London Luton Airport DCO: Review of the "Applicant's Position on Noise Contour and Movement Limits" [REP9-055]

Joint Host Authorities

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Chris Smith Aviation Consultancy Limited is a company registered in England and Wales.
Company Registration Number: 7268506.

Review of REP 9-055

Introduction

1. This short note reviews the discussions of the quantification of aircraft movement limits as submitted by the Applicant at Deadline 8 "8.184 Applicant's Position on Noise Contour and Movement Limits" [REP9-055] in its Sections 4 and 5. This note also sets out the basis for the movement limits proposed by the Joint Host Authorities.

Annual Movement Limit

2. The Applicant is opposed in principle to an annual aircraft movement limit, but argues that if the ExA decides to require one it should be set at 225,000 annual movements. This is significantly higher than its own forecasts which are for 209,410 movements with a throughput of 32 mppa. It advances no quantified reasons for its higher suggestion but makes three largely qualitative points to support its figure.

3. Firstly, it cites "…uncertainty of forecasting…" (Para 4.1.3), but fails to make a case that its forecasts are too low (rather than too high). The Host Authorities have suggested that the Applicant's Passenger ATM forecasts are likely to be over-estimated (REP2-057, Para 2.10): this is discussed further below.

4. Secondly, the Applicant notes (Para 4.1.4) that the Host Authorities consider that there is doubt over the provision of long haul services, first indicated in REP2-057, with Paragraph 3.58 of that document identifying the most likely long haul destinations that might be served from London Luton, with flights to Toronto, Chicago, Washington and Abu Dhabi least likely. Taking this as starting point, these four destinations were forecast by the Applicant to have 2,520 flights per annum at 32 mppa. The table below summarises the key parameters involved in the estimation of the number of net additional short haul flights there would be if there were substitution of short haul passengers for the long haul passengers on these routes. All data used is derived from the Applicant's documents including the Need Case (AS-125), and particularly Table 6.12 and Appendix C.

Table 1: Impact of Substitution of Short Haul for Long Haul

	Need Case Long Haul	HA's reduced Long Haul	'Substituted' Short Haul	Need Case Short Haul
Flights	8,820[1] (A)	6,300 (B)	2,520 (C=A-B)	161,360 (D)
Seats	2,497,383 (E)	1,811,250 (F)	686,133 (G=E-F)	33,168,225 (H)
Average seats	283	288	206 (J)	206 (J=H/D)
Substituted flights			3,338 (K=G/J)	
Extra flights			818 (=K-C)	

[1] This total comes from AS-125 with a seemingly erroneous figure of 8,850 movements given in 8-184 [REP9-055], Para 4.1.4

5. This is the basis for the Host Authorities' estimate that extra flights as a result of fewer long haul services and their replacement by short haul operations would be fewer than 1,000.

6. The third reason given by the Applicant is the possibility that next generation aircraft powered by alternative fuels may have lower seat capacities (Para 4.1.5). It should be noted that such aircraft are in early stages of development as designers and engineers grapple with very challenging technical issues. No commercial prototypes capable of serving the mass markets are currently flying. If there were to be any allowance for the possible lower capacity of such aircraft, it would be reasonable to expect there to be similar allowances in the demand forecasts for differences in capital costs and operating costs. Further aspects that would need to be considered could be apron design if the aircraft were to have different dimensions of length and wingspan. While development of such aircraft is still at an early stage, there have already been questions raised about the re-fuelling time required (for recharging electric batteries or pumping in liquid hydrogen at -253°C) and concern that it would be lengthened. This longer ground time would not only have consequences for aircraft utilisation and airline finances, but also and more critically for London Luton would require more aircraft stands in an already space-constrained apron area.

7. Acknowledgement of a single possible feature of aircraft types when prototypes of commercially viable types suitable for mass-market service have not flown, would be inappropriate for setting an important parameter in the application, without similar acknowledgement of the several other key possible features of such new generation aircraft types.

8. The Host Authorities were advised of a conservative load factor used by the Applicant's adviser in the derivation of Passenger ATMs (REP2-057 Para 4.16 and Table 4.1). Here it was suggested that that a load factor of 91% for the bulk of operations using A320 and B737 family aircraft on short and medium haul routes would be appropriate, rather than the Applicant's figure which has been estimated at 89%. Applying this to the 161,360 annual ATMs of the Applicant's forecast for this large element of demand would reduce the figure by some 3,500 annual ATMs. The table below outlines the steps in this calculation for Passenger ATMs.

Table 2: Impact of High Average Load Factor on Passenger ATMs

Type of Service	Annual Flights	Seats	Average Seats	Passengers
Regional services	6,930 (G)			471,517
Long Haul	8,820 (H)			2,122,776
Short/Medium Haul	161,360 (A)	33,168,225 (B)	206 (C=B/A)	29,519,720 (D)
Applicant's Total	177,110			32,114,013
Short/Medium at 91% load factor	157,814 (F=E/C)	32,439,253 (E=D/0.91)	206 (C)	29,519,720 (D)
Total Passenger ATMs at 91% load factor	173,564 (F+G+H)			32,114,013

9. Drawing together these different adjustments (and accepting the cargo and business aviation movements) suggests some 206,700 total aircraft movements per annum at 32 mppa of per annum.

Table 3: Overall Annual Aircraft Movements

Movement category	Annual movements at 32 mppa
Cargo movements	2,300
Business Aviation	30,000
Passenger ATMs	173,564
Adjustment for fewer long haul and more short haul flights	+818
Adjusted Passenger ATMs	174,382
Total Aircraft movements	206,682

Morning Shoulder Movement Limit

10. The assumption made by the Applicant at Para 5.2.4 is incorrect. The exercise conducted for the Host Authorities considers total slots allocated in both the Winter 2023 and the Summer 2024 seasons. It is considered therefore that it provides a valid comparison as it comes from the addition of allocated slots across the whole summer and winter seasons.

11. The table below shows the total slots allocated at the initial co-ordination for the current winter season (as at 9 June 2023) and the forthcoming summer season (as at 17 November 2023) and reflects the pre-season demand from airlines. The data includes details of aircraft size. The majority of movements are by Code C aircraft which categorisation includes B737s and A320s. The nature of traffic at Stansted suggests that most of the slots allocated to the larger aircraft will be for all-cargo operations[2].

Table 4: Morning Shoulder Period at Stansted

Season	Morning Shoulder Period (06.00-07.00)					Annual Slots
Aircraft Size[3]	Code C	Code D	Code E	Code F	Total	
Winter 23	3,777	88	264	88	4,217	80,287
Summer 24	6,237	120	180	0	6,537	135,427
Total	10,014	208	444	88	10,754	215,714

Source: ACL Website Initial Coordination Reports for indicated seasons[4]

[2] In the seven days from 2 February 2024 (in Winter 23 Season) all passenger operations were with Code C aircraft suggesting that movements by larger Code D and E flights were cargo operations. Excluding cargo operations from both the shoulder and annual totals, would see shoulder Passenger ATMs at 4.9% of annual Passenger ATMs.

[3] These are ICAO aircraft categorisations based on the length and wingspan of the aircraft. Code C includes the A320 and B737 families, while Code F would include B747s

[4] These reports cannot be downloaded but may be viewed online.

12. From this table it may be seen that over a complete year, airlines at Stansted were allocated 5.0% of their slots in the morning shoulder period. Similar data for London Luton shows the percentage as 5.9%.

13. In 2023, Luton handled some 16 mppa. In contrast, Stansted handled 28 mppa, and is the best analogue that might be used for a London Luton Airport with 32 mppa. The Applicant may protest that Luton has a higher based aircraft demand but its current main carriers, Wizz Air and easyJet, are themselves large airlines with operations throughout Europe: they are able to schedule their fleets to work within the many constraints they face across their networks, and this ability is likely to increase with doubled traffic at Luton in the future. Stansted shows that airlines can make a Shoulder percentage of 5% work.

14. The Joint Host Authorities consider that only strictly necessary movements should be allowed in the morning Shoulder period, and are of the view that only Passenger ATMs should be permitted, with cargo and business aviation movements operating at other times.

15. Application of the 5% figure to the revised annual Passenger ATM figure suggests a morning Shoulder Period limit of 8,720 annual movements.

Conclusions

16. The figures shown above are a reasoned and transparent derivation for the levels to be applied to movement caps and are based on reasonable assumptions.