

**DEVELOPMENT OF LONDON CITY AIRPORT TO ACCOMMODATE 9 MILLION PASSENGERS
PER ANNUM**

Planning Application Reference: 22/03045/VAR

Local Planning Authority Appeal Reference: 23/00059/REF

Planning Inspectorate Reference: APP/G5750/W/23/3326646

Date of Inquiry: 5 – 15 December 2023

REBUTTAL

DR ALEX CHAPMAN

ECONOMIC IMPACTS

1. The economic impacts of noise

- 1.1 On 13 October 2023, Ministers on behalf of the Secretary of State for Levelling-Up, Housing and Communities, and the Secretary of State for Transport issued their decision in relation to a called in application regarding the expansion of Luton Airport (CD8.6). This was after the Statements of Case and Statement of Common Ground between the main parties in the present Inquiry were submitted to the Planning Inspectorate. The Secretaries of State agreed with the conclusion of the Inspectors in the Luton Inquiry that changes in noise impacts of 1dB or more, when occurring above the significant observed adverse effect level (“SOAEL”) threshold, constituted ‘notable’ noise effects of a proposal (CD8.6, Decision Letter para 14, citing Inspectors Report at paras 8.83 and 15.26).
- 1.2 In response to this finding, Mr Richard Greer on behalf of the Appellant in the present appeal presented an additional sensitivity test, where the criteria used to indicate a potential significant effect at exposures at, or above, the relevant SOAEL was altered from a 2 dB or more change, as applied in Chapter 8 of the Environmental Statement (“ES”) (CD1.15), to a 1 dB or more change. This forms Appendix 1 to his proof of evidence (APP/2). In Mr Greer’s analysis we see that a very large population of local residents experience adverse noise impacts from the proposed expansion. Yet, despite undertaking this additional sensitivity testing in its noise evidence, the Appellant has not updated its economic evidence to include any assessment of the monetised impacts of noise.
- 1.3 Furthermore, Mr Thornely-Taylor for the London Borough of Newham (“LBN”) has provided a detailed and compelling case in his proof of evidence that the noise impacts of the scheme should not be considered “negligible” and in fact represent a “significant” and “notable” change.
- 1.4 In my own proof of evidence I noted that, given the importance of noise issues to this appeal, a monetary valuation of noise impacts is conspicuous by its absence.
- 1.5 In my view, in light of Mr Thornely-Taylor’s proof and the Luton Airport decision, it is essential that a monetised assessment of noise impacts is put before the Inquiry and this rebuttal fills what I perceive to be a continued gap in the appraisal information provided to-date, even after the submission of the Appellant’s proof of evidence on socio-economic impacts. In the absence of an assessment provided by the Appellant, I present the outputs of my own assessment of these impacts here.
- 1.6 Monetary valuation of noise impacts is set out as an essential step in TAG (WebTAG) guidance from the DfT on aviation appraisal.

- 1.7 On the appraisal of noise impacts, the aviation unit of TAG (Unit A5.2; CD3.10.3) states:

“Any appraisal of aviation schemes ought to take into account the impact of the scheme on noise, where these impacts are likely to be significant, such as for a major airport development.” (p.9).

The same document also states:

“As part of the appraisal, the key impacts on the various groups should be monetised as far as possible.” (p.5).

- 1.8 Guidance on the process by which to quantify and monetise noise impacts is provided in TAG Unit A3: Environmental Impact Appraisal (May 2023).
- 1.9 Completion of a monetised assessment of noise impacts is the duty of the Appellant. Such a process would have been relatively straightforward for the Appellant given their access to the underpinning model outputs and a publicly available DfT model.

Assessment

- 1.10 In order to complete this assessment I have used the DfT’s *Noise Assessment Workbook – modified for the appraisal of aviation proposals* version 1.21 (May 2023) which is provided to the public for the purpose of TAG-compliant assessment of noise impacts.¹
- 1.11 The DfT’s workbook puts the monetised value of a 1dB change experienced by a household at around -£50 per year (2022 prices) when changes are experienced close to the 51db threshold. This monetises impacts spread across amenity, heart disease, stroke, and dementia. Costs can rise by a further £70 (per dB per household) when the impact is experienced at night. This accounts for impacts on sleep disturbance. As noise impacts rise, costs rise in a non-linear fashion.
- 1.12 As inputs to the model I have used Tables 8-53, 8-54, 8-55, and 8-56 of the Noise and Vibration Chapter of the Environmental Statement (CD1.15). Where values are expressed as a range, e.g. 0.1-1.9 dB, I have assumed this results in the relevant population moving up one noise band in the TAG Noise Workbook (i.e. from the 51-52 dB band to the 52-53 dB band). This represents a simplifying assumption as I do not have access to the underlying detailed model outputs. I note, from Mr Greer’s appendix, that the change is typically slightly lower on weekdays (when some of the population may not move out of one Noise Workbook band), but slightly higher at weekends (when some of the population may move up two Noise Workbook bands).

¹ Noise Workbook – Aviation (May 2023), <https://www.gov.uk/government/publications/tag-environmental-impacts-worksheets>.

- 1.13 My calculations are net of (i.e. include) the benefits received by the smaller group of residents who experience an improvement in noise as a result of the intervention.
- 1.14 My simulation assumes an opening year of 2025, uses 2031 as the primary forecast year, and assumes a 60-year appraisal period, as per the Appellant’s socio-economic cost benefit analysis.
- 1.15 The Noise Workbook output is shown in Table 1 below.

Table 1: WebTAG noise valuation assessment outputs, 60-year appraisal period

Impact domain	WebTAG assessment (£, 2022 prices)	Sensitivity test excluding impacts below 51 dB (£, 2022 prices)
Net present value of impact on sleep disturbance	-£13.0m	-£6.6m
Net present value of impact on amenity	-£137.9m	-£136.8m
Net present value of impact on AMI	-£4.0m	-£4.0m
Net present value of impact on stroke	-£20.0m	-£20.0m
Net present value of impact on dementia	-£30.0m	-£30.0m
Net present value of change in noise	-£205.0m	-£197.5m

- 1.16 In the central case, the scheme creates a noise cost of -£205m (net present value) over the assessment period.
- 1.17 The monetised noise impacts should be added to the social welfare cost-benefit analysis. Below, in Table 2, I show the combined impacts of this addition, as well as the revisions to the scheme’s climate impact I presented in my original proof.
- 1.18 Excluding climate impacts, the inclusion of noise impacts reduces the scheme NPV from £371m to £165m over the 60-year appraisal period. This represents a 55% decline in the scheme’s NPV, highlighting the materiality of the scheme’s noise impacts.
- 1.19 When non-traded climate impacts are accounted for (in this case non-CO2 impacts) the scheme NPV turns negative, at -£178m. When all traded and non-traded carbon costs are included, the scheme NPV falls to -£669m.
- 1.20 I would welcome the Appellant’s own assessment of the monetised value of the noise impacts of the scheme. Any such assessment should follow the DfT’s best practice TAG guidance.

Table 2: Revised scheme cost-benefit analysis

Impact	Notes	Present Values (£m)
Passenger Surface Access Time Savings	As per Appellant	£1,767
Passenger Surface Access Cost Savings	As per Appellant	£216
Passenger Air Fare Savings	As per Appellant	-£1,674
Airport Company Benefits	As per Appellant	£119
Air Passenger Duty	As per Appellant	£12
Construction Costs	As per Appellant	-£70
Noise impacts	TAG Noise Workbook output	-£205
Revised Scheme NPV excluding climate impacts		£165
Climate impacts	Notes	Present Values (£m)
Traded Carbon Costs (Appellant)	As per Appellant, excludes arrivals, non-CO2, and uses incorrect carbon values	-£167
Traded Carbon costs remodelled	Includes arrivals and uses correct BEIS carbon values	-£491
Non-traded sector climate impacts	Non-CO2 impacts using the DESNZ 1.7x multiplier	-£343
Revised scheme NPV including climate impacts		
Scheme NPV including non-traded climate impacts		-£178
Scheme NPV including all climate impacts		-£669