



London City Airport
Appeal Reference: APP/G5750/W/23/3326646

Note in Response to Dr Chapman

1. This note responds to the note submitted by Dr Chapman on 24th January, following his economic evidence [**INQ25**]. This note has been produced in conjunction with Mr Greer regarding Dr Chapman's assessment of noise impacts.
2. It should be recorded that this Note is prepared without prejudice to the position that a full WebTAG economic appraisal is not required or appropriate for the consideration of a planning application, as made clear in my evidence and with reference to WebTAG Unit A5.2 – Aviation Appraisal [**INQ-13**] at paragraph 1.1.4.

Carbon Costs

3. I note that Dr Chapman accepts that there was no error in my analysis in terms of the use of appropriate carbon costs for the purpose of setting out the socio-economic cost benefit analysis provided at Table 6.9 of my Proof [**APP-1.A**].
4. The main thrust of Dr Chapman's point now is that it was incorrect to discount costs from 2019 and that the discounting should have been applied from 2024, assuming this is the 'opening year, citing references in the Green Book to the appropriate point from which to start discounting costs and benefits. I note that the Green Book simply states that all future costs and benefits should be discounted. This is precisely what has been done in Table 6.9. All costs and benefits in the analysis beyond the assessment base year of 2019 were discounted on a consistent basis.
5. Dr Chapman's revised Table 2 adjusts the start of discounting for carbon costs to 2024 but does not make an equivalent adjustment to the benefits and other costs included in the analysis and so is inconsistent. To assist the Inquiry, I set out in **Table 1** overleaf a comparison between applying discounting to all costs and benefits from 2019, as in Table 6.9 of my Proof, and applying discounting consistently from 2024 to all costs and benefits. This actually results in a higher NPV from the Proposed Amendments than the original analysis.

Table 1: Comparison of Socio-economic cost benefit analysis with discounting from 2019 and 2024

	Present Values (£m)	
	Discounting from 2019	Discounting from 2024
Passenger Surface Access Time Savings	£1,767	£2,122
Passenger Surface Access Cost Savings	£216	£255
Passenger Air Fare Savings	-£1,674	-£2,012
Airport Company Benefits	£119	£141
Government Revenue	£12	£14
Construction Costs	-£70	-£81
Carbon Costs	-£167	-£191
NPV excluding carbon costs	£371	£438
NPV including carbon costs	£204	£247

6. The original analysis drew on the 2018 version of WebTAG Unit A5.2 – Aviation Appraisal [INQ-12]. This guidance (paragraph 3.3.3 1st bullet) referred to ETS costs being internalised within the air fare component. Hence, it was considered that, based on this guidance, the appropriate approach would be to exclude carbon costs from the cost benefit analysis but the full carbon costs of the Proposed Amendments were quantified and presented in Table 6.9 to illustrate that, even if the carbon costs were included in full, there would still be substantial net socio-economic benefits.
7. In his reworked Table 2, Dr Chapman selectively applies elements of the updated guidance in the 2023 version of WebTAG Unit A5.2 – Aviation Appraisal [INQ-13] by including carbon from both arriving and departing flights and only accounting for the cost difference between the costs internalised within the demand forecasts and the BEIS/DESNZ appraisal values referenced in A5.2. However, he seeks to dismiss the need also to properly account for displacement of carbon. This is simply incorrect.
8. Although the precise proportion of displaced passengers, as distinct from those newly able to travel because of the Proposed Amendments, was not stated in either the Need Case [CD1.60] or my Proof [APP-1.A], it is clear from paragraph 11 of Appendix F to the Need Case that account was taken of passenger displacement in calculating passenger benefits. Hence, to be consistent, under the new guidance, these displacement effects have to be fully allowed for in any analysis and on a consistent basis. I shared with Dr Chapman, an updated calculation following consistently and correctly the latest WebTAG guidance. To assist Dr Chapman, I have updated this table to commence the discounting from 2024. This is appended to this Note. This also includes the adjustment to reflect the lower carbon emissions if passengers switch to other airports with larger aircraft operating on the routes in question.
9. Correctly calculated, in line with the latest guidance, applicable carbon costs would be £71m, some £120m lower than the carbon costs indicated in Table 1 above. This is almost half Dr Chapman’s revised figure of £134m¹.
10. For the reasons set out at paragraph 3.6.10 of my Rebuttal Proof [APP-1.C] and in line with the guidance [INQ-13, paragraph 3.3.3 5th bullet], non-carbon costs are not included and have been addressed qualitatively in the ES. It remains the case that there is too great an uncertainty in this area for a sensitivity test to have any validity.
11. Properly estimated following the latest guidance the net benefits of the Proposed Amendments would be £367m at 2022 prices discounted from 2024, i.e. £120m higher than £247m including carbon cost NPV shown in Table 1 above. This leaves substantial headroom for any reasonable estimate of noise related costs.

¹ We have been unable to replicate this figure and believe it may arise from an error in the price base used.

Noise

12. Dr Chapman notes that he “*was invited to listen to Mr Greer’s evidence and review my analysis*”. It is not clear from his note that Dr Chapman properly understood Mr Greer’s evidence and the points Dr Chapman then raises in his note clearly suggest that he may not have done. I will set out the correct position below to assist the Inquiry.
13. Mr Greer set out in Evidence in Chief (EiC) that Mr Chapman has always had access to more detailed information to work from than he used in his original assessment. This is at Tables 8-21 and 8-25 of Chapter 8 in the Environmental Statement (ES) [CD1.15] and Figure 8.3.1 of Appendix 8.3 [CD1.39]. These tables show noise level changes for 12 example assessment locations in the study area and the figure shows their location. Dr Chapman’s original basis for moving the relevant population up one noise band in the TAG Noise Workbook, which uses 1 dB bands, was based on Tables 8-54 and 8-56 in the ES. He appears to have made this assumption because the population is reported in these tables in a noise band from 0.1 to 1.9 dB change and he has assumed that there is typically an increase of 1 dB (the midpoint of the band). While Dr Chapman has now adjusted his estimate based on the tables in Appendix 1 to Mr Greer’s proof, Tables 8-21 and 8-25 from the ES show that the noise increases are lower still than those considered by Dr Chapman in his adjustments. The changes are actually between 0.1 and 0.6 dB with an average of 0.3 dB. This means that fewer individuals in the 0.1-0.9 dB noise change band see a move up in the TAG banding system than he has assumed. There are also plainly no individuals who fall within the band (1.0-1.9 dB) as Dr Chapman suggests and, hence, there is no “*commensurate adjustment*” to be made “*for the opposite case*” as he does. Further, Dr Chapman states he has “*then scaled to account for the weekday/weekend proportions*”. As noted by Mr Greer in EiC, WebTAG only uses summer average day and night noise levels as input. Using the voluntary supplementary weekend day noise indicator, as suggested by Dr Chapman, would artificially inflate any WebTAG monetisation.
14. In conclusion from the point above, it remains plain that even as a “*quantum estimate*”, as Dr Chapman described in his evidence, the adjustment used by Mr Chapman at his paragraph 3 is around a threefold overstatement.
15. Furthermore, the four points that Mr Chapman suggests are reasons why his monetisation is an underestimate are incorrect. Taking each in turn:
 - i. The WebTAG Noise Workbook is clear that, for aviation, only monetisation of noise above 51 dB LAeq,16hr day and 45 dB LAeq,8hr night should be included in line with government policy;
 - ii. As Mr Greer noted in evidence, in relation to schools, the Proposed Amendments are for additional early morning aircraft movements (06:30 to 06:59) and Saturday afternoons when schools are closed (for education purposes) and, in any event, the incentivisation of the earlier introduction of new generation aircraft would deliver noise benefits during Monday-Friday school hours when children are at school;
 - iii. Paragraph 4.3.23 of Appendix 3 to Mr Bashforth’s Proof [APP-3.B.3] confirms that ES Chapter 12 [CD1.19] assessed children and young people (including for educational disturbance) as well as people living in deprivation. No significant additional or differential effect from noise is identified for either group. This position is agreed by the London Borough of Newham in the Statement of Common Ground [CD11.2, Table 13.1].
 - iv. As Dr Chapman notes the number of people affected by changes in ground noise is small by comparison to air noise and therefore has little influence on noise monetisation.
16. As a result, the Appellant considers Dr Chapman’s new figure is still a gross overstatement of any monetisation of noise effects and, properly applied, WebTAG would result in noise costs of £43m at 2022 prices, discounted from 2024.
17. It is important to note that monetising carbon and noise costs in this way does not, of itself, reduce the economic benefits to be weighed in the planning balance but is, in effect, an alternative way of illustrating the balance between socio-economic welfare benefits and environmental costs as part of

preparing business cases. The substantial economic benefits in terms of local jobs and economic value from the operation of the Airport, as set out in Section 6 of the Need Case [CD1.60], remain to be weighed in the planning balance in the normal way, as referenced in WebTAG Unit A5.2 – Aviation Appraisal [INQ-13] at paragraph 1.1.4.

Equity

18. The CAA survey information on the average income of passengers using the London airports in 2019 is not disputed. However, this data is not necessarily representative of the profile of leisure passengers that would be able to use the Airport in future with a more extensive portfolio of leisure services if the Proposed Amendments are approved. CAA survey data for London City Airport shows that only 13% of leisure passengers using the Airport in 2019 were travelling on what would conventionally be considered primarily leisure routes (e.g. Palma, Ibiza, Granada, Santorini), with remainder travelling to city destinations and UK domestic points that have traditionally made up the bulk of the route network from London City Airport to meet business needs. Hence, the historic pattern of passengers' income at the Airport would not be expected to be representative of that in future with a greater portfolio of leisure services including on Saturday afternoons.

Louise Congdon/29.1.24

Year	Additional Tonnes One Way	Additional Tonnes Two Way	2022 Prices Non-Traded CO2 Values Market Prices BEIS appraisal valued updated)	2022 Prices ETS Assumed Market Prices in forecasting (Jet Zero)	Additional CO2 Cost	Total CO2 Costs	Additional Passengers (not diverted to other airports)	CO2 Costs from Additional Passengers	LCY Aircraft Efficiency Per Pax Factor	Diverted passenger additional CO2 Costs	Total CO2 Costs	Discount Factor	Discounted Total CO2 Costs
2023												1.000	£0
2024	582	1,164	£319	£102	£217	£252,751	6%	£16,374	1.6	£93,028	£109,403	0.966	£105,703
2025	15,822	31,644	£324	£117	£207	£6,551,154	7%	£444,617	1.6	£2,403,289	£2,847,906	0.934	£2,658,551
2026	22,802	45,604	£329	£131	£198	£9,040,358	7%	£620,115	1.6	£3,313,871	£3,933,986	0.902	£3,548,230
2027	29,762	59,524	£334	£145	£190	£11,281,026	7%	£768,072	1.6	£4,137,478	£4,905,550	0.871	£4,274,904
2028	31,184	62,368	£339	£160	£180	£11,203,374	7%	£757,266	1.6	£4,111,171	£4,868,436	0.842	£4,099,093
2029	31,490	62,980	£345	£173	£171	£10,774,103	7%	£723,090	1.6	£3,955,677	£4,678,767	0.814	£3,806,180
2030	61,869	123,738	£350	£187	£163	£20,118,436	7%	£1,340,823	1.6	£7,390,118	£8,730,941	0.786	£6,862,440
2031	73,045	146,090	£355	£202	£153	£22,342,692	7%	£1,489,062	1.6	£8,207,155	£9,696,217	0.759	£7,363,419
2032	70,896	141,792	£361	£216	£145	£20,505,400	7%	£1,366,613	1.6	£7,532,261	£8,898,874	0.734	£6,529,380
2033	68,868	137,736	£366	£231	£135	£18,612,049	7%	£1,240,428	1.6	£6,836,775	£8,077,203	0.709	£5,726,081
2034	66,862	133,724	£372	£245	£127	£16,979,283	7%	£1,131,610	1.6	£6,237,011	£7,368,620	0.685	£5,047,105
2035	64,908	129,816	£377	£258	£119	£15,435,337	7%	£1,028,711	1.6	£5,669,872	£6,698,583	0.662	£4,433,010
2036	59,961	119,922	£383	£273	£110	£13,151,689	7%	£876,514	1.6	£4,831,018	£5,707,532	0.639	£3,649,420
2037	55,242	110,484	£389	£287	£102	£11,244,114	7%	£749,381	1.6	£4,130,307	£4,879,688	0.618	£3,014,583
2038	50,742	101,484	£395	£301	£94	£9,535,739	7%	£635,524	1.6	£3,502,769	£4,138,292	0.597	£2,470,108
2039	46,456	92,912	£401	£316	£85	£7,897,197	7%	£526,320	1.6	£2,900,882	£3,427,203	0.577	£1,976,488
2040	42,374	84,748	£407	£330	£77	£6,556,936	7%	£436,997	1.6	£2,408,563	£2,845,560	0.557	£1,585,557
2041	37,976	75,952	£413	£345	£68	£5,202,324	7%	£346,717	1.6	£1,910,973	£2,257,690	0.538	£1,215,452
2042	33,854	67,708	£419	£358	£61	£4,127,461	7%	£275,081	1.6	£1,516,143	£1,791,224	0.520	£931,715
2043	30,004	60,008	£425	£372	£54	£3,211,477	7%	£214,034	1.6	£1,179,674	£1,393,708	0.503	£700,430
2044	26,405	52,810	£432	£387	£45	£2,372,297	7%	£158,105	1.6	£871,417	£1,029,523	0.486	£499,906
2045	23,053	46,106	£438	£401	£38	£1,736,775	7%	£115,750	1.6	£637,971	£753,721	0.469	£353,608
2046	19,937	39,874	£445	£414	£31	£1,216,721	7%	£81,090	1.6	£446,939	£528,029	0.453	£239,348
2047	17,043	34,086	£452	£429	£22	£757,035	7%	£50,454	1.6	£278,082	£328,536	0.438	£143,885
2048	14,365	28,730	£458	£443	£15	£438,226	7%	£29,206	1.6	£160,974	£190,180	0.423	£80,474
2049	11,889	23,778	£465	£458	£7	£170,022	7%	£11,331	1.6	£62,454	£73,786	0.409	£30,166
2050	9,609	19,218	£472	£472	£0	£7,665	7%	£511	1.6	£2,816	£3,326	0.395	£1,314
2051	9,609	19,218	£479	£479	£0	£0	7%	£0	1.6	£0	£0	0.382	£0
2052	9,609	19,218	£486	£486	£0	£0	7%	£0	1.6	£0	£0	0.369	£0
2053	9,609	19,218	£494	£494	£0	£0	7%	£0	1.6	£0	£0	0.358	£0
2054	9,609	19,218	£501	£501	£0	£0	7%	£0	1.6	£0	£0	0.348	£0
2055	9,609	19,218	£509	£509	£0	£0	7%	£0	1.6	£0	£0	0.337	£0
2056	9,609	19,218	£516	£516	£0	£0	7%	£0	1.6	£0	£0	0.328	£0
2057	9,609	19,218	£524	£524	£0	£0	7%	£0	1.6	£0	£0	0.318	£0
2058	9,609	19,218	£532	£532	£0	£0	7%	£0	1.6	£0	£0	0.309	£0
2059	9,609	19,218	£540	£540	£0	£0	7%	£0	1.6	£0	£0	0.300	£0
2060	9,609	19,218	£548	£548	£0	£0	7%	£0	1.6	£0	£0	0.291	£0
2061	9,609	19,218	£556	£556	£0	£0	7%	£0	1.6	£0	£0	0.283	£0
2062	9,609	19,218	£565	£565	£0	£0	7%	£0	1.6	£0	£0	0.274	£0
2063	9,609	19,218	£573	£573	£0	£0	7%	£0	1.6	£0	£0	0.266	£0
2064	9,609	19,218	£582	£582	£0	£0	7%	£0	1.6	£0	£0	0.259	£0
2065	9,609	19,218	£590	£590	£0	£0	7%	£0	1.6	£0	£0	0.251	£0
2066	9,609	19,218	£599	£599	£0	£0	7%	£0	1.6	£0	£0	0.244	£0
2067	9,609	19,218	£608	£608	£0	£0	7%	£0	1.6	£0	£0	0.237	£0
2068	9,609	19,218	£617	£617	£0	£0	7%	£0	1.6	£0	£0	0.230	£0
2069	9,609	19,218	£627	£627	£0	£0	7%	£0	1.6	£0	£0	0.223	£0
2070	9,609	19,218	£636	£636	£0	£0	7%	£0	1.6	£0	£0	0.217	£0
2071	9,609	19,218	£646	£646	£0	£0	7%	£0	1.6	£0	£0	0.210	£0
2072	9,609	19,218	£655	£655	£0	£0	7%	£0	1.6	£0	£0	0.204	£0
2073	9,609	19,218	£665	£665	£0	£0	7%	£0	1.6	£0	£0	0.198	£0
2074	9,609	19,218	£675	£675	£0	£0	7%	£0	1.6	£0	£0	0.192	£0
2075	9,609	19,218	£685	£685	£0	£0	7%	£0	1.6	£0	£0	0.187	£0
2076	9,609	19,218	£695	£695	£0	£0	7%	£0	1.6	£0	£0	0.181	£0
2077	9,609	19,218	£706	£706	£0	£0	7%	£0	1.6	£0	£0	0.176	£0
2078	9,609	19,218	£716	£716	£0	£0	7%	£0	1.6	£0	£0	0.171	£0
2079	9,609	19,218	£727	£727	£0	£0	7%	£0	1.6	£0	£0	0.166	£0
2080	9,609	19,218	£727	£727	£0	£0	7%	£0	1.6	£0	£0	0.161	£0
2081	9,609	19,218	£727	£727	£0	£0	7%	£0	1.6	£0	£0	0.156	£0
2082	9,609	19,218	£727	£727	£0	£0	7%	£0	1.6	£0	£0	0.152	£0
2083	9,609	19,218	£727	£727	£0	£0	7%	£0	1.6	£0	£0	0.147	£0