **Response to Rule 17 Letter – Future Baseline Sensitivity Analysis** [REP5-081]
- **The Applicant's Response to Deadline 4 Submissions - Appendix E – Response to York Aviation's Deadline 4 Submission** [REP5-077]
- **Summary of Airline Support** [REP5-071]

3.1.2 Based on the Overview set out in Section 2, whilst there are multiple detailed differences between GAL and York Aviation, the exercise of examining sensitivities in response to the ExA's Rule 17 request [PD-018] was helpful in testing the robustness of the parties' position, with the result that the main outstanding issues are:

- peak spreading in the future baseline; and
- the overall market for aviation and the consequence of other proposals elsewhere for airport growth.

3.1.2 Before examining those issues, however, it may be helpful to recap what was learnt in undertaking the **Future Baseline Sensitivity Analysis** [REP5-081] to potential alternative growth profiles at Gatwick.

3.2 Overview of the Rule 17 Response

3.2.1 In the Applicant's **Response to Rule 17 Letter - Future Baseline Sensitivity Analysis** [REP5-081] various sensitivities were evaluated focusing on the potential throughput of the Baseline and Northern Runway scenarios.

3.2.2 The key areas of focus and main learnings are summarised below:

- **Peak time capacity of the runway**: GAL's forecast for the throughput of the Northern Runway is demonstrably a full forecast, as modelling demonstrates that it cannot be meaningfully exceeded unless assumptions are made about additional airfield and terminal facilities which are not proposed in the application or practical in practice. [REP5-081] Section 3.6.
- **Long term ATM and passenger forecasts are considered reasonable:** Both Gatwick and York's forecasts assume comparable annual throughput for the NRP case supported by the overall levels of demand being forecast at the airport.
- **NRP is an increment of growth**: The availability of the NRP brings its own growth opportunity, but it does not fundamentally change the behaviour or markets for the existing airlines and existing slots. The scale of growth, therefore, is limited to the extra capacity for new flights which the NRP brings. It is not realistic to assume that the character of the incumbent carriers will change significantly.
- **The delta is c.13mppa**: To increase the incremental capacity of the expanded airport notably above 13 mppa, it would be necessary to assume either unachievable levels of peak period throughput in the NRP case or implausibly cautious assumptions for the baseline growth at Gatwick without the NRP.

3.2.3 With the benefit of that background, this section addresses the two principal areas of continuing dispute.

3.3 Peak Spreading

3.3.1 GAL's principal case on peak spreading, particularly in the disputed future baseline forecast is set out in **Needs Case Technical Appendix** [REP1-052] in Section 5 and further summarised by reference to other submissions in the **Future Baseline Sensitivity Analysis** [REP5-081] at Sections 3.4.5 and 4.4.

3.3.2 York's case has evolved from that set out in **Appendix F: York Aviation Needs Case Review** to the **West Sussex Authorities Local Impact Report** [REP1-069], summarised at paragraph 6, which was concerned that the capacity to grow at peak times in the base case was affected by current levels of delay. In its **Response to Deadline 3 Submissions: Case for the Scheme and Related Matters** [REP4-052] at paragraph 26, however, York was concerned that the limited availability of peak slots would mean that those seeking new year-round services would not therefore come to Gatwick at all. In its **Rule 17 Response to Further Information Request PD-018** [REP4-049] at paragraph 19, York consequently ruled out the ability for Gatwick to grow through peak spreading in the baseline. Its High and Low growth scenarios both assumed no peak spreading in the baseline.

3.3.3 On the first issue of whether airlines are willing to take slots at off peak times, the evidence submitted so far demonstrates that they have been, and that those slots will continue to support greater levels of year-round capacity.

3.3.4 Uptake of capacity (peak / off-peak) has been dominated recently by carriers operating year-round operations with limited levels of seasonality. For example, Air India, Air China, China Eastern, Air Mauritius, Saudia, Air Peace (Nigeria), Ethiopian, China Southern, AZAL (Azerbaijan) and Singapore Airlines are all examples of long-haul carriers using the airport since Covid. Short haul carriers which have been able to grow their LGW operations include Wizz and Vueling whilst others such as Swiss Airlines have entered the airport recently. A full list of carriers using off peak slots after 17:00 at LGW is as follows:

Easyjet
British Airways
Vueling Airlines
Wizz Air
Norwegian
Ryanair
TUI Airways
Air India

SunExpress
Emirates
Iberia
Aurigny Air Services
Eastern Airways
TAP Air Portugal
SWISS
Air Baltic Corporation
Air Europa
Turkish Airlines
Lufthansa
Nouvelair
Corendon Airlines
China Southern Airlines
Norse Atlantic UK
Tunisair
Aer Lingus
China Eastern Airlines
Freebird Airlines
UR Airlines
Air Arabia Maroc
Corendon Airlines Europe
Royal Air Maroc
Turkmenistan Airlines
Atlantic Airways
Volotea
Uzbekistan Airways
KM Malta Airlines
Aegean Airlines
Air Mauritius
Eurowings
SmartWings

3.3.5 Of these carriers, slots at peak and off-peak times of the day have been utilised. For example, Air India, Wizz and others have added capacity in the evening departure period, a time considered relatively off-peak by the JLAs.

3.3.6 In its **Future Baseline Sensitivity Analysis** [REP5-081], GAL explained that there were multiple other evidenced opportunities to grow in the future baseline through peak spreading without the release of new peak slots. These were summarised as follows:

- *In the period 2014-2019 Gatwick achieved ATM growth of 6% pa (i.e across the year) but ATMs grew at 14% pa outside the summer season.[12] By making zero allowance for peak spreading in the baseline, YA assume that trend will simply stop, which is not credible.*

- *In more recent years when Gatwick was even more constrained in the summer period (2016-19) 5% growth in winter ATMs was achieved without any uplift in the peak period. This resulted in an additional 29 winter daily ATMs in this relatively short period. Whilst ATM demand was constrained in the peak, it was still able to grow in the off-peak reflecting the overall market growth.*

- *In the same period aircraft loading factors grew faster in the off-peak than the peak, but were still lower, with further capacity for growth.[13]*

- *Slot trades and slot swaps are more common and characteristically are being used to trade up to year-round services.[14]*

- *This trend is not unique to Gatwick but is being replicated elsewhere given the constraints in the market and the opening up of year-round destinations, so that for example Ryanair at Stansted and Dublin has a peak to year round ratio of 1.07[15], whilst other airports with a mix of low cost and long haul traffic achieve similar ratios.*

- GAL has produced detailed evidence of the seasonal pricing it has introduced to incentivise off-peak traffic.[16] York acknowledge this at their **Rule 17 Response to Further Information Request PD-018** [REP4-049], paragraph 20: "*We do accept that, on the margin, price incentivisation may allow for some extension of the operating season for services that currently only operate at peak periods but we have not separately calculated this as it is likely to have a relatively marginal impact within the range of outcomes set*

[12] REP4-022 paragraphs 2.3.1- 2.3.5
[13] REP4-022 paragraph 2.4.4
[14] REP4-022 paragraphs 2.3.9-2.3.10
[15] REP4-022 paragraph 2.1.13.
[16] REP4-037 Actions 7 and 8.

out below." To be fair a more generous recognition would have been appropriate.

3.3.7 Under the baseline case, further peak spreading should be expected reflecting these factors and the fact that demand is still forecast to continue growing year-round (i.e. passenger growth will not only occur in August). Gatwick demonstrated strong de-peaking trends in the years leading up to 2019 and slot swaps and ongoing allocation will support further growth of year round services. GAL has already conservatively forecast that the rate of peak spreading will slow (See the **Technical Note on the Future Baseline** [REP1-047] at Section 1.5).

3.3.8 The forecast continued growth in demand will support peak spreading: In the London aviation market, demand is already heavily constrained in the peak months. A further decade of demand growth will mean that some demand from the peak months will spill to other months of the year. Airlines have already demonstrated trends to serve longer seasons and grow capacity in off peak months whilst growing load factors at the same time.

3.3.9 There is some additional information that GAL can provide.

3.3.10 As set out above, the large majority of Gatwick's growth in recent years has been attributable to the in-filling of quieter hours, days and months of the year. This is peak spreading.

3.3.11 Between 2014 and 2019, Gatwick's slot capacity increased by just 14 movements (from 856 to 870 daily slots in the 17-hour day period, 0500-2159, (Source: ACL).

3.3.12 It is demonstrably not the case that growth outside peak periods relies on also securing peak slots. In the same period Gatwick's average daily slot utilisation increased by 71 movements per day (annual average of 698 to 769 daily ATMs). Even if 100% of the newly released peak time capacity was taken up by year-round services (i.e. the 14 slots released between 2014-19), then the remaining 57 incremental ATMs are all attributable to peak spreading.

3.3.13 This is summarised in the following chart at an annual level, with an explanation of the ATM growth drivers below.

A. The release of 14 extra slots on a peak day was worth 4k annual ATMs. (at 2014 levels of seasonality).

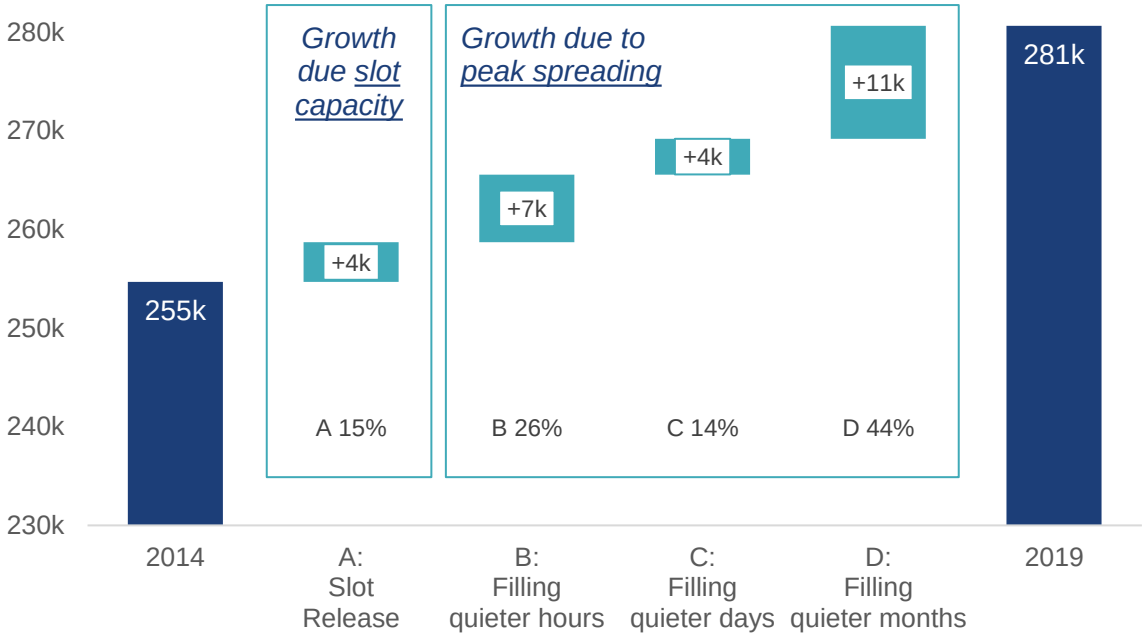
B. The infilling of quieter hours on peak days was worth 7k annual ATMs.

C. The quieter days in the peak month continued to grow without new capacity. This was worth 4k annual ATMs.

D. The quieter months have out-grown the peak months. This was worth 11k annual ATMs.

Combined, the growth from 255k annual ATMs in 2014 to 281k annual ATMs in 2019 is shown in the following chart.

Figure 1 Gatwick Annual ATM Growth, 2014-19



3.3.14 So, historically just 15% of Gatwick's annual ATM growth is attributable to the release of new capacity whilst 85% is directly related to peak spreading.

3.3.15 Over time, as LGW's constraints will become even more pronounced, airlines will continue to add capacity at less peak times of the year. This will still include modest growth in the peak months although growth in off peak months will outperform the peak periods.

3.3.16 There should not be doubt about the demand from airlines to take these opportunities. Recent growth has included a mix of long-haul carriers including Air India, Air China, China Eastern, Saudia, Ethiopian, Singapore Airlines, Air Mauritius, and AZAL. There have been no releases in S23 or S24 to facilitate growth. Many of these carriers have grown in off-peak hours or had to accept slightly less optimal schedules but in all choices choosing to serve Gatwick over other airports. These carriers will be operating with consistent year-round

schedules. Details of these carriers were provided in the **Needs Case Technical Appendix** [REP1-052] at Table 5.2.17 and in response to the ExA's Question CS 1.17 [REP3-084].

3.3.17 Short haul carriers currently growing significantly, or new entrants include Vueling, Wizz, ITA (formerly Alitalia) and others. Again, it is clear that from their operating profiles they are operating relatively consistent year-round schedules, all with lower seasonality compared to Gatwick's historical average.

3.3.18 Gatwick has significant opportunity to grow its passengers in the long run, drawing confidence from its well-established pipeline of demand, and proven track record for developing services and attracting new airlines.

3.3.19 As discussed in **Needs Case Technical Appendix** [REP1-052] and **The Applicant's Response to the ExA's Written Questions (ExQ1) - Case for the Proposed Development** [REP3-084], (Question CS 1.17), many of the services Gatwick was forecasting in 2018/19 have now materialised giving confidence in their approach. These assumptions are supported by wider top-down assumptions regarding the global regions forecast to drive market growth in the long run (e.g. India, Aisa, Middle East, etc).

3.3.20 The bottom-up assumptions regarding airline/aircraft selection by region reflects a wider pipeline of demand available to the airport. Whilst not all predictions may materialise there are plenty of viable substitutes. For example, one carrier assumed in the Middle East (e.g. Emirates or Qatar), may well end up being replaced by another carrier over the course of a long-term forecast (e.g. Etihad, Saudia, etc.). Gatwick has already grown in all the markets which are stated in the pipeline, e.g. India, Asia, China, Africa, with the one exception of South America which is projected to grow before the NRP is to open. The depth of demand for London and for Gatwick means that all regions have credible growth opportunities. The critical part is to identify those regions and work with many carriers stimulatingly so that there is always a carrier from the pipeline ready when there is availability.

3.3.21 The following table provides a summary of the main growth carriers in 2024 compared to pre Covid, some of these carriers are commencing operations mid-way through 2024.

3.3.22 All the major new carriers have entered Gatwick without the need for additional slot releases and are providing year-round capacity. Previously, carriers that have wanted to enter or expand Gatwick operations have found a way, for

example accessing slots via the secondary market or developing an initial slot holding over time.

Table 2 Main growth carriers, 2016 and 2024

	Movements			
	2016	2024	Variance	
	Jan-Oct	Jan-Oct	#	%
easyJet	102,212	107,545	5,333	5%
Vueling	5,640	15,395	9,755	173%
Wizz Air	272	12,353	12,081	4,442%
TUI	11,006	11,799	793	7%
Norse	0	2,266	2,266	
TAP	1,758	2,100	342	19%
SunExpress	0	1,428	1,428	
Air India	0	1,152	1,152	
Qatar	0	1,110	1,110	
Air China	0	882	882	
China Eastern	0	870	870	
Sky Express	0	610	610	
Air Mauritius	0	595	595	
SWISS	97	534	437	451%
Saudia	0	420	420	
Air Peace	0	377	377	
Ethiopian	0	306	306	
China Southern	0	286	286	
Azerbaijan	0	194	194	
Singapore	0	189	189	
Volotea	0	150	150	
Turkmenistan	0	112	112	

3.3.23 Growth in the off-season is a demonstrated trend across all route groups. In the 2014-19 period, all the major short-haul leisure-oriented routes (e.g. Malaga, Alicante, Palma de Mallorca, etc.) as well as more mixed (leisure/business) routes (e.g. Barcelona, Amsterdam, Dublin) provide strong evidence of peak-

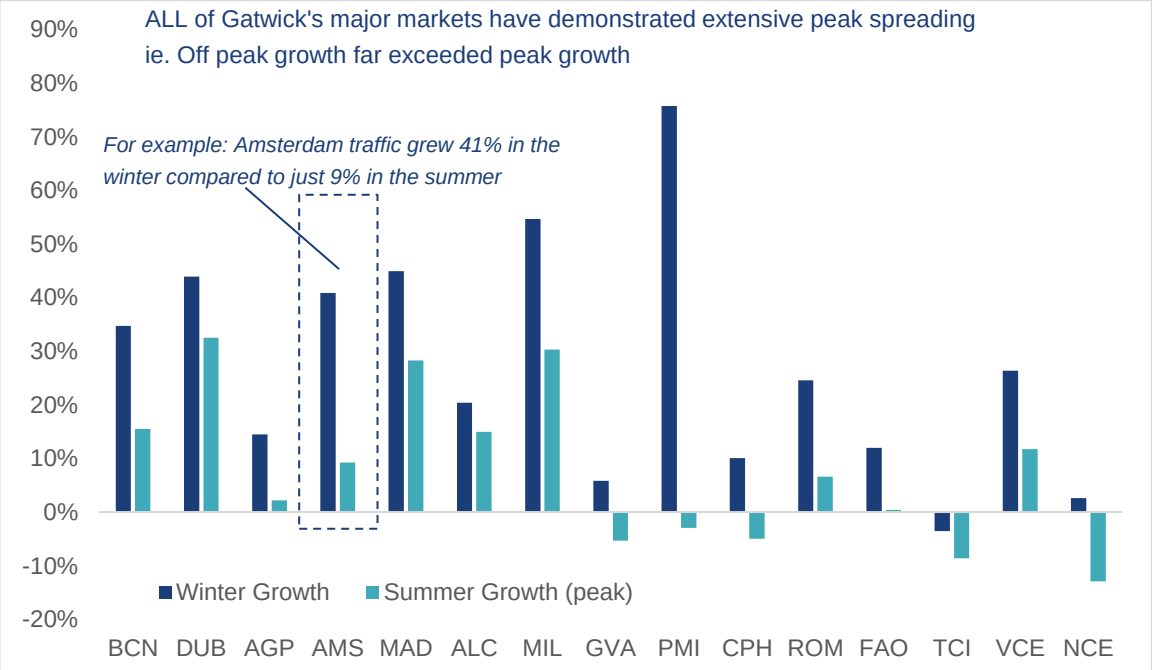
spreading. Demand growth was limited in the peaks but could still grow significantly in the off-peak periods of the year and Gatwick's airlines responded with additional capacity.

3.3.23.1. Gatwick's top 25 leisure routes (As ranked in 2019) saw demand grow 11% in the winter months compared to just 0% in the peak summer months.

3.3.23.2. Gatwick's top 25 mixed routes (as ranked in 2019) saw demand grow 35% in the winter months compared to 19% in the peak summer months.

3.3.24 The following figure shows the relative growth between the off-peak months (Winter) and the peak summer months (July and August). Every major route at Gatwick demonstrated peak spreading as growth in the off-peak months strongly outperformed the growth achieved in the peak summer months.

Figure 2: Gatwick Demand Growth, Summer and Winter, %s (Short haul 2019 vs 2014)



Note: BCN (Barcelona), DUB (Dublin), AGP (Malaga), AMS (Amsterdam), MAD (Madrid), ALC (Alicante), MIL (Milan), GVA (Geneva), PMI (Palma de Mallorca), CPH (Copenhagen), ROM (Rome), FAO (Faro), TCI (Tenerife), VCE (Venice), NCE (Nice), Source: CAA Passengers

3.3.25 GAL is aware that these residual opportunities are reducing, which is why the rate at which Gatwick has reduced its seasonality is forecast to decline significantly. In the 5-year period from 2014-19 Gatwick's seasonality (ratio of average month of the peak month to the year round averaged) decreased from

1.22 to 1.17 (or 1.16 when adjusted for Thomas Cook's exit). A similar amount of spreading was forecast in the 2019-2032 period bring the ratio to 1.11 before declining towards 1.07 by 2047. Overall, a historical rate of decline in the ratio of 0.1 per year was achieved compared to the future forecast rate of 0.04 per year.

3.4 Cumulative Sensitivity

3.4.1 At Deadline 5, York has repeated a concern that GAL's "*core case is solely based on the assumption that no additional airport capacity is consented across the London airport system over the period to 2047, which does not appear a plausible assumption*." [REP5-094] Appendix III paragraph 19.

3.4.2 In fact, GAL has modelled the impact of alternative scenarios on its growth forecasts, notably in:

- The **Forecast Data Book** [APP-075] which tested in its appendices the effect on Gatwick's forecast growth of growth at Heathrow (Annex 4) and Luton (Annex 5) taking into account the availability of consented capacity at Stansted.
- The **Needs Case Technical Appendix** [REP1-052] (Section 7) provided two sensitivity tests:
    - Sensitivity 1: existing consented capacity plus Heathrow R3 opening in 2035;
    - Sensitivity 2: existing consented capacity plus Luton DCO and expansion at London City.

3.4.3 The modelled scenarios are shown in the Table 3 below.

Table 3: Alternative scenarios modelled

Airport	Scenario 1 LGW Base	Scenario 2 LGW NR	Scenario 3 Sensitivity 1	Scenario 4 Sensitivity 2
LGW	Baseline	Northern Runway	Northern Runway	Northern Runway
LHR	R2 480k ATM	R2 480k ATM	R3 740k ATM	R2 480k ATM
STN	43m cap	43m cap	43m cap	43m cap
LTN	19m cap	19m cap	19m cap	19-22-32m cap
LCY	6.5m cap	6.5m cap	6.5m cap	9.0m cap
SEN	3m cap	3m cap	3m cap	3m cap

3.4.4 The sensitivities (and GAL's forecasts) take into account the consented capacity at Stansted.

3.4.5 To be clear, the Sensitivities are forecast using the reduced aviation growth rates set out in the DfT's latest Jet Zero forecasts, i.e. the reduced forecasts published in March 2023.[17] As shown in the **Needs Case Technical Appendix** [REP1-052] at 6.3.5, a principal characteristic of those forecasts is a pessimistic forecast of growth post 2040 with growth reduced from 1.5% pa (2018-2040) to 0.9% in the 2040s. As set out there, GAL forecasts that the NRP will be substantially "full" by 2040.

3.4.6 To reduce debate, Sensitivities 1 and 2 are forecast using the "top-down" approach requested by York Aviation, rather than GAL's preferred "bottom-up" forecasting approach. For the reasons explained in the **Needs Case Technical Appendix** [REP1-052] at paragraphs 4.3.4, 6.1.2, 6.4.12 and 7.1.13, GAL strongly prefers its bottom up forecasts and considers that the top down forecasts understate Gatwick's likely performance.

3.4.7 The assumption that Heathrow may apply for, secure consent, build and open a new North West runway by 2035 was optimistic when it was made and appears even more so today when there has been no statement or public indication from

[17] Note that, at Luton, these lower DfT growth rates were criticised by York Aviation as being overly conservative and inconsistent with York's own model. For example, in the applicant's response to ExQs NE.21 and NE 2.2 it was argued that more recent data showed the forecasts to be pessimistic (Luton examination library documents REP2-042 and REP8-036.

Heathrow that it intends to bring forward a new runway in the foreseeable future (and in fact, the press speculation is to the contrary).[18]

3.4.8 In these circumstances, GAL has not undertaken further sensitivity tests which involve speculation about the future actions of other parties and their possible outcomes. For the reasons set out in the Applicant's Response to Deadline 4 submissions [REP5-072] at Section 2.6 and in the Applicant's response to submissions from Heathrow at Deadline 3 [REP4-025], the criteria for undertaking a cumulative assessment are not met. GAL also notes that the applicants at Luton airport did not undertake a sensitivity test involving Heathrow R3 and Gatwick NRP.

3.4.9 In so far as it is relevant to consider these matters, the work presented at Deadline 1 considers these matters. The effect of Heathrow R3 opening in 2035 is shown as Sensitivity 1 and discussed in the **Needs Case Technical Appendix** [REP1-052], from paragraph 7.1.9.

"At Gatwick two major impacts arise, firstly the opening of LHR R3 has a significant impact on long haul volumes. Secondly, the lost long-haul demand at Gatwick is in part back filled by short haul demand reflecting LGW's strong positioning within this market segment. Consequently, LGW and LHR are both forecast to be operating at approximately 90% of their capacity in the 2040s. A higher share of short haul traffic reduces Gatwick's potential passenger throughput compared to the core Northern Runway scenario (due to higher proportion of smaller aircraft)".

3.4.10 Adding further capacity development (LTN and LCY) would not significantly affect the performance of Heathrow and Gatwick due to the demonstrably greater airline demand from which they benefit. Sensitivity 2 shows that the impact of increased capacity at Luton and London City is relatively marginal. The relevant comparison is between the **Needs Case Technical Appendix** [REP1-052] Figures 48 (NRP) and 55 NRP with LTN and LCY. As that document explains:

"*7.1.20 When the other schemes open, under the NRP scenario, relatively limited impact is experienced by Gatwick as the airport is already operating at or very close to its capacity limits when the other schemes are introduced. Gatwick remains essentially full within a couple of % of its total theoretical maximum throughput*."

[18] For example, the Times reported on 25 February 2024 that plans for a third runway had been "shelved" by Heathrow's new Chief Executive in favour of a "better not bigger" strategy. The Times reported that Heathrow's third runway team was being disbanded.

3.4.11 The separate question of any potential overlap in demand between that which could be attracted to Heathrow in the event a third runway is constructed has been extensively addressed by GAL.[19] The forecast transfer of long haul traffic to Heathrow recognises its role as the hub airport and its consequent greater attraction to long haul carriers.

3.4.12 The Sensitivities confirm that all unconstrained forecast demand can be accommodated in the long-term in the event that all of the airport proposals come forward. However, the NRP would bring significant benefits:

- The NRP will deliver capacity approximately a decade before the other major capacity increments are delivered (i.e. LTN to 32mppa and LHR R3 both in the late 2030s, at the earliest). This will provide critical capacity for unmet demand that would otherwise be lost and the NRP provides the only realistic means of achieving government policy objectives in the short to medium term.
- In the period before any third runway at Heathrow comes forward the NRP is the only viable option to support significant levels of long-haul connectivity.
- LGW provides a scheme suitable for all business models - its proven capacity to support low-cost carriers provides an important point of difference with Heathrow, where a higher cost base (which would be substantially increased by a third runway) is not conducive to the low-cost carrier model. Other schemes would be unable to serve market segments as efficiently as Gatwick. For example, low-cost leisure traffic already struggles at LHR and significantly higher charges arising from LHR R3 would inhibit this market segment's growth. Whilst LHR has a strong track record of serving hub/City markets, it has not performed well in the short haul leisure markets which are dominated by LCCs and expected to continue to drive the growth of the short haul European travel market. For example, in the 2005-2019 period, LCCs accounted for all the growth of London's short haul market, which is discussed further in the **Needs Case** [APP-250], at paragraph 5.2.39.

3.4.13 In summary, Gatwick provides the right kind of capacity at the right time at the right price to provide significant connectivity, competition and economic benefits. Many of these benefits would be in addition to LHR R3 and other potential schemes.

[19]See GAL's response to Heathrow Airport's Written Representations [REP3-075], GAL's Response to Written Representations from CAGNE, Section 1.3 [REP3-074], Response to the ExA's Written Questions on the Case for the Development [REP3-085] Questions CS1.20 and CS 1.25 and GAL's Response to Written representations, Appendix A – Policy Response [REP3-073].

3.4.14 Even if it was appropriate to assume that other schemes will come forward, after decades of under-capacity there would be multiple benefits in there being sufficient capacity in the UK airports system – not least the benefits of resilience, reduced congestion, enhanced passenger service and increased competition expressed through competitive fares and enhanced quality of service. The sustainability benefits of airports having the capacity to serve their local sub-regions as well as competing for wider demand would also be apparent. Such a scenario would bring multiple benefits and is not a reason to reject the NRP.

3.4.15 The appropriateness of assuming that other airports may apply for, secure consent for, invest, build and operate their own capacity enhancements, however, has been the subject of earlier exchanges. GAL's position, for instance, is summarised in its **Response to York Aviation's Deadline 4 Submission** [REP5-077] at sections 2.1 and, particularly, 3.1.16 onwards. As set out there, GAL's position is directly mirrored by the Secretary of State's decisions at Stansted and Manston. The contrary positions – that policy places a limit on aviation expansion or that need should not be met at Gatwick just in case it might be met by other proposals that have not yet come forward, is plainly wrong.

3.4.16 Similar conclusions were drawn at Luton by the applicant in response to ExQ NE 1.4, as follows:

> *"It is clear that the existence, or potential existence, of spare capacity at other airports, is not, of itself, a reason for refusal of an MBU application and that each proposal should be judged on its merits having regard to the need for the development, by reference to the demand that it is expected to attract, and its local environmental impacts. Constraining capacity at one airport until it is 'needed' because all others serving the area are full would not be consistent with ensuring a functioning competitive market. The consequences of such an approach would be higher fares and restricted services available to passengers, contrary to the clearly stated Government objective set out in the Executive Summary (page 6) to Flightpath to the Future (Ref 5), the use of airport capacity delivers "better outcomes for passengers, such as contributing to lower fares, more destinations and more service innovation by airlines." This would not be achieved by an approach that required all airports to be full before new capacity was approved."* [20]

3.4.17 Those positions, however, are still apparent in York's submissions. At Deadline 5 York argue that allowance must be made for other airport expansion, including

[20] Luton examination library document REP4-059.

"*some additional capacity*" at Heathrow [REP5-094] Appendix III paragraph 19. In the absence of any published commitment from Heathrow to bring forward its North West runway, it is notable that York no longer insists that its development must be assumed. At paragraph 39 of **Appendix B** to its Deadline 3 submission [REP3-117], York suggested making allowance for a 15% increase in capacity at Heathrow brought about by Heathrow introducing "mixed mode", even though such a proposal would be contrary to planning policy and has never been suggested by Heathrow[21].

[21] The Government's position on mixed mode at Heathrow was set out in a Statement in 2010: "*I can confirm that we remain firmly committed to retaining runway alternation and will not approve the introduction of mixed mode operations at Heathrow. This government believes that any potential benefits mixed mode might bring to the airport are outweighed by the negative impact such operations would have on local communities.*"
https://www.gov.uk/government/speeches/heathrow-operations

4 Capacity and Operations

4.1.1 GAL's case on capacity is set out in the following principal documents

- the application documents: the **Needs Case** [APP-250]
- **Technical Note on the Future Baseline** [REP1-047]
- **Capacity and Operations Summary Paper** [REP1-053]
- **Capacity and Operations Technical Appendix: Airfield Capacity Study** [REP1-054]
- **The Applicant's Summary of Oral Submissions from ISH1: Case for the Proposed Development** [REP1-056]
- **The Applicant's Response to Actions - ISH 1: The Case for the Proposed Development** [REP1-062]
- **The Applicant's Response to the Local Impact Reports – Appendix A – Note on the Principle of Development** [REP3-079]
- **Appendix B – Response to York Aviation - Capacity and Operations** [REP4-023]
- **Response to Rule 17 Letter – Future Baseline Sensitivity Analysis** [REP5-081]
- **Appendix E - Response to York Aviation's Deadline 4 Submission** [REP5-077]
- **Summary of Airline Support** [REP5-071]

4.1.2 York's most recent submission [REP5-094] Appendix III provides a detailed commentary on a number of capacity issues. Similar submissions were made by York at Deadline 4 **Response to Deadline 3 Submissions: Case for the Scheme and Related Matters** [REP4-052].

4.1.3 **Annex A** provides a detailed response to the statements made by York in relation to capacity & operations in those 3 submissions.

4.1.4 A close reading of those submissions reveals a number of matters which are either agreed or which are established by the evidence and should be agreed.

4.1.5 GAL has reworked the draft SOCG and sent it to the JLAs and York to try to narrow or capture areas of disagreement.

4.1.6 Despite the length of the submissions, there are relatively few issues in relation to capacity and operations which are not yet agreed. Principal among these, however, are:

- validation and the consequences of GAL's modelling
- understanding busy day capacity
- implications and assumptions about the use of WIZAD.

4.1.7 Those matters are considered in turn below.

4.2 Modelling Explained

4.2.1 The purpose of providing airfield fast time simulation modelling is to allow comparison to be made between the performance of the airfield under the baseline and NRP growth scenarios.

4.2.2 The fast-time simulation modelling replicated the aircraft movements on the ground and within local airspace and was calibrated against August 2018 schedule and performance data. The results of the calibration exercise, provided in **Annex B**, demonstrate that the basis of the modelling is closely aligned to actual performance in 2018. The calibrated model was used as the basis for the modelling of the growth scenarios.

4.2.3 Whilst the growth scenarios were based on the calibrated model, the growth scenarios required certain infrastructure adaptations to effectively model the future airfield state. In the baseline case the new rapid exit taxiway, already in operation, and Pier 6 Western extension were both added. In the case of NRP, all the additions included in the baseline case and the infrastructure proposed as part of the development were added.

4.2.4 In addition to the infrastructure changes, there are also performance improvements expected through the reduced departure separation project currently underway, further details can be found in **Capacity and Operations Summary Paper Appendix: Airfield Capacity Study** [REP1-054] section 4.4. For transparency, modelling results have provided for both with and without the future performance improvements.

4.2.5 Further future initiatives are also underway at London Gatwick to improve resilience of the operations, such as improved optimised sequencing and time-

based flow. The benefits of these initiatives are not captured in the fast time simulation as optimised sequencing couldn't accurately be captured by the model and time-based separation is in the early stages of development hence the expected benefits are not well defined at this stage, although implementation at London Heathrow has proven the capacity, resilience and holding time benefits.[22] As a result, the performance outputs from the simulation are likely to illustrate a conservative approach as these future initiatives will enhance performance further than that demonstrated by the modelling results. Equally, the improvements to optimised sequencing cannot be accurately reflected through the simulation modelling, as shown and explained at section 6 of the **Capacity and Operations Summary Paper Appendix: Airfield Capacity Study** [REP1-054].

4.2.6 The simulation outputs provided include departure taxi times, arrival taxi time, arrival airborne holding which are key performance parameters for airlines as they impact the duration airlines are required to plan for flights and hence potential aircraft utilisation.

4.2.7 The simulation results demonstrate that the future baseline delivers similar performance to August 2018 in the first wave and improved performance throughout the remainder of the day, as illustrated in **Capacity and Operations Summary Paper Appendix: Airfield Capacity Study** [REP1-054] section 7. The improvement overall is due to the introduction of the rapid exit taxiway increasing practical runway capability to 56 movements an hour but with declared peak scheduled movements not increasing above 55 per hour.

4.2.8 The simulation results for the dual runway operation demonstrate that the Northern runway project delivers significant improved performance throughout the day when compared to the baseline and August 2018, as illustrated in the **Capacity and Operations Summary Paper Appendix: Airfield Capacity Study** [REP1-054] section 7 (see particularly Tables 13 / 14 and 15 /16). York Aviation accept that the Northern Runway Project simulation outputs demonstrate reasonable holding times and the deliverability of 80.2mppa in **Response to Deadline 3 Submissions: Case for the Scheme and Related Matters** [REP4-052] point 44, subject to clarification on calibration, which has been provided in **Annex B**.

[22] Sesar article on CAPACITY GAINS WITH TIME-BASED ARRIVALS: https://www.sesarju.eu/sesar-solutions/time-based-separation

4.3 Understanding Busy Day Capacity

4.3.1 In paragraph 12 of its **Rule 17 Response to Further Information Request PD-018** [REP4-049], York suggests that Gatwick is "*close to gridlock"* at peak times and will not be able to handle an additional 47 daily ATMs.

4.3.2 In reference to York Aviation's point regarding London Gatwick being "close to gridlock" at peak times, London Gatwick has never been in a state close to gridlock as aircraft flow on the ground is effectively managed by the ground controllers. In the baseline scenario referenced, the peak does not exceed the 55 movements an hour declared, which has been declared and consistently delivered by ground controllers since 2014. As the modelling results show, the taxi times are similar or improved from August 2018 levels.

4.3.3 However, London Gatwick has acknowledged in **The Applicant's Response to the Local Impact Reports – Appendix A – Note on the Principle of Development** [REP3-079] that in 2022 and 2023 the airport operated at reduced capacity levels. In 2022 the leading cause was ground handler resourcing, resulting from COVID, and in 2023 poor performance by airlines through the summer was further impacted by air traffic control (ATC) resourcing issues in September, resulting from illness combined with low levels of resilience from the lack of training new air traffic controllers (ATCOs) during COVID. Under these circumstances London Gatwick took the responsible decision to pre-emptively reduce capacity demonstrating a history of responsible capacity management. Since these events, resourcing in both areas has recovered.

4.3.4 Whilst York/JLA suggest that some delays are unacceptable to airlines, this contrasts with recent experience by GAL. In 2024 30 airlines are increasing their capacity in addition to 10 new airlines entering the airport. This does not suggest airlines are unable to operate at Gatwick or that they find the outlook so unacceptable that it is deterring their wish to grow their operations at the airport.

4.3.5 Additionally, it is not correct that Gatwick is forecast to handle an additional 47 daily ATMs on peak days. Gatwick has handled 939 commercial movements in 2017 and 928 in 2019. The busy day forecasts assume an increase of +17 (vs 939) by 2047; supporting evidence for this growth are the recently released +12 daily slots (by ACL). This increase is significantly below York's assumption of +47 in Paragraph 12 of **Rule 17 Response to Further Information Request PD-018** [REP4-049].

Table 4 Gatwick Busy Day Slot Demand/Capacity

	2017	2019	2024	2047	Growth
Demand (24 hours)	939	928	n/a	956	+17 vs 2017
Capacity (core hours)	870	870	882	~882	+12 vs 2019

Note: Core hours 0500-2159 UTC

4.3.6 It is noted that the busy month's average day will increase more than the peak day which is to be expected as quieter days in the peak month continue to fill in. In 2014 the peak day was 5% busier than the average peak month (892 vs 851) and this ratio declined to under 3% by 2018 (929 vs 903). This is forecast to continue with the ratio declining to 1-2% in the 2038- 2047 period. This explains the higher increase in average monthly movements compared to the busy day.

4.4 Implications for WIZAD

4.4.1 The Northern Runway Project application does not propose or rely on airspace change to operate. Gatwick's current airspace design includes Standard Instrument Departure (SID) routes and arrival procedures for both the Main and Northern runways.

4.4.2 No airspace change is required to the London Terminal Control Area (LTMA) route network, associated with London Gatwick arrival and departure routes, to enable London Gatwick's Northern Runway Project. See **Statement of Common Ground Between Gatwick Airport Limited and NATS (En Route) Plc** [REP5-066] statement 2.3.1.1.

4.4.3 In so far as any future airspace change programme does propose such changes, for example, as part of wider airspace modernisation, such changes would be consulted on, assessed and potentially consented through the formal airspace change process, separately from this application.

4.4.4 GAL does not require, nor has any intention to request, a change to the Noise Abatement Procedures under Section 78(1) of the Civil Aviation Act 1982 relating to the Route 9/WIZAD SID, including the restriction that the route is not available for flight planning purposes.

4.4.5 The future use of the WIZAD SID - in the baseline case and with the NRP - is based on the current airspace route structure and operated in accordance with the existing conditions on the use of WIZAD which are set out in the Gatwick Noise Abatement Procedures, under Section78(1) of the Civil Aviation Act 1982

(UK AIP EGKK AD 2.21), and in the RNAV1 SID for WIZAD (UK AIP AD 2 EGKK-6-13).

4.4.6 The forecast for the increased use of the WIZAD SID - in the baseline case and with the NRP - assumes that the London Terminal Control Area (LTMA) airspace becomes increasing congested over time, due to the growth of air traffic across all of the London airports. This assumption sets the basis of a reasonable worst case for the purposes of environmental impact assessment.

4.4.7 It is not possible to use the WIZAD SID to avoid the increased lateral separation requirements between consecutive MIMFO SID departures (i.e. to increase runway throughput capacity) because both the WIZAD and MIMFO SIDs subsequently converge in the same London Terminal Control airspace sector. Thus, the use of the WIZAD SID is not a prerequisite to achieve the 69 ATM/hour peak hour declaration under the NRP.

Annex A: Capacity and Operations

Annex A – Capacity and Operations

Response to JLAs' Response to Additional Documents submitted at Deadline 3 Case for the Scheme and Related Matters [REP4-052]

Para	JLA Comment	GAL Response
27	We note also the GAL's response to ExQ1 GEN.1.25 [REP3-091] that refers to only a 2% increase in hourly throughput required through the terminals in the Baseline Case. However, this is not consistent with the components of Baseline growth claimed by GAL in Figure 36 of REP1-052, which shows 13 mppa of growth coming from aircraft size and load factor growth, i.e. growth of some 28% in terms of passengers carried on each aircraft. As the ExA has queried, it is not clear how an hourly passenger uplift of such magnitude could be accommodated with the existing terminal capacity.	The 2% reference is in relation to the increase in peak hour departure passenger demand in the Baseline scenario when compared to 2024 capacity declaration. Passenger demand in each terminal peaks in different hours, hence growth from aircraft size and load factors can be managed through terminal balancing through airline moves or split operations, both of which are techniques used currently at London Gatwick to balance terminal demand.
43	An outstanding concern, which we are seeking to resolve with the assistance of GAL, is to validate the achievability of 80.2 mppa ultimately with the physical capacity deliverable with the NRP. GAL provides some further clarifications in respect of its runway capacity in response to ExQ1 Case for the Scheme [REP3-084]. Here, GAL highlights, in response to CS.1.5, that the maximum capacity of a runway is only attainable in perfect weather conditions, which in the UK context means that some caution needs to be applied to the overall sustainability of any declared runway movement rate. It is for this reason that we consider that it is important that a realistic assessment is made of the actual declarable capacity to ensure that there is sufficient resilience to mitigate delays (answer to CS.1.3). GAL further notes, in response to CS.1.7 the importance of ensuring sufficient capacity in the early morning departure period to allow based airlines, which make up a substantial proportion of the Gatwick operation both now and projected for the future, can attain 2-3 aircraft rotations a day. This confirms our view as to the criticality of ensuring that the assessment of capacity in the morning departure peak is robust.	The reference to 'perfect weather conditions' quoted by York aviation was in relation to the achievability of 60 movements per hour on a single runway, which has previously been delivered in exceptional circumstances and has never formed part of GAL's forecasts. The full quote reads from **The Applicant's Response to the ExA's Written Questions (ExQ1) - Case for the Proposed Development** [REP3-084] CS.1.5: 'From an operational perspective, taking a rolling hour London Gatwick has, by exception, achieved a maximum of 60 aircraft traffic movements per hour (ATM/hour) from the main runway. The theoretical maximum capacity can only be achieved on the current runway with perfect weather conditions, the perfect balance of traffic and high levels of predictive pilot performance.' As previously stated in Capacity and Operations Summary Paper [REP1-053] under point 4.3.2, the Northern runway can deliver 80 movements per hour under perfect circumstances, which is equivalent to the 60 quoted under single runway operations. The modelling has not assumed perfect circumstances, given the rarity of these occurrences, it has assumed typical conditions experienced in the peak month of August which is capable of delivering 70 runway movements an hour, as stated in **Capacity and Operations Summary Paper Appendix: Airfield Capacity Study** [REP1-054] table 9.
44	Based on the outputs of the runway capacity simulation modelling undertaken, the rates of delay reported at Table 9 of REP1-054 for future years appear reasonable in the NRP Case, such that it may be plausible for a throughput of 80.2 mppa to ultimately be handled, subject to the comment above regarding the	GAL appreciate the acknowledgement by York Aviation that the holding times under NRP fall within acceptable limits and that 80.2mppa is achievable,

	rate of build up to that traffic level. This is subject to some final clarification questions posed to GAL regarding the calibration of the model against actual performance in 2018 to ensure that the delay outputs are robust. Whereas delays in the NRP case appear reasonable, it is notable that delays in the Baseline Case are materially higher, which will be addressed further in the separate Rule 17 response on the Baseline Case.	subject to the provision of the calibration data which has been provided in ANNEX B.
45	There is a further consideration in terms of the timescale over which the ultimate movement capacity of the NRP might be attained as it depends on the use of 'Charlie Box' as a holding area separate from the aircraft holding area for the existing south runway. We note, from the construction sequencing shown in REP2-016, as referred to in response to ExQ1 GEN.1.8 [REP3-091], that this facility is not scheduled to be provided until 2032, suggesting that the ability to gain a material increase in departure capacity upon the opening of the NRP may be more limited. We note also that Pier 7, necessary to service the additional passengers and flights, is not due to be provided until 2035. Additional bussing operations, to get passengers to aircraft, over the period to 2035, are likely to increase airfield congestion, impacting on capacity. These phasing concerns reinforce our view that some caution needs to be applied to the projections of the throughput of passengers and movements at Gatwick at least in the 2029 and 2032 assessment years from a physical capacity point of view as well as a demand perspective.	The runway capability of 69 will be available from 2029 due the completion of the runway and Juliet taxiway works. However, due to the complexity of sequencing in the first wave departures, capacity will be limited to 62 movements an hour or less until the introduction of the Northern runway holding area 'Charlie Box'. Charlie Box can be completed in stages allowing phased introduction of the holding capacity from 2030 through to the end of 2031. The forecasted demand reaches a maximum of 59 declared movements by 2029 and does not reach the maximum of 69 declared movements until Summer 2032, aligned with the full introduction of Charlie Box. Pier 7 completion is aligned with Pier service level requirements, again Pier 7 can be introduced in stages to cater for phased increases in Pier served demand. The Pier 6 Western extension will provide the required additional Pier served capacity prior to introduction of Pier 7. However, any additional bussing to the Pier 7 apron can be undertaken on existing roads which cross no taxiways.
46	We note that in response to EXQ1 DCO.1.40 (R19) [REP3-089], GAL contends that there is no requirement for the DCO so specify a passenger limit as this is highly unlikely to be exceeded. However, it does not follow that, because there are risks to the attainment of 80.2 mppa over the timescale claimed by GAL, that such a throughput might never be exceeded. In the absence of other effective controls on the impacts, which is addressed in a separate paper from the JLAs, it would seem prudent to include some ultimate limits on the throughput to ensure that the impact, such as those on the surface access network, are not exceeded.	Noted. GAL has responded separately to the question of a PAX limit.
64	We have noted that, in response to the ExA's question NV.1.4 [REP3-111] the CAA refers to modelling undertaken by National Air Traffic Services (NATS) for GAL which it believes demonstrates that attaining the throughput claimed with the NRP would not be contingent on wider airspace change. Although the CAA states that it understood that this modelling work would be submitted by the Applicant at D3, we are unaware of this having been provided. As understanding the ultimate throughput attainable 15 with the NRP is fundamental to	In preparation for London Airspace South, NERL simulated the proposed changes in the associated volume of London Terminal Control Area against a baseline of today's airspace and operation, this included additional London Gatwick traffic, using a dual runway operation representative schedule. To be clear this was a real time operational simulation not a data model. See **Statement of Common Ground Between Gatwick Airport Limited and NATS (En Route) Plc** [REP5-066] statement 2.3.1.10.

	understanding its impacts, it is important that this airspace modelling by NATS is fully disclosed so that the ExA can be certain effects have been properly assessed and mitigated.	
65	Whilst Gatwick has provided some further information regarding its position in relation to airspace in Section 7 of REP3-079, the fundamental question remains unanswered. Of particular interest to the JLAs is the potential for airspace modernisation to require fundamentally different use of the various departure routes, particularly WIZAD SID, should it be required to reduce airspace congestion over areas to the north of the Airport, as referred to at paragraphs 22-26 of the Need and Capacity Case Appendix to the LIRs [REP1-099]. Although GAL states, in response to ExQ1 LV.1.6 [REP3-097], that it has made a worst case assessment of the extent to which WIZAD might need to be used in future and that it considers that this level of usage would not require a formal airspace change, this only serves to highlight the concern that broader airspace congestion issues could drive a requirement for even greater use of WIZAD in future in order to ensure that the NRP can be used to maximum capacity.	The potential for the use of the WIZAD SID is based on the current airspace route structure and operated in accordance with the existing conditions on the use of WIZAD are set out in the Gatwick Noise Abatement Procedures, under Section78(1) of the Civil Aviation Act 1982 (UK AIP EGKK AD 2.21), and in the RNAV1 SID for WIZAD (UK AIP AD 2 EGKK-6-13). The forecast for the increased use of the WIZAD SID - in the baseline case and with the NRP - assumes that the London Terminal Control Area (LTMA) airspace becomes increasing congested over time, due to the growth of air traffic across all of the London airports, this assumption sets the basis of a reasonable worst case for the purposes of environmental impact assessment. The use of the Route 9/WIZAD SIDs to avoid consecutive Route 4/MIMFO SID departures is not a prerequisite to achieve the 69 ATM/hour peak hour declaration under the NRP. GAL does not require, nor has any intention to request, a change to the Noise Abatement Procedures under Section78(1) of the Civil Aviation Act 1982 relating to the Route 9/WIZAD SID, including the restriction that the route is not available for flight planning purposes.
66	We also note that in the Draft Statement of Common Ground (SOCG) [REP3-068] at 2.3.1.3, the CAA clarifies that it has “made no decision concerning GAL’s use of its Northern runway” in terms of the wider airspace requirements, noting that the airspace change that was approved was solely in relation adjustments to the Aeronautical Information Publication to allow simultaneous use of the two runways. The CAA goes on, at 2.3.1.4, to note that “it is too early in the Airspace Modernisation programme to say what trade-offs will be required to resolve any conflict between the sponsors of separate airspace changes, or between different objectives. Therefore, it is also too early to say what benefits individual airports might achieve from airspace modernisation, whilst recognising that one of the goals for the AMS is to provide greater capacity overall.” This does leave residual uncertainty as to whether a) wider airspace change will require adjustments to the arrival and departure routes at Gatwick sufficient to impact the modelling of noise contours and the setting of the Noise Envelope and b) the extent to which wider airspace change requirements could frustrate the ability to deliver the full uplift in capacity assumed with the NRP. Notwithstanding GAL’s response to ExQ1 NV1.4 [REP3-111], it is not clear that GAL has undertaken	The full quote from Deadline 3 Submission - 10.1.11 Statement of Common Ground between Gatwick Airport Limited and the Civil Aviation Authority [REP3-068] reads: ‘In order to request the minor amendments to Gatwick’s AIP (Aeronautical Information Publication), a necessary amendment once the DCO has been approved and works carried out to enable dual runway operations at Gatwick (with the realignment to the centreline of the northern runway), GAL submitted a Statement of Need within the scope of CAP 1616 (CAA, 2021) to the CAA on 11 November 2019. The CAA issued CAP 1908 in May 2020, assigning the airspace change as Level 0 as *the proposal would not alter traffic patterns*.’ [emphasis added] As per the Response to Deadline 3 Submissions [REP4-031] response NV.1.10 the airspace modernisation airspace change process is not part of the Project. The NRP application does not propose or rely on airspace change and it would not be appropriate for this application to seek to pre-empt the sensitivity testing

	any sensitivity analysis of the implications of air space change in the context of the NRP so as to inform broader consideration of the implications, in particular for noise controls.		and public engagement process that would be undertaken in any future airspace proposal.

Response to York Aviation's comments on 10.24 Appendix B: Response to York Aviation - Capacity and Operations [REP4-023] submitted at Deadline 5 [REP5-094]

Ref	Applicant's Comment	York Aviation Response	GAL Response
50	GAL agrees with the rationale for the focus on the runway 26 direction as the prevailing direction of operation. **First wave slots at London Gatwick are in high demand as their demand significantly outweighs capacity, hence even with full knowledge of the expected departure holding time, first wave slots remain oversubscribed.** The 2018 peak total departure holding, referenced by York Aviation, is between 0700 & 0759 UTC which is a high demand hour for airlines. In Summer 2024 this hour is declared at 52 movements, in the live schedule (as of 03/05/2024). 0700 UTC on the busy day is fully utilised along with every other Friday between start of June and end of September, demonstrating the popularity of this hour despite higher holding time than other hours. The holding times airlines should expect throughout the day are fully detailed as part of the declaration process hence **this is not considered 'delay' but rather 'holding' which should be accounted for in block times**. Block times are the time between scheduled departure from stand at the origin airport and scheduled arrival on stand at the	The reason that the first wave of departure slots is so important to the airlines is because of the high dependence of Gatwick on operations by based aircraft (paragraph 16 of REP1-099). Airlines are only likely to base aircraft at the Airport if they can obtain departure slots in the first couple of hours in the morning, enabling them to operate 2 or 3 rotations (round trips - dependent on the destination) during the day to optimise aircraft utilisation. Whilst the level of delay in this early morning period has not, so far, been a deterrent to airlines seeking slots within the declared capacity, any increase in declared capacity for departures during this period with the current single runway would be expected to lead to delays increasing exponentially. We note the Applicant's unusual view that holding delays prior to departure should not be considered as delays as the airlines are aware of the likelihood of such levels of delay when the capacity is declared and slots applied for. Although it is true that the airlines may allow for the likelihood of being materially delayed in their block times for operations from Gatwick, the effect of this is to extend the length of each flight so impacting on the utilisation that airlines can make of their aircraft and the viability of operations as it results in less revenue earning flying hours available each day. We note that the Applicant accepts that there is an inherent lack of capacity to increase operations in the	As per previous response GAL sees high levels of demand at current holding times and the future baseline demonstrates similar levels of holding first wave and improved throughout the remained of the day. It is helpful that York recognise that holding times do not represent delay and can be managed by the airlines. Calibration data has been provided in ANNEX B

	destination airport. As well as the flight time the block time should include taxi time and expected holding time for both departure and arrival. As per note 49 above, GAL still seeks to improve holding times and has initiated a number of performance improvement initiatives to support reduction in holding times and improved resilience. However, due to the inherent lack of capacity, these projects won't deliver the same level of improvements that will be possible through NRP. In the baseline case, the addition of the new RET (which is fully in place) reduces peak total departure holding time to 13.6 minutes at 0700 UTC, and 12.1 minutes at 0600. All other hours remain below 10 minutes. **Given that in the baseline the peak total departure holding reduces compared to 2018**, the levels of holding are not expected to hinder London Gatwick's ability to fill the baseline schedule. In addition, London Gatwick's low cost to operate for airlines, compared to other nearby airports, and high passenger demand, especially in a constrained scenario where increased capacity is not delivered through the proposed development, means that the baseline capacity is expected to be filled.	Baseline, notwithstanding its suggested operational improvements to reduce holding times. Hence, the inability to increase based operations with the existing single runway has a substantial dampening effect on the ability to deliver growth at Gatwick in the Baseline as growth necessarily has to come from non-based operations that are willing to operate at the limited times available currently on peak days (see Figure 3 of REP4-049) or operate only in off-peak periods, so damaging the viability of starting new routes and services. The Applicant states that the modelling shows that the recent addition of the rapid exit taxiway (RET) is expected to reduce holding delays compared to the 2018 actual peak delays. We have requested, but not received, further information regarding the validation of this modelling as it shows significant reductions in delay in the NRP case, which cannot be accounted for by the rapid exit taxiway as this cannot be used during dual runway operations. In our dialogue with the Applicant and at paragraph 68 of REP3-123, we have requested information regarding the extent to which the model has been validated as capable of replicating actual delays in 2018 in order to provide assurance that the model results for future scenarios can be relied on, given that the results now show significantly lower delays despite assuming a greater average separation between departing aircraft. Our view on the actual hourly capacity increase deliverable by the NRP is dependent on receiving that assurance that the model has been validated and does not systematically understate delays.	
51	GAL has assumed the availability of the new rapid exit taxiway (RET) in all scenarios due to it already being in operation and delivering benefits to the operation. The initial performance of the new RET is in line with the benefits assumed in the modelling for the	In REP3-123 (paragraph 67), we stated that we did not consider that it was prudent to rely on untested operational tools, such as RDS, as the basis for assessing the capacity of the runway in either the Baseline Case or the NRP Case. We note that GAL now states that the benefits of RDS "will primarily	The case does not rely on RDS as the holding times provided in Appendix: Airfield Capacity Study [REP1-054] section 5, 6 & 7 are all deemed acceptable both with and without RDS implemented. However, it is unrealistic to assume that by 2029 RDS will not be implemented given the technology is already in place

	baseline case, improving reliability of performance and giving the equivalent benefit of +1 ATM/H. GAL has also accounted for well developed future initiatives such as reduced departure separation (RDS) and optimised sequencing that will primarily improve resilience against sub-optimal fleet mix and SID allocation. GAL has refrained from making assumptions regarding any future initiatives in their infancy, such as time-based separation. RDS technical implementation is completed and the process of embedding the new process into the operation will take place over the remainder of 2024, resulting in improvements materialising in 2025. Optimised sequencing is planned for delivery in 2025. Given the mature stages of implementation of RDS and optimised sequencing the future scenarios should factor in the impact of these projects. However, for transparency, the Capacity and Operations Summary Paper Appendix: Airfield Capacity Study [REP1-054] section 5, 6 & 7 present the simulation results based both on current performance and with the phased introduction of reduced departure separation and optimised sequencing (for NRP only), so the impact of the future initiatives can be clearly seen. As per the results, RDS provides limited benefit in the baseline case as the single runway capacity limits departure rates. RDS provides improved average departure taxi time by 1.4 minutes across the day. Optimised sequencing has limited impact on average holding, however it supports by reducing the outlier holding times by 40%.	improve resilience against sub-optimal fleet mix and SID allocation." To a large degree, this reinforces our concern expressed in REP3-123 given that the Applicant itself has acknowledged (paragraph 4.4.9 of REP1-054) that the impact of such tools may be limited in normal operating conditions It is our understanding from REP1-054 and from our discussions with the Applicant that a largely judgemental approach has been adopted for the estimation of the extent to which the use of such tools would reduce levels of delay in presenting results for the 'Future Performance' in both the Baseline and NRP Cases. We do not consider it wholly robust to rely on such adjustments being attainable, at least until there is real evidence of lower levels of delay being experienced through the introduction of such tools. We note that, without such improvements being assumed, the average delays to departing aircraft in 2038 with the NRP assumed to be fully used in terms of movement capacity (Figure 11 of REP1-054) would still exceed 10 minutes on average over the busy 3 hour period, indicating that the runway would be operating at its acceptable limit of capacity based on the Applicant's assumed profile of aircraft movements in that year. However, before accepting that it can be assumed that this level of delay would be acceptable and the asserted capacity of the NRP attainable, we would still want to be reassured that the adjustments made to the modelling between the Application and the Examination documentation have been validated as capable of replicating historic performance at 2018 demand levels.	at London Gatwick and other European airports. The first CAA approved trial at London Gatwick was undertaken in Q1 of 2024. Experts from GAL, NATS, ANS and Think Research have all been consulted on the feasibility of delivering RDS and the anticipated benefits and endorse the implementation.

52	As stated in the document, the 108 (60 departure and 48 arrivals) referenced is a 'theoretical airspace maximum capacity' and has not been claimed as runway capacity. This theoretical airspace capacity is a relevant part of the story as it demonstrates that there is unutilised capacity in the local airspace and that the runway is the constraint at London Gatwick, which will be addressed through the NRP. This point is directly recognised by York Aviation in their paragraph 56. As mentioned by York Aviation, GAL have clearly stated this is a theoretical constraint with a number of caveats. The runway schedules take full account of all constraints listed by York Aviation, hence why capacity in the baseline does not exceed 55 and in NRP does not exceed 69.	The Applicant's response is noted and we are pleased to see the Applicant accept that there are other constraining factors that are relevant to understanding the capacity deliverable.	Noted. GAL has never suggested otherwise.
53	**It is helpful that York Aviation recognise that the modelling supplied to the examination demonstrates reduced delay. That recognition, however, should in fairness be recognised in other concerns raised.** As per Gatwick's Manual of Air Traffic Services Part 2 'Subject to wake vortex and speed group, where 2 minutes separation is specified a departure interval of at least 5nm may be used as an alternative between aircraft on similar or diverging tracks' this rule is followed by London Gatwick, as with other airports in the UK. 5nm results in separations of approximately 90 seconds. Given London Gatwick's departure route set up, which will include requirements for 120 seconds same	The Applicant's response is noted. To clarify, we did not expressly request that the simulation modelling be re-run but have been pointing out in discussions since 2022 that the assumption that 60 second separations could be achieved between all departures, as in the original capacity modelling presented as part of the Application, was not realistic. We appreciate that the Applicant has now acknowledged that the use of a 60 second assumption was not realistic. As noted above, notwithstanding allowing for actual achieved separations between departing aircraft, the revised modelling does show reduced delays compared to the original modelling results but, as also noted above, we are still seeking confirmation that the modelling does not systematically understate delays when calibrated against the 2018 actual schedule and measured levels of delay. We reserve our position on	See ANNEX B for calibration results.

	exact route, an average of 106 seconds separation is achieved for same wake aircraft departure separations travelling on similar routes. This is set to improve with the reduced departure separation project lowering the average separation to 90 seconds for similar route departures of the same wake turbulence category, as detailed in the Capacity and Operations Summary Paper Appendix: Airfield Capacity Study [REP1-054] section 4.4. As requested by York Aviation, all simulations were re-run. The baseline results were not significantly different from submission referenced in Needs Case [APP-250], although not identical due to the change in departure separation parameters and randomisation used in the re-run. As per the current operation, the 106 second separations are minimised in practice through optimised sequencing between departure routes and between arrivals and departures, minimising the impact on results. Hence the holding times in the baseline are modelled and expected to fall compared with 2018.	whether the NRP will enable the Applicant's future demand forecast to be accommodated in full pending that confirmation.	
54	It appears that York Aviation has misunderstood or misinterpreted the information presented. The 34% of aircraft using Route 4 referenced is the aggregate for both runway directions across the full day of operation. Solely looking at Runway 26, this increases to 38% of departures using Route 4 when in Runway 26 direction operations. However, a departure route imbalance has the most significant impact in departure heavy hours where there are limited arrivals to sequence out the increased departure separation requirements of similar route departures. In the peak	The Applicant's response is noted. Assuming that the information provided regarding the different distribution of aircraft movements by Route in the departure heavy hours is correct, we can understand the basis of the calculated theoretical capability of the runways purely for departures. However, that is not the same as an attainable capacity as it would assume the ability to perfectly sequence departures to minimise separations, requiring aircraft to be held, incurring delay, to attain the perfect departure sequence by route. As a purely theoretical calculation, it is of no material relevance other than as a cross check that the proposed peak departure capacity of 48 departures an hour, having	Noted.

	departure hour of 0500 UTC, in August 2019 46% of runway departures used Route 4 and the remaining 54% used Routes 1, 7 or 8 (which are all similar routes). This split allowed for the majority of consecutive departures to be on alternate routes thus reducing the separation required between departures to 60 seconds. The key hours where departure capability is relevant are 0500, 0600, 0700 and 0800 UTC as these hours have a higher proportion of departures than arrivals. In these hours in August 2019, when in Runway 26 direction operations, 41% of departures used Route 4 and the remaining 59% used Routes 1, 7 and 8. This would result in an average separation requirement of 67 seconds between departures when assuming current performance of 106 seconds. 68 seconds separation between departures delivers 53 departure movements in an hour. When taking into account the Reduced Departure Separation project, the similar route separation is expected to reduce to 90 seconds, resulting in an average separation requirement of 65 seconds, delivering 55 departure movements in an hour. As GAL stated under point 53, 120 seconds is not required between Routes 1, 7 and 8 as assumed by York Aviation in its calculation of the 45 departures referenced	regard to the level of delay, is capable of being flown within the existing air traffic control procedures and required separations between aircraft in the air.	
55	Paragraph 3.1.5 of the Capacity and Operations Summary Paper Appendix: Airfield Capacity Study [REP1-054] does not state 55 is only obtainable in a 'perfect balance', it describes how 55 ATM/hour is achievable when the hour is balanced and continues to	The Applicant's response is noted. It confirms that 55 movements per hour remains the maximum proposed hourly capacity attainable when there is even mix of arriving and departing aircraft in an hour. The point that we were making in REP3-123 was that, simply because it might be possible to achieve more than 55	Noted.

	state ‘55 ATM/hours can still be achieved with small variations in the proportion of arrivals and departures. Consecutive departures in alternating directions will allow a movement every 60 seconds increasing throughput’. The traffic mix was accounted for in previous declarations, hence why there were only 5 of the 17 core hours declared at 55 movements per hour (mph). The performance detailed is in reference to the operation prior to the new RET. The new RET reduces arrival runway occupancy time allowing reduced separations between arrivals enabling 55 mph to be delivered in a greater range of scenarios and increases the 55 mph maximum capability to 56 mph. As the baseline schedule remains declared at a maximum of 55mph the additional movements can be accommodated without performance degradation due to the new RET.	movements in an hour in some circumstances, this did not mean that it could reliably be declared as an attainable movement rate for scheduling that necessarily must allow for normal variability of actual operations on the runway. We noted that there would always be circumstances where this movement rate could be exceeded. Similarly, there will be circumstances where 55 movements per hour is attainable even if there is not a ‘perfect’ balance of arriving and departing aircraft.	
56	GAL agrees with the statement that the single runway capacity is more constraining than the airspace in the baseline case.	The Applicant’s response is noted.	
57	The airspace modernisation to the south of London Gatwick, known as London Airspace South, is a discrete project scheduled for deployment in Q1 2027. The schedule for the deployment of modernised airspace across the remaining London airspace is later. **The dual runway capacity throughput modelled did not assume the delivery of airspace modernisation to the south of Gatwick nor the increased use of WIZAD.**	The Applicant’s response is noted. However, in respect of WIZAD SID, the Applicant’s response here appears somewhat at odds with the response given to the JLAs’ response to ExQ1 relating to the future use of WIZAD SID (page 94 of REP4-031) which states that imposing restrictions on the number of movements that could use WIZAD SID would “act to unnecessarily limit the operations of the airport and the wider benefits that it will provide”. This appears to confirm what the JLAs have always believed, namely that greater planned use of the WIZAD route will be required in order to ensure that the NRP is capable of delivering the full uplift in runway movements claimed contrary to the Applicant’s previous claims that its use will remain purely as a	As per the **Response to Deadline 3 Submissions** [REP4-031] and response NV.1.10, the airspace modernisation airspace change process is not part of the Project. The use of the Route 9/WIZAD Standard Instrument Depart (SID) to avoid consecutive Route 4/MIMFO SID departures is not a prerequisite to achieve the 69 ATM/hour peak hour declaration under the NRP. The model used to derive the runway throughput capacity did not include the use of Route 9/WIZAD SID. Any deliberate decision to redistribute traffic on to the Route 9/WIZAD SID or changes to the operation of the Route 9/WIZAD SID would require the development of

	The project would benefit from the deployment of London Airspace South, but it is not a prerequisite or enabler for the project. If a change to the use of the WIZAD SID routes were required, this would constitute a deliberate decision to redistribute traffic and would require the development of a Level 1 Airspace Change Proposal in accordance with CAP 1616 under the Planned and Permanent Redistribution (PPR) of air traffic provision set out in the Air Navigation Guidance (Amendment 2019).	tactical offload route [REP3-078], 14.1AF page 192]. We note the Applicant's acceptance that an airspace change to enable greater use of WIZAD SID cannot be ruled out.	a Level 1 Airspace Change Proposal in accordance with CAP 1616 under the Planned and Permanent Redistribution of Traffic provisions of the Air Navigation Direction 2019. However, GAL does not require, nor has any intention to request, a change to the Noise Abatement Procedures under Section78(1) of the Civil Aviation Act 1982 relating to the Route 9/WIZAD SID, including the restriction that the route is not available for flight planning purposes.
58	**The additional 20 movements is not above the 2024 declared level but rather an increase compared to Summer 2018 busy day scheduled demand (incl. all flight types). Between 0500-2159 UTC the 2038 baseline has 13 movements less than the number of movements declared for 2024 and 11 movements less by 2047.**	We have addressed the overall capacity deliverable in the Baseline Case in response to the ExA's Rule 17 request in REP4-049.	Noted.
Northern Runway Project			
59	The full aircraft journey at the airport (from stand to local airspace and vice versa) has been fully modelled using fast time simulation and the results are presented in the Capacity and Operations Summary Paper Appendix: Airfield Capacity Study [REP1-054]. The simulation results clearly indicate on stand holding, taxi delays, and runway holding in Para 5.2.2. Table 9. Whilst the distribution of where aircraft holding may take place between stand, taxi and runway may differ, the total holding will remain the same. As detailed by the simulation results in the Capacity and Operations Summary Paper Appendix: Airfield Capacity Study [REP1-054] Para 5.2.2. Table 9, the service level delivered	As noted in response to points 50 and 51 above, we are still awaiting further information regarding the validation of the Applicant's revised simulation modelling of the capacity of the runway to ensure that it does not systematically understate delays, despite having allowed for more realistic separation times between consecutive departing aircraft. Our view on the actual hourly capacity increase deliverable by the NRP is dependent on receiving that assurance. We note that, based on known performance, the average delays to departing aircraft in 2038 with the NRP assumed to be fully used in terms of movement capacity (Figure 11 of REP1-054) would still exceed 10 minutes on average over the busy 3 hour period indicating that the runway would be operating at its acceptable limit of capacity based on the Applicant's assumed profile of aircraft movements in that year. However, before accepting that this is a robust	See ANNEX B for calibration results.

	by the NRP is equivalent or improved compared to 2018	conclusion, we would still want to be reassured that the adjustments made to the modelling between the Application and the Examination documentation have been validated as capable of replicating historic performance at 2018 demand levels.	
60	The Applicant submitted the Statement of Common Ground between Gatwick Airport Limited and the Civil Aviation Authority [REP3-068] at Deadline 3.	We note that the Civil Aviation Authority has indicated in the Draft Letter of No Impediments appended to the Draft Statement of Common Ground with the Applicant (Paragraph 4.3 of Appendix 2 to REP3-068) that "the CAA sees no impediment to the approval of the Development with respect to the requirements of aerodrome certification". However, we would note that this agreement is limited to the ability of the airfield layout as proposed to be operated within the safety standards laid out for aerodrome certification. It does not imply an agreement by the CAA that a particular level of capacity is attainable with the NRP scheme.	Noted.
61	GAL agrees that Dubai is not an identical operation. However, as with most airports there is no perfect comparator. Dubai is a useful close comparison to London Gatwick's proposed dual runway 2038 operation, because: 1. The airspace route structure of the two runways is coupled due to the short distance between the runways, so a departing aircraft cannot be given a clearance when an arriving aircraft is close to the threshold due to risk of aircraft being in close proximity in the event of the arrival needing to go around (like London Gatwick's proposed dual runway operation). 2. The airport's capacity is constrained by its runway configuration (like London Gatwick). While they are not identical operations, the theoretical capacity (if both airports had the same types of aircraft) would be similar. As	We continue to believe that the operation at Dubai does not provide a robust benchmark against which to judge the capacity deliverable with the NRP as its operating mode, with one runway used for arrivals and the other for departures, is sufficiently different as to make comparison spurious.	Noted.

	Dubai has a fleet mix which is more challenging to efficiently integrate, this reduces its capacity to below that which London Gatwick would be able to deliver with the dual runway operation. Dubai's more challenging fleet mix requiring increasing wake vortex separation between aircraft creates losses in runway throughput capacity efficiency. During these efficiency losses, multiple aircraft might cross the runway from the taxiway between runways to reduce the impact on taxi times. ▪ To its system efficiency benefit, London Gatwick has a fleet mix that may be more efficiently integrated and its runway system is designed with runway crossings factored into the standard concept of operations, avoiding significant system efficiency losses. ▪ To its system efficiency detriment, London Gatwick expects many long haul aircraft departures to operate from the Main Runway, essentially reducing arrivals throughput capacity compared to Dubai's segregated runway modes (one servicing all arrivals and one servicing all departures). ▪ The combination of these two effects is that in periods with an optimal fleet mix, London Gatwick can outperform Dubai's runway system efficiency, but when there are peaks in the proportion of large aircraft the system efficiency in terms of runway throughput, capacity reduces. This effect has already been accounted for in the forecast capacity releases. The average increase in flights, between 0500-2159, from NRP compared to Summer 2024 declaration is 9.5 slots, however the maximum slot release is 17 and the minimum is 3. The maximum release occurs in a well-balanced arrival/departure hour with a low proportion		

	of wide body aircraft, whereas the lowest increase occurs when there is a poorer arrival/departure split and/or high number of wide body flights. Dubai can have long taxi times. There are many reasons for this, including airport layout. ▪ The distance to travel between the runway and terminal is sometimes much greater than at London Gatwick and having terminals on both sides of the runway system makes for higher natural variation in taxi times than London Gatwick will naturally see. ▪ London Gatwick's proposed busy day schedule is not as pressured as Dubai's 2023 when comparing runway system capability vs scheduled demand. ▪ London Gatwick expects to operate its proposed dual runway operations at levels of congestion that are similar to or below London Gatwick's 2018 congestion levels, as has already been demonstrated in the modelling, and which airlines are already accepting by continuing to operate from (and in many cases requesting more slots at) London Gatwick.		
62	As stated by York Aviation, the summary of performance across the full day is provided in the Capacity and Operations Summary Paper [REP1-053] to give an overview of performance impact from the project for readers looking for a high-level view. Readers looking to understand further details of the modelling, are directed in the Capacity and Operations Summary Paper [REP1-053] to read the Airfield Capacity Study [REP1-054]. This paper includes modelling results by time of day in graph format and summarised into the key periods of interest, 0500-0900 UTC,	The Applicant's response is noted. Our caveat related to the updated simulation modelling is set out above.	Noted.

	1200-1600 UTC, 0600-2200 UTC & across the 24 hour period. **The time-of-day results demonstrate NRP performance improvements are throughout the day whereas the baseline improvements are outside of the first wave.**		
64	The 2038 schedule is consistent with Annex 7 to the Forecast Data Book [APP-075]. The 2029 schedule modelled is not stated in Annex 7 to the Forecast Data Book [APP-075]. The method described is correct.	The Applicant's confirmation that the updated simulation modelling has used the same demand profiles as set out in Annex 7 to APP-075 is appreciated.	Noted.
65	It is correct that, when operating in dual runway operations, it has not been assumed that the rapid exit taxiway will provide capacity gain and it is not required to achieve the scheduled busy day demand. GAL has always been aware that the angle the new RET meets the Northern runway does not meet CAA safety requirements for crossing a live runway, and it was not designed for that purpose.	The Applicant's confirmation that our understanding is correct is noted.	Noted.
66	GAL has illustrated how each of the performance initiatives improves the airfield performance through modelling detailed in Capacity and Operations Summary Paper [REP1-053]. As stated in response to point 65, the RET was not utilised in the dual runway operation modelling. The 90 seconds departure separation is purely a result of the RDS project and has no reliance on the new RET. Please also note modelling results have been provided with and without the benefits of RDS in the Airfield Capacity Study [REP1-054] Para 5.2.2. Table 9.	For the reasons set out above, we continue to consider that the appropriate basis for capacity modelling is based on proven parameters and should not, at this stage, rely on potential improvements that may or may not be realised.	As per the response above. GAL has justified consideration of the future initiatives in its analysis and still considers this the lead case of airfield performance. However, performance both with and without future initiatives has been provided and both scenarios result in similar or improved performance compared to August 2018, demonstrating the proposed busy day schedule is achievable from a capacity perspective.
66	York Aviation should recognise that the modelling results have been presented with and without enhancements on current	See response above.	

	practices in the Airfield Capacity Study [REP1-054] Para 5.2.2. Table 9. The statement regarding the benefit of RDS on a 'normal' day has been considered when determining the reduction in minimum similar route departure separation from 106 seconds to 90 seconds. On non-standard days the departure separation will offer improved control over the departure separation resulting in the 90 seconds being maintained in a wider range of conditions compared to the 106 seconds. GAL still maintains the position that the future performance results, which include the benefits of RDS, represent the lead scenario. **RDS has been implemented at London Gatwick, as of January 2024**. Performance improvements from it are expected to materialise late in 2025 after the operational implementation phase is complete. GAL has been reasonable in its future baseline assumptions and has not included time based separation due to the uncertainty of the benefits on peak days. **However, both with and without these future performance assumptions the dual runway operation, resulting from NRP, provides improved overall performance compared to current performance and the future baseline**. As demonstrated in the Airfield Capacity Study [REP1-054] Para 5.2.2. Table 9, **by the 4.3 minute improvement in departure taxi time across the day modelled with current performance parameters and 5.7 minute improvement including the future performance initiatives**.		
68	Following feedback from York Aviation, the capacity modelling was rerun as requested to include similar route departure separation to	We did not explicitly request that the capacity modelling was re-run but have been highlighting in Technical Working Group meetings since summer	Noted. See ANNEX B for calibration results.

	align more closely with 2018/19 operational performance. The addition of the similar route departure separation constraint required sequencing of similar departures, as a result a greater focus was placed on improving the modelled runway allocation rules to improve sequencing, as would be performed in practice by the air traffic controller with the assistance of the tools available in the air traffic control tower. The main improvement in performance is seen outside of the first wave peak, as the original modelling underutilised the Northern runway. Limited focus was placed on optimising this period in the original modelling as departure holding times were already lower than current performance levels. The adjustments made to the simulation models increase alignment to 2018/19 operational performance assumptions and air traffic control capability.	2022 that it was not considered realistic or reasonable to assume that 60 seconds separation could be attained between all departing aircraft regardless of departure route. In the light of the Applicant's statement that the adjusted model increases alignment with the 2018/19 operational performance, we have asked for further information that validates this statement, i.e. do the delay results arising from modelling the 2018 or 2019 actual busy day schedule replicate the delays actually observed on that day, allowing for the fact that the new rapid exit taxiway was not in place at that time. This is important as, if the model does not produce delay results that closely align with actual delays, there is some risk of it overstating (or possibly even understating) delays for future modelled scenarios, leading to errors in the capacity assumed to be deliverable with the NRP and the assessment of impacts.	

Annex B: Calibration Results

Annex B - Calibration Results

1.1.1 The base model, for which all DCO fast time simulation modelling was built on, was calibrated using August 2018 airfield layout and performance data and the 2018 busy day (17/08/2018) schedule. The results of the 26L calibrated model results are shown in the table below along with the actual performance for August 2018 and 2018 busy day for comparison. Further details of how the metrics are measured can be found in **Capacity and Operations Summary Paper Appendix: Airfield Capacity Study** [REP1-054] section 3.6 and table 4.

1.1.2 The results demonstrate a close alignment of the base model to 2018 actual performance in the peak periods.

		Actuals								**Calibration**			
Category	**Type**	**2018 Aug (26L)**				**2018 Aug Busy day**				**2018 Busy day**			
		05:00 – 09:00 UTC	**12:00 – 16:00 UTC**	**06:00 - 22:00 UTC**	**24hr**	**05:00 – 09:00 UTC**	**12:00 – 16:00 UTC**	**06:00 - 22:00 UTC**	**24hr**	**05:00 – 09:00 UTC**	**12:00 – 16:00 UTC**	**06:00 - 22:00 UTC**	**24hr**
Departure Taxi Time	**ave.**	19.5	21.6	20.1	19.6	19.7	23.6	21.6	20.9	19.4	21.4	19.2	19.0
	95th Percentile	29.0	31.0	30.0	29.0	27.4	31.0	31.0	31.0	30.8	26.3	29.8	30.8
Arrival Taxi Time	**ave.**	9.6*	7.9	8.1	8.2	9.1*	7.7	7.8	8.0	8.4	7.9	7.9	8.0
	95th Percentile	17.0	11.0	12.0	12.0	13.8	10.0	11.0	11.0	18.1	11.4	12.5	13.0
Departure Holding - Runway	**ave.**	9.2	11.2	10.2	9.7	9.4	12.8	11.4	10.6	8.9	11.4	9.2	8.8
	95th Percentile	17.1	19.1	18.3	18.0	15.9	18.7	18.8	18.7	19.4	14.4	19.0	20.0
Arrival holding - Airborne	**ave.**	4.4	6.7	5.1	4.4	2.2	8.9	6.3	5.3	4.3	5.6	4.2	4.3
	95th Percentile	12.9	17.1	14.8	14.1	5.8	14.5	14.1	13.8	12.2	11.6	10.7	15.5

*Off-stand holding due to aircraft arriving earlier than scheduled and holding off stand due to Pier preference.