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# London Luton Airport Expansion

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**8.43 Response to Chris Smith Aviation Consultancy Limited - Initial Reiew of DCO Need Case for the Host Authorities**

Infrastructure Planning (Examination Procedure) Rules 2010

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**The Planning Act 2008**

**The Infrastructure Planning (Examination Procedure) Rules 2010**

# London Luton Airport Expansion Development Consent Order 202x

## 8.43 RESPONSE TO CHRIS SMITH AVIATION CONSULTANCY LIMITED – INITIAL REVIEW OF DCO NEED CASE FOR THE HOST AUTHORITIES

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# 1 INTRODUCTION

1.1.1 The purpose of this paper is to provide an initial response to the *London Luton Airport: Initial Review of Need Case* Report, by Chris Smith Aviation Consultancy Limited (CSACL) for the five Host Authorities (dated September 2023). The CSACL Report covers the air traffic forecasting aspects of the Need Case only (as set out in Section 6 of the **Need Case [AS-125]**.

1.1.2 Three meetings have been held with CSACL and representatives of the Host Authorities; the first two meetings provided clarifications to points raised[1] and the third to discuss specific points arising from a draft of this report[2]. The final version of the CSACL Report was received on 6 September 2023 and it is understood that the Host Authorities will submit the report as part of their Deadline 2 submissions.

1.1.3 The Applicant has commissioned this response to assist the Examining Authority ahead of the Issue Specific Hearings.

## Initial Remarks

1.1.4 It is noted that the CSACL Report has concentrated principally on the consideration of the Core Planning Case demand forecast with only limited consideration of the Faster and Slower Growth Cases. This is material as, to a large degree, CSACL's comments simply reflect market uncertainties, which is precisely why a range of demand forecasts is set out in the Need Case, as explained at paragraph 6.4.3 of the Need Case. Hence, many of the comments made by CSACL are not material to whether the demand forecasts, taken in aggregate, represent a robust basis for assessing the implications of the Proposed Development. To some degree, CSACL acknowledges this within its Report.

1.1.5 It is noted that National Highways in its Relevant Representation **[RR-1076]** stated that *"it is concluded that the forecasts are sound and sufficiently robust"*, hence the comments from CSACL need to be viewed in the light of other technical consultee comments.

1.1.6 This response now addresses the specific topics raised by CSACL under the same headings as adopted within the CSACL Report. Where CSACL does not challenge the approach or assumptions made as set out in Section 6 of the Need Case, these points are not repeated in this paper.

[1] 4 August 2023 and 8 August 2023.
[2] 8 September 2023.

# 2 PASSENGER FORECASTS

## 2.1 Approach

### Econometric Forecasts

2.1.1 It is noted that CSACL largely endorses the approach adopted by the Applicant in preparing the demand forecasts for the Development Consent Order (DCO). However, it goes on to challenge some of the underpinning assumptions.

2.1.2 Although acknowledging that use of the Department for Transport's (DfT) air transport market elasticities[3] is appropriate, CSACL suggests, at paragraph 3.7 of the Report, that there are two other factors which should be taken into account:

a. that the DfT model has not yet been validated in terms of how good a predictor of demand it has proved to be; and

b. that the Climate Change Committee (CCC) recommended restricting air passenger demand growth (in its June 2023 Report to Parliament).

#### *Changes to the DfT model*

2.1.3 At paragraphs 3.8. to 3.10, CSACL queries why the DfT demand forecasts for the Jet Zero Strategy in 2022 produce similar overall forecasts for the UK in 2050 as those produced in 2017[4] given a lowering in the expectations as to future economic growth from 2025-2030, setting out the comparison in Table 3.1. The DfT provides an explanation for why this is so at paragraph 3.6 of the Jet Zero; further technical consultation of March 2022:

*"In the latest modelling, it has been possible to better differentiate between the effects of this fuel efficiency feedback loop and the effects of carbon pricing. Previously, these effects were shown combined with each other under the 'demand impact of carbon pricing' wedge in the published charts for each scenario. The impact of applying the fuel efficiency feedback loop is lower fuel costs, lower fares and therefore higher demand."*

2.1.4 It is important to note that the demand projections used for the Applicant's DCO application do not derive directly from the DfT's model outputs but have been derived from first principles, as set out in Section 6 of the Need Case. However, the DfT's recalibrated demand elasticities are used but applied to underlying econometric data as at Spring 2022, as set out at paragraph 6.3.9 of the Need Case. The DfT elasticities have been calibrated over a very long time period since the 1990s, including being subject to recent recalibration in 2022[3], and so are considered highly robust as a basis for long term air passenger demand forecasting, notwithstanding any short-term acceleration of trends, such as video-conferencing as referred to by CSACL at paragraph 3.34 of the Report. It is considered that adoption of these elasticities represents best

[3] Department for Transport, Jet Zero: modelling framework, March 2022.
[4] Department for Transport, UK Aviation Forecasts 2017.

practice and the most robust basis for projecting air passenger demand in the UK and at the level of any individual airport.

### *Committee on Climate Change*

2.1.5 The points made by CSACL in paragraphs 3.15 to 3.17 of the Report are not relevant to the preparation of the demand forecasts but imply that there might be some capping of demand growth in future if the recommendations of the CCC were to be accepted. This is not considered a relevant factor as the Government responded in March 2023[5] to a similar recommendation from the CCC and stated at #197:

*"We remain committed to growth in the aviation sector where it is justified. Our analysis in the Jet Zero Strategy shows that the sector can achieve net zero carbon emissions from aviation without the government needing to intervene directly to limit aviation growth. Our scenarios show that we can achieve our targets by focusing on new fuels, technology, and carbon markets and removals with knock-on economic and social benefits. Our 'high ambition' scenario has residual emissions of 19 MtCO2e in 2050, compared to 23 MtCO2e residual emissions in the CCC's Balanced Pathway.*

*Airport growth has a key role to play in boosting our global connectivity and levelling up in the UK. Our existing policy frameworks for airport planning provide a robust and balanced framework for airports to grow sustainably within our strict environmental criteria. We do not, therefore, consider restrictions on airport growth to be a necessary measure."*

There is no reason to assume that the position will change in response to the more recent CCC Progress Report of June 2023. Hence, the Applicant has set out, through the whole suite of application documents, why it considers that the Proposed Development is sustainable and necessary to support the Government's broader economic objectives.

## Distribution of Southern UK Passengers

2.1.6 It is noted that, in general terms, CSACL states that the approach adopted by the Applicant is "*logical and very detailed"* in terms of assessing the pool of demand from which London Luton Airport is expected to draw (paragraph 3.18 of the CSACL Report).

2.1.7 The CSACL Report then outlines its understanding of the process followed to derive 'unconstrained' demand growth scenarios for the Airport as set out at paragraph 6.4.4 of the Need Case and describes these as *"reasonable"* and *"realistic"* at paragraph 3.22. The process of deriving the assessment cases from these scenarios is also described within the Need Case without further comment from CSACL.

[5] HM Government, Responding to the Climate Change Committee's (CCC) Annual Progress Report 2022 Recommendations, March 2023.

## 2.2 Assumptions Used

### Economic Assumptions

2.2.1 At paragraph 3.37, CSACL cites a number of downside risks associated with the assumptions used in the demand forecasts:

a. that the economic assumptions pre-date the end of the pandemic, Ukraine war and the cost-of-living crisis; and

b. future air fares due to:

i. higher staff and other costs in the airline industry;
ii. the possibility of higher Air Passenger Duty in future;
iii. the cost of Sustainable Aviation Fuel (SAF).

#### *Data Sources for Economic Assumptions*

2.2.2 In Table 3.2 of the CSACL Report, CSACL sets out the sources of the underpinning economic assumptions used in the Need Case forecasts (see **Need Case Appendix B [APP-214]**) and those used by the DfT in the Jet Zero forecasts, noting that, in the main, the Need Case uses more up to date economic data and projections.

2.2.3 At paragraph 3.29 of the CSACL Report, CSACL then goes on to note that some of the data sources used within the Need Case pre-date the Ukraine war and cites that the DfT's most recent demand projections, produced in connection with cost benefit analysis into the SAF Mandate[6] and referenced in Jet Zero – One Year On (JZOYO)[7], have used more up to date economic assumptions. However, it is important to note that these too have been superseded by more recent projections for the UK economy, which are more optimistic over the medium to long term than those used for the Need Case, or indeed in the latest DfT air traffic forecasts as set out in JZOYO. These are set out in Table 2.1.

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1149891/sustainable-aviation-fuel-mandate-dataset.ods
[7] Department for Transport, Jet Zero – One Year On, July 2023, page 11.

Table 2.1: Updated GDP Growth Rates

| Year | Need Case Assumptions | OBR[8] March 2023 and TAG Data Book May 2023 |
|---|---|---|
| 2020 | -9.4% | -11.0% |
| 2021 | 7.5% | 7.6% |
| 2022 | 3.8% | 4.0% |
| 2023 | 1.8% | -0.2% |
| 2024 | 2.1% | 1.8% |
| 2025 | 1.8% | 2.5% |
| 2026 | 1.7% | 2.1% |
| 2027 | 1.5% | 1.9% |
| 2028 | 1.5% | 1.8% |
| 2029 | 1.5% | 1.8% |
| 2030 | 1.5% | 1.7% |
| 2031 to 2050 | 1.5% | 1.5% |

Source: Need Case, OBR, TAG

2.2.4 Overall, this provides confidence that the Need Case forecasts are robust and may even be understated in terms of unconstrained demand at London Luton Airport.

### *Air Fare Assumptions*

### Airline Costs

2.2.5 On page 14 of the Report, CSACL makes a number of comments in relation to assumptions that will influence air fares over the longer term by reference to the assumptions set out in the DFT's 2017 UK Aviation Forecasts[4]. Specifically, it is suggested that:

a. Higher staff costs that are currently facing airlines and airports following the pandemic and high inflation are not fully reflected in the air fare assumptions.

   There are two points to note here. Firstly, in the context of a long-term forecast, there will always be periods where input variables depart from their assumed path, both positively and negatively. This is a key reason as to why a wide range of scenarios has been considered and faster and slower forecast cases considered. Secondly, it is important to recognise that the pandemic has also resulted in significant cost cutting in the industry and drive towards greater productivity, such as increasing use of self-check-in by passengers. This will counteract higher unit wage costs.

[8] Office for Budget Responsibility.

b. CSACL also makes comment as regards to the need for private sector companies to rebuild their balance sheets post pandemic.

   Again, it should be recognised that this is a shock phenomenon that needs to be seen in the context of a long-term forecast. Similarly, it is important to recognise that the efficiency gains that have been made during and since the pandemic are part of the industry addressing its long-term financial health issues with the goal of minimising the impact on fares, thereby maintaining volume and economies of scale.

2.2.6 It should be noted that the air fare assumptions used in the DCO forecasts are not the same as those used in the DfT 2017 UK Aviation Forecasts. The DCO air fare assumptions have been built up from first principles as described at paragraph 6.3.5 of the Need Case. They include some of the assumptions used by DfT, albeit updated to more recent information, alongside data from other sources. In other words, they do not directly rely on DfT's assumptions, albeit the way in which they are built up is similar.

## Sustainable Aviation Fuels

2.2.7 CSACL seeks, at paragraphs 3.39-3.43 of the Report to make much of the fact that the cost of sustainable aviation fuels (SAFs) is expected to be greater than kerosene at least in the short term. The discussion of this is under fuel costs, as a component of the DfT air fares. CSACL comments on a Freedom of Information (FOI) response (appended), which it interprets as meaning that the DfT model does not allow for the higher costs of SAFs.

2.2.8 Reviewing the DfT's FOI response, the Applicant's interpretation is that it confirms that, to the extent that the cost of SAFs exceeds that of conventional kerosene, this is allowed for through the use of the rising carbon appraisal values used in the demand forecasts (see paragraph 6.3.9b of the Need Case). The DfT response notes that the effect of higher SAF prices, although not expressly included in the air fare component, could be considered as accounted for in the modelling on the basis they *"do not exceed the costs they [the airlines] face in using kerosene, including the relevant carbon costs"*. The validity of this assumption is confirmed in the subsequent paragraph of the DfT FOI letter where they state that they expect, subject to some uncertainty, that *"some cheaper forms of SAF could become cost-competitive with kerosene plus carbon pricing by around 2030"*.

2.2.9 The Applicant notes that all of the DfT's response is consistent with the basis of the assumptions used in the Applicant's Need Case forecasts, namely that, having included the up to date carbon cost assumptions used by the DfT (derived from the Department for Business Energy Industrial Strategy's target appraisal values), the demand forecasts take into account both the cost to the airlines of paying for residual carbon in future and/or relevant abatement costs, which would include any additional fuel costs related to the use of SAFs.

## Airport Capacity Assumptions

2.2.10 At paragraph 3.44 of the Report, CSACL agrees that the Applicant's assumptions detailed in the Need Case regarding the potential timing and

capacity likely to be delivered by additional runways at either Heathrow and/or Gatwick are *"generally reasonable"*.

2.2.11 However, CSACL goes on to question the assumptions made regarding the capacity for Heathrow and Gatwick in the absence of an additional runway capacity at those airports. In practice, the capacity assumptions used of 90 mppa and 50 mppa respectively are the same as those used by the DfT in their capacity constrained forecasts in 2017[9] and in the work of the Airports Commission.

2.2.12 CSACL contends that once these airports reach their existing runway capacity in terms of aircraft movements, growth would continue through growth in the number of passengers carried on each aircraft. In essence, these airports would still be constrained in terms of aircraft movements as a result of the absence of additional runway capacity and airlines would need to make choices as to which routes and aircraft to fly.

2.2.13 To the extent that the lack of runway capacity resulted in larger aircraft replacing smaller aircraft, this would favour routes with larger aircraft to long haul destinations over smaller aircraft operating domestic and short haul routes. Although CSACL seeks to suggest that this has not been a factor at Heathrow in Figure 3.1 of the Report, this is valid taking the whole period spanning from the 2008/9 financial crisis, when there was a fall in the number of aircraft movements at Heathrow. However, pre-pandemic, there was a clear trend evident in CSACL's Figure 3.1 of long haul passengers gradually displacing short haul passengers and it is expected that this trend would continue if that airports remain runway capacity constrained following the recovery from the effects of the pandemic. If anything, the lack of capacity at Heathrow and Gatwick would tend to lead to increased demand for short haul flying from London Luton Airport given the overlap of its catchment area with Heathrow and along the Thameslink rail line with Gatwick.

2.2.14 It is not considered that any small variations in the number of passengers that these other airports might be able to handle with their existing runway capacity would have any material effect on the demand projections for London Luton Airport.

2.2.15 CSACL then notes that the actual demand forecasts that form the Assessment Cases for the DCO are effectively constrained by the timing of when the new capacity is expected to be delivered (see paragraph 6.4.10 of the Need Case). Hence, this discussion of the unconstrained forecasts is, in any event, largely moot.

## 2.3 Assessment of Outputs

2.3.1 In overall terms, CSACL states that the Applicant's approach to developing the demand forecasts is *"reasonable"* (paragraph 3.51). For the reasons explained above, the Applicant does not consider that the economic and price assumptions are out of date nor that the forecasts are too high.

[9] Department for Transport, UK Aviation Forecasts 2017, Table 3.1.

2.3.2 In Table 3.6 of the Report, CSACL sets out a comparison of the different total UK air passenger projections from the DfT in 2017, 2022 and 2023, alongside the CCC's capacity constraint limit. For the reasons set out in Section 2.2. above, the assessment of the overall scale of the market used within the Need Case remains robust to the latest economic inputs.

2.3.3 In any event, to the extent that there are downside risks, these are already accounted for through the presentation of a Slower Growth Case in the Need Case.

## Long haul Forecast

2.3.4 CSACL disputes the long haul element of the Applicant's demand projections, largely on the basis that most long haul operations across London are currently operated from Heathrow and Gatwick. The basis for the long haul forecast is set out in Section 6.3 of the Need Case and it makes clear that the long haul routes suggested are indicative examples of the markets that could be viable.

2.3.5 Such services would not be expected to commence until the late 2030s, by which time demand conditions across the London airports would be expected to be very different in terms of the overall market for long haul services and, with new infrastructure in place, London Luton Airport a much more attractive prospect for the airlines than it has been in the past. On this basis, it was estimated that around 2 mppa could be handled on long haul services by 2043, accounting for approximately 5% of aircraft movements.

2.3.6 This was considered reasonable as a basis for assessing the environmental effects of the Proposed Development so as not to understate the potential impacts of a proportion of aircraft movements being by larger wide-bodied aircraft.

## Faster Growth Case

2.3.7 At paragraph 3.50 of the Report, CSACL queries why growth through peak spreading is only considered in the Faster Growth Case and not in the Core Planning Case as set out in the Need Case. This is because, as stated at paragraph 6.4.15 of the Need Case, underlying faster growth in the market is expected to create the conditions whereby airlines would be more willing to take up less attractive off-peak slots as the peaks would already be full. There is no inconsistency in using different assumptions in the two cases for the purpose of defining assessment cases.

## Overall Conclusions on the Passenger Forecast

2.3.8 In Table 3.6 of the Report, CSACL sets out an overall conclusion on the timing of when London Luton Airport might reach 32 mppa based on its own, very limited assessment of how demand might be apportioned across the London airports, using the most recent DfT overall passenger demand forecast. CSACL concludes that, absent additional runway capacity being delivered, the London Luton Airport could potentially reach 32 mppa earlier than it would have the capacity to do so. The latest date presented by CSACL, with an additional runway at Gatwick, is 2048, which, although later than the Applicant's Core

Planning Case, is still earlier than with the Slower Growth Case as set out in the Need Case.

2.3.9 Ultimately, CSACL's conclusions (at paragraph 3.68 of the Report) confirms that the range of forecasts adopted for assessment purposes for the application for DCO are appropriate and reasonable when the Faster and Slower Growth Cases are taken into account:

*"If no new runway is constructed, it is likely that LTN's potential capacity of 32 mppa would be used relatively soon after the planned completion of Terminal 2, in the late 2030s or early 2040s. If one new runway is provided, then a passenger throughput of 32 mppa would slip to the late 2040s or possibly later."*

2.3.10 Given the Applicant's necessarily more robust preparation of passenger forecasts, and intimate understanding of the operation of London Luton Airport, having regard to most up to date economic projections and having regard to the correct treatment of air fare related costs and airport capacities, the Applicant remains of the view that its Core Planning case remains the most likely forecast outcome.

# 3 OTHER PROJECTIONS

3.1.1 In Section 4 of the Report, CSACL goes onto consider other aspects of the demand forecasts which inform the detailed assessment of the effects of the Proposed Development.

## 3.2 Cargo Forecasts

3.2.1 As recognised by CSACL, the outputs of the cargo forecasts have been derived with respect to ensuring a reasonable worst case for environmental assessments, particularly related to surface access, for which an estimate of freight tonnage was required in order to assess the impact of lorries on the surface access network.

3.2.2 In relation to cargo carried on all-freighter aircraft, CSACL makes reference to using the 2019 freight tonnage, suggesting that it was not appropriate to use this higher tonnage but with a lower average of four years of aircraft movement data, suggesting that there was some inconsistency. However, both freight tonnage and movements have fallen again, more aligned with the average movement figure, but the higher freight tonnage was taken as a proxy for the fact that there will be some switch to larger aircraft types over time, which may drive up the freight per movement, and to ensure that any impacts from this were not understated on the road network. This can be seen in the Need Case Table 6.15, which illustrates a switch from, in particular, the Airbus A300 aircraft to the larger Airbus A330 aircraft in future.

3.2.3 Consideration of CSACL's view of the long haul forecasts has been set out earlier in this paper and, inevitably, CSACL's more limited view of services that could be operated would potentially lead to lower cargo throughput in the longer term. However, in assessing the impacts of the forecast level of long haul services and having regard to the anticipated average tonnage that might be carried across the basket of routes, as covered earlier in this paper, it is

appropriate to consider the cargo which could be associated with these in aggregate to ensure that the surface access implications are fully accounted for as a reasonable worst case.

## 3.3 Passenger Air Transport Movements

3.3.1 CSACL agrees that the Applicant's approach to calculating the number of Passenger Air Transport Movements (PATMs) is appropriate but provides a commentary on the calculations of average passengers per movement going forward, which indicates some differences in view.

3.3.2 At paragraph 4.10 of the Report, CSACL may have misinterpreted the point being made in the Need Case Para 6.6.14. CSACL's interpretation of this suggests that the Applicant's position is that load factors of 87% are unsustainable. However, the point being made by the Applicant is that the historic rate of load factor growth would be unsustainable going forward (i.e. it would not be appropriate to add a further 7% to the load factor over a 7 year period). Indeed, although the average load factor is not explicitly calculated in the Applicant's analysis, CSACL have estimated this to climb to 89%, illustrating that load factors may increase at the Airport. This increase is even after allowing for new airlines and new services that may commence and are likely to operate with lower load factors than the average of the existing main airlines at the airport. This is expected in the Need Case, to depress the overall the average load factor.

3.3.3 Importantly, the analysis undertaken by the Applicant to consider load factors and passenger per movement growth reflects true patterns of activity at London Luton Airport which may differ from other airports in the UK included in the CSACL analysis in Table 4.1. For example:

a. London Luton Airport is less seasonal than some other UK airports and load factors in the winter months may be lower than the peak summer period. In so far as some airports are more seasonal, i.e. a greater proportion of their activity is in the peak summer, then their averages will not be diluted to the same extent by winter flying; and

b. The route network at London Luton will differ from some other UK airports in that it contains a broad mix of city and leisure (sun) routes which have different levels of demand. Sun leisure routes typically have higher load factors than city routes and so airports which have a greater proportion of these leisure destinations will lift the airlines' overall averages.

3.3.4 However, despite different approaches to analysis and differing conclusions, ultimately, CSACL concludes at paragraph 4.15 that, for the purposes of assessment, the projected air transport movement level (resulting from the passengers per movement calculations) is not unreasonable.

3.3.5 CSACL also concludes that the fleet mix is reasonable in paragraphs 4.17 to 4.19 of the Need Case.

## 3.4 Business Aviation Forecasts

3.4.1 In paragraph 4.20, of the Report, CSACL has concluded that the use of 30,000 movements of this type is reasonable.

## 3.5 Busy Day Timetable

3.5.1 In paragraphs 4.21 to 4.23 of the Report, CSACL concludes that the approach to the Busy Day Timetable development is reasonable and recognises the linkage between the aircraft types in this and the overall movement projections.

## 3.6 Night Period Aircraft Movements

3.6.1 The main area of difference between CSACL and the Applicant is whether freighter flights could be moved out of the nigh control period (23:30 - 05:59 throughout the year) to allow for the projected increase in passenger aircraft activity at night as the airport approached 32 mppa. It is assumed that increased demand for passenger aircraft movements will lead to some reduction in freighter activity during this night control period given that the current limit to 9,650 annual aircraft movements is retained in the DCO.

3.6.2 The assumptions made are set out in the Need Case at Table 6.17 and show a requirement for a reduction of c.500 freighter aircraft movements a year between 2039 and 2043 compared to the 1,546 such movements in 2019.

3.6.3 CSACL has expressed concern with the Applicant's expectation that 500 freight movements could be shifted from this control period into the wider night period (8 hours running from 23:00 - 06:59) to allow the full passenger forecast to be realised. The basis of CSACL's concern is that the freighter airlines already hold these slots and that persuading them to move out of the night control period would be difficult.

3.6.4 However, not all of the slots used by freighter airlines have grandfather rights[10]. In 2019, around 330 of these movements were by MNG Airlines, which no longer holds grandfather rights to these night slots in the summer period. This airline now only operates during the day in summer, in part because of the restriction imposed by airport operator on the allocation of ad hoc slots during the night period since 2018, although it does retain some night slots in the winter period.

3.6.5 The above reduces the scale of the potential movements at issue due to a smaller number of flights retaining grandfather rights. In addition, since 2019, DHL has in fact reduced its number of flights at Luton, with current operations approximately 20% below 2019 levels. This means that the number of grandfathered slots will be lower still.

3.6.6 Overall, we consider that the risk of grandfathered slots for freighter aircraft crowding out passenger aircraft and, hence, impeding the ability to reach 32 mppa to be negligible. In any event, as CSACL notes at paragraph 4.28, it is

[10] Airlines that hold slots for a series of flights and use them at least 80% of the time are entitled to these slots in subsequent years in accordance with The Airport Slot Allocation Regulations 2006 (Article 8 of EU Regulation 95/93, which is still applicable in the UK). These rights are called 'grandfather rights'.

equally feasible that the small number of passenger aircraft that would be at risk of not being accommodated within the 6.5 hour night control period could be accommodated within the adjacent hours.

3.6.7 Whilst it is important to understand the impact of the 9,650 annual movement limit during the night control period on the ability to achieve growth overall, ultimately any uncertainty about the balance of movements within this period is irrelevant to the environmental assessments because the noise assessments are based on a wider 8-hour night period, into which it is anticipated that any displaced freighter activity (or passenger activity) would fall in any event and so the impact of the full number of 1,550 freighter movements has been assessed for their noise implications within the 8 hour night noise assessment period to ensure that the impacts are not understated.

## 3.7 92-Day Movements

3.7.1 CSACL concludes that the 92-day movement projection may be too high taking forward the 2019 ratio of annual to 92-day movements. The basis of this is that, in summer 2019, the differences in annual daily movements between the peak months and the other months within the 92-day period was not significant and, therefore, there would be less scope for airlines to spread activity over the full period. A similar exercise was undertaken by CSACL for June 2023 to illustrate that there is little variation between the dates before and after the start point of the 92-day period.

3.7.2 However, whilst the differences may be relatively low, they do exist providing opportunities for airlines to expand operations into the months adjacent to the peak as the market grows over the period to 2043.

3.7.3 Notwithstanding the above, in arguing that the number of movements in the 92-day period used for the Applicant's noise assessment may be too high, CSACL seeks to suggest that the assessed noise impacts of the development may therefore also be too high. Ultimately, this confirms that conservative assumptions have been used to derive the specific forecasts used for the assessment of noise. Overall, the Applicant considers that the basis for establishing the number of movements in the 92-day period is robust and properly reflects the nature of the operation at London Luton Airport now and in the future.

## 3.8 Cargo Fleet Mix

3.8.1 CSACL assesses that the cargo fleet is reasonable at paragraph 4.36 of the Report.

## 3.9 Passenger Aircraft Fleet Mix

3.9.1 CSACL’s comments on the passenger aircraft fleet mix in paragraphs 4.37 to 4.40 of the Report mainly relate to the assumptions underpinning the Next Generation Aircraft Sensitivity Test. It should be noted that the assumptions as to the proportion of such new technology aircraft that might be in the fleet in

future years in this sensitivity test is consistent with the assumptions made by the DfT in the 'High Ambition Scenario' that underpins the *Jet Zero Strategy*.

## 3.10 Passenger Busy Hours

3.10.1 CSACL finds the use of a 90% load factor across the busy day reasonable but contends that the busy hour itself may be too low if assessed on this basis.

3.10.2 It is important to note that busy hour figures were derived from a 'top down' analysis of historic patterns of activity at London Luton Airport. Whilst these estimates informed the development of the Busy Day Timetables (BDTT), the only actual use of the busy hour figures themselves was in relation to defining the scale of passenger terminal development required at Terminal 1 and of Terminal 2 and in assessing the capacity of the runway. It was not directly used for the assessment of the impacts from the Proposed Development.

3.10.3 At paragraph 6.6.37 of the Need Case, it was explained that the figures deriving from the BDTT take into account the potential impact of delays that are inherently included in the 'top down' analysis.

3.10.4 The Applicant considers that the adoption of a 90% load factor assumption across all flights on the busy day remains robust as set out in Section 3.3. above, albeit there will be some flights with higher load factors and some with lower load factors.

3.10.5 In practice, the BDTT was not used directly to inform any of the assessments. An October day timetable was developed for the purpose of surface access assessment as set out in paragraph 6.6.26 in the Need Case as this better relates to the peaks of demand on the surface access network overall (as detailed in the Need Case). CSACL agrees, at paragraph 4.44 of the Report, that a 90% load factor assumption is appropriate for an October day.

# 4 NO DEVELOPMENT CASE

## 4.1 Core Assumption Assessment

4.1.1 The main point made by CSACL in relation to the No Development Case is that airlines could seek to surrender slots to increase aircraft size, rather than to retain their slots and operate slightly smaller aircraft on average. Based on consultations with airlines, the Applicant does not agree with this position. However, as no airport has, to date, consistently operated at a defined passenger cap in the UK, it is accepted that there is no evidence as to how airlines will behave in those circumstances. So far, the evidence of how airlines behave when airport capacity constraints are reached is only informed by airports that have reached runway capacity constraints.

4.1.2 CSACL highlights the improved economics of operating larger aircraft, for example switching from an Airbus A320 to an Airbus A321 reduces the operating costs per passenger. The Applicant does not dispute this, although what CSACL does not adequately consider is the revenue upside potential for an airline from not increasing aircraft size in order to maximise yields where

demand exceeds supply. It cannot be automatically assumed that an airline will always make more profit through upgauging to a larger aircraft.

4.1.3 It is considered more likely that, faced with a binding passenger constraint, airlines will seek to retain their grandfather slots, particularly given overall constraints within the London airport system, so as not to risk competitive entry and loss of market share. This is particularly so as giving up one based Airbus A320 aircraft would mean another five A320 aircraft would have to be upgraded to Airbus A321s simultaneously for the airline to be able to maintain its share of the overall market in passenger volume terms. Giving up a slot would allow a competitor to enter the market and serve the remaining passenger volume.

4.1.4 Switching to larger aircraft would, ultimately, result in some routes and services being lost and there could be no certainty that these routes could be accommodated at alternative airports in the London area.

4.1.5 It is recognised that, between the 2019 base year and 2027 first assessment year, there will be a reduction in movements required to handle 18 mppa, as CSACL points out at paragraph 5.6 of the Report. However, this a consequence of the COVID-19 pandemic and the fact that some airlines, operating smaller aircraft have exited the airport or gone out of business altogether such as Vueling, and the other airlines are taking the opportunity to increase aircraft size within their own slot portfolio as the airport increases to 18 mppa once more. It is not reasonable to assume that these circumstances would necessarily be replicated again, and airlines would be looking at ways to maximise their profits within their existing slot portfolios.

4.1.6 In paragraph 5.5, CSACL identifies that, in the Core Planning Case, the number of movements does fall slightly between 2027 and 2036 when demand is capped at 21.5 mppa. However, this needs to be seen in the context that London Luton Airport would not actually be long-term passenger constrained in this circumstance and airlines are expected to be willing to take advantage of some lower seat costs knowing that they will be able to grow their route network and gain new slots again in the longer term.

4.1.7 In the event that there was any upgauging of aircraft in the Do Minimum Case this would result in there being less based aircraft at London Luton Airport, creating both slots and available apron capacity for growth particularly in business aviation activity, which is currently limited by apron space and the availability of slots at peak times. This could also lead to an increase in freighter activity if there are unused slots available. In circumstances where its passenger growth is constrained, the London Luton Airport would be incentivised to seek additional business to maximise the use of overall slot capacity. Overall, it is considered that there would be no material impact in assessment terms.

# 5 OVERALL CONCLUSIONS

5.1.1 Although detailed areas of disagreement exist between the Applicant's case and CSACL's assessment, none of CSACL's conclusions suggest that the demand forecasts underpinning the DCO application are not robust and realistic for the purpose of assessing the need for and impacts of the development, as

any identified risks are already accounted for by the consideration of the Slower Growth Case as part of the range of forecasts.

# APPENDIX

Department for Transport

Department for Transport
Great Minster House
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Tel: 0300 330 3000

Web Site: www.gov.uk/dft

Dr Christopher Smith

[redacted]@csacl.com

Our Ref: E0022105

4 April 2023

Dear Dr Smith

**Environmental Information Regulations Request – E0022105**

Thank you for your information request dated 8 March 2023.

Your request stated:
*In relation to the air passenger forecasts published in March 2022 in connection with the Jet Zero consultations, are SAF costs included explicitly in the air fare assumptions input to NAPDM? If so, please supply the assumptions on costs that have been made. If no explicit SAF costs are included, is it reasonable to assume that implicitly they are the same as the assumptions for Jet A1 Kerosene?*

We have concluded that this information is 'environmental information' as defined in regulation 2(1) of the Environmental Information Regulations 2004 (EIRs) and this request has been dealt with under the EIRs.

SAF costs were not explicitly included as inputs to the air fare assumptions underpinning the passenger forecasts published alongside the Jet Zero: Further Technical Consultation in March 2022. Therefore, for simplicity, the modelling implicitly assumed that airlines do not pass on any additional costs they face in using SAF in the form of higher fares. This approach could be consistent with the simplifying assumption that the costs airlines face in using SAF do not exceed the costs they face in using kerosene, including relevant carbon pricing costs (our assumptions on carbon prices are set out in Annex B of the Jet Zero Strategy: Further Technical Consultation).

However, we have carried out further analysis on SAF costs as part of the recent cost benefit analysis published alongside the second SAF mandate consultation on 30 March.[1] The range of sources considered as part of this analysis indicate that the costs of SAF and kerosene are

[1]Pathway to net zero aviation: developing the UK sustainable aviation fuel mandate https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147351/uk-sustainable-aviation-fuel-mandate-consultation-stage-cost-benefit-analysis.pdf

not yet equal. Existing evidence suggests that the cost of SAF is currently around 2 to 5 times the cost of kerosene, though this is expected to fall over time. Similarly, as carbon prices applied to kerosene under the scope of the UK ETS, EU ETS and CORSIA schemes are expected to increase over time, we expect that some cheaper forms of SAF could become cost-competitive with kerosene plus carbon pricing by around 2030, though there is substantial uncertainty surrounding this.

**Appeals procedure**

If you are dissatisfied with the way we have responded to or handled your request, you have the right to ask for an internal review. These should be submitted within two calendar months of the date of this letter and addressed to the FOI Advice Team at FOI-Advice-Team-DFT@dft.gov.uk.

Please remember to quote the reference number above in any future communications.

If you ask for an internal review and are still not content with the outcome, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted via their online form: https://ico.org.uk/make-a-complaint/official-information-concerns-report/official-information-concern/

Yours sincerely,

Abi Thomas