Airport Charges bespoke analysis

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Heathrow Airport Limited

Review of Airport Charges bespoke analysis
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1. Introduction

Jacobs UK Limited (Jacobs) produces an annual publication, *Review of Airport Charges*, which calculates the aeronautical charges applicable for a landing and take-off by a sample of eight different aircraft types operating at a sample of fifty airports worldwide. The charges are aggregated for each airport and these totals are then ranked in descending order. The publication has been produced annually since 1990.

London Heathrow Airport (Heathrow) has occupied the top (most expensive) position in the ranking Index in each year except one since 2013. Since its privatization in 1987 (as part of the former BAA) Heathrow's charges have been regulated by the Civil Aviation Authority (CAA), using a Single Till regulatory framework which uses non-aeronautical profits to offset the amounts at which Heathrow's aeronautical charges to airlines need to be set. A regulatory price cap, in the form of a maximum average charge per passenger, is set by the CAA every five years for a five-yearly period. The steady increase in Heathrow's charges reflects a sustained period of investment in new infrastructure since the early 2000s, for which allowance is made in the regulatory price cap.

At a large majority of airports worldwide, landing charges are set in direct proportion to aircraft weight, either with fixed and variable components or with a simple variable charge per tonne of aircraft weight. Heathrow's structure of landing charges differs from this norm in that they are set as fixed amounts which vary according to a series of aircraft noise ranges, with the highest charges applying to the noisiest aircraft.

Heathrow Airport Limited (HAL) has asked Jacobs to produce a sensitivity test to determine the effect of using a different sample of aircraft to that used in Review of Airport Charges 2024. The sample of aircraft proposed by HAL equates more closely to the actual fleet mix at Heathrow when compared to than the sample used in the 2024 publication. HAL proposed changes to five of the eight aircraft included in the sample as shown in the table below, better reflecting the newer generation aircraft which are actively incentivised through Heathrow's charging structure.

Table 1 – Aircraft Types in Sample

Aircraft Types in Review of Airport Charges 2024	Aircraft Type requested
Boeing 737-700	Airbus A220-300*
Airbus A319-100	Airbus A319-100
Airbus A320-200	Airbus A320-200
Airbus A321-200	Airbus A320-Neo*
Airbus A330-300	Airbus A321-Neo*
Boeing 767-300	Boeing 787-9*
Boeing 737-800	Boeing 777-300ER
Boeing 777-300ER	Airbus A350-1000*

* = new Aircraft type requested

Using OAG data, Jacobs has verified that the replacement aircraft chosen by HAL are more representative of current world aircraft capacity (by seats) than the aircraft that they have replaced. The new aircraft types are highlighted in purple in the chart below, with the remaining sample in black.

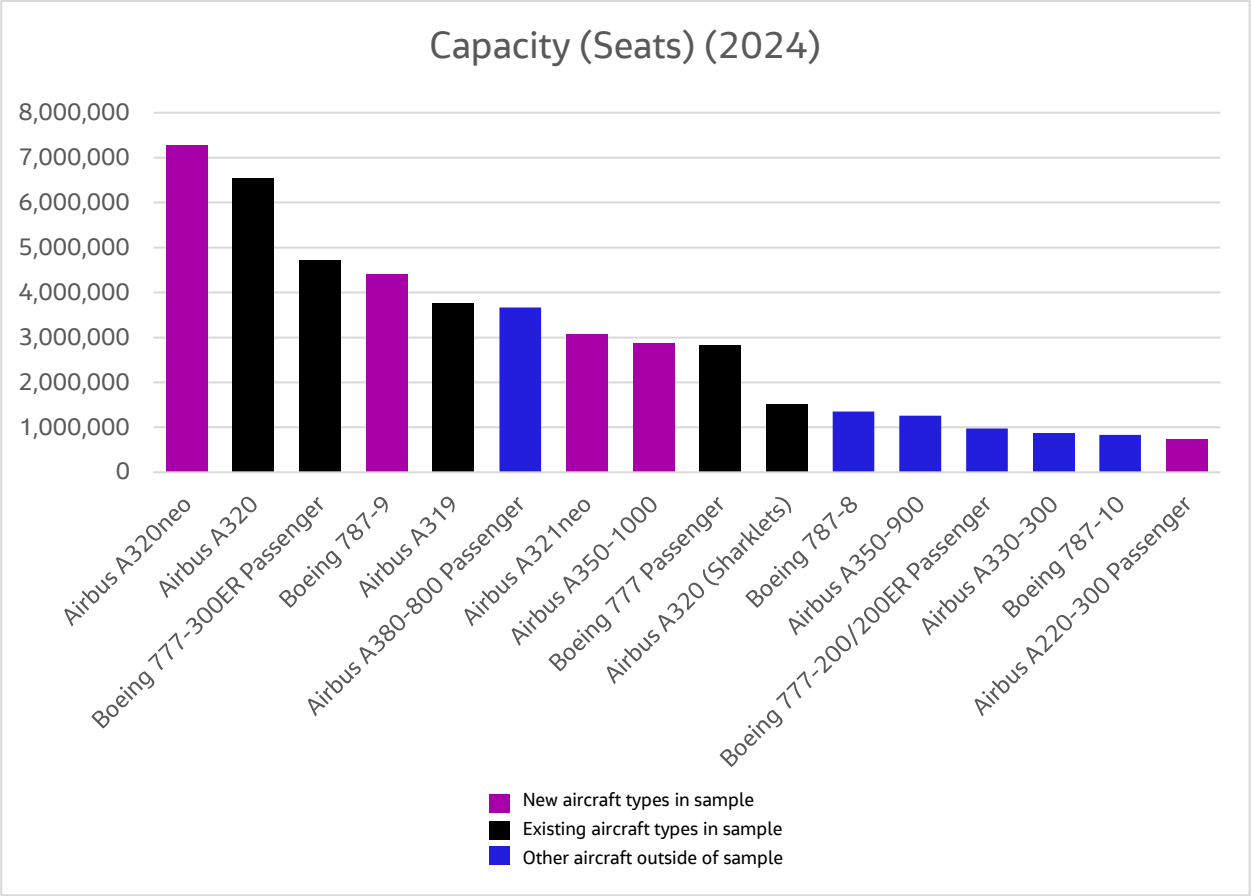

Figure 1 - Carrying capacity at Heathrow (by seats) in 2024, source: OAG Analyser, extracted March 2025.

2. Inputs

The five replacement aircraft all fall within lower (quieter) noise categories than the aircraft that they replaced, as shown below. Most aircraft fall within more than one noise category because of varying noise outputs from different aircraft engines, and the applicable percentages of movements by each type at Heathrow are also shown.

Table 2 – Noise Charge Categories by Aircraft Type

Noise category	Ultra High	Super High	High	Base	Low	Super Low	Ultra Low
Original sample							
Boeing 737-700	0.3%	2.6%	97.2%				
Boeing 737-800	11.0%	89.0%					
Airbus A321-200	6.8%	93.2%					
Boeing 767-300		100.0%					
Airbus A330-300	14.4%	0.1%	85.5%				
Replacement sample							
Airbus A220-300					6.2%	93.8%	
Airbus A320-neo							100.0%
Airbus A321-neo				0.04%	43.52%	56.44%	
Boeing 787-9						70.7%	29.3%
Airbus A350-1000					3.9%	96.1%	

The effect of the aircraft substitutions, in terms of passenger numbers and total aircraft weight, is shown below. Passenger numbers are based on an assumed 83.2% passenger load factor, as used in *Review of Airport Charges 2024*. As noted above aircraft weights have no effect on charges levied at Heathrow.

Table 3 - Passenger numbers assumed and aircraft weights by aircraft type

Aircraft Type	Passenger numbers		Aircraft weights (tonnes MTOW)	
	Original Sample	**Sensitivity test sample**	**Original Sample**	**Sensitivity test sample**
Airbus A319	118	118	64.0	64.0

Aircraft Type	Passenger numbers		Aircraft weights (tonnes MTOW)	
	Original Sample	**Sensitivity test sample**	**Original Sample**	**Sensitivity test sample**
Airbus A220-300		117		70.9
Boeing 737-700	111		60.3	
Boeing 737-800	118		70.5	
Airbus A320	146	146	73.5	73.5
Airbus A320-neo		151		79.0
Airbus A321	166		93.5	
Airbus A321-neo		179		97.0
Boeing 767-300	203		186.9	
Boeing 787-9		240		254.7
Airbus A330-300	235		242.0	
Airbus A350-1000		322		290.0
Boeing 777-300ER	301	301	351.5	351.5
Totals	**1,428**	**1,542**	**1,142.2**	**1,312.6**

3. Results

The result of the calculation is that Heathrow's average charge per passenger falls by 17.3%. This outcome is consistent with a switch from five relatively noisy aircraft to five quieter types and reflects the purposeful evolution of charges at Heathrow over recent years.

This figure converts to 56.39 SDRs per passenger using the same exchange rate as was applied in Review of Airport Charges 2024.

The second phase of our work applied the different aircraft mix to the full sample of 50 airports. The effect of the aircraft type substitutions is to increase the total of aircraft weights (in MTOW) by 14.9% and the total number of passengers by 8.0%. This is consistent with a general pattern under which, as aircraft weight increases, the weight of the aircraft will tend to increase at a greater rate than the number of passengers carried.

The results of the analysis are set out below, expressed in SDRs per passenger; as expected, Heathrow is in second position. At the majority of airports (32 out of 50) the effect of the change in the aircraft sample is to increase the average SDRs per passenger, albeit by less than 2% in most cases. Out of the 18 airports at which the average SDRs is reduced, 10 (including Heathrow) have noise-related landing charges, the effect of which is to reduce the average SDRs per passenger; this effect is most significant at Heathrow, with a reduction of 17.3% as previously noted. At the remaining 8 airports with reduced SDRs per passenger the reductions are due to various elements of fixed costs in the airports' charging structures, generally related to either parking or infrastructure costs.

Whilst Heathrow remains one of the most expensive airports in our Airport Charges Index with the new aircraft sample, the gap between Heathrow and its global peers has narrowed due to its own reduction and the marginal increases from other top 10 airports.

Table 4 – Airport Charges Index 2024 (SDRs per passenger)

	AIRPORT	SDRs Revised aircraft mix	INDEX	SDRs Original aircraft mix	% change
1	Auckland	58.59	100	58.05	0.9%
2	London-LHR	56.39	96	68.22	-17.3%
3	Sydney	55.99	96	55.90	0.2%
4	Moscow	55.21	94	53.37	3.4%
5	Toronto	49.08	84	48.48	1.2%
6	Mexico City	45.71	78	45.58	0.3%
7	New Jersey-EWR	44.35	76	43.51	1.9%
8	Frankfurt	43.75	75	43.47	0.6%
9	Prague	42.95	73	42.88	0.2%
10	New York-JFK	42.55	73	41.85	1.7%
11	Zurich	40.14	69	42.40	-5.3%
12	Los Angeles	40.02	68	40.26	-0.6%
13	Budapest	39.49	67	40.22	-1.8%
14	Cancun	39.41	67	39.12	0.7%
15	Vancouver	36.28	62	36.12	0.5%
16	Lisbon	35.25	60	36.65	-3.8%
17	Amsterdam	34.83	59	36.80	-5.4%
18	Vienna	34.78	59	34.64	0.4%

19	Singapore	33.97	58	33.68	0.9%
20	Rome Fiumicino	32.67	56	32.75	-0.3%
21	Brussels	31.93	55	33.92	-5.9%
22	London-LGW	31.72	54	32.38	-2.0%
23	Dusseldorf	30.05	51	30.42	-1.2%
24	Athens	29.73	51	29.77	-0.2%
25	Stockholm	29.30	50	29.34	-0.1%
26	Copenhagen	28.83	49	28.26	2.0%
27	Berlin Brandenburg	28.50	49	29.73	-4.2%
28	Milan Malpensa	27.86	47	27.66	0.7%
29	Madrid	26.85	46	26.46	1.5%
30	San Francisco	25.89	44	26.07	-0.7%
31	Hong Kong	25.31	43	25.08	0.9%
32	Paris-CDG	24.10	41	23.90	0.8%
33	Warsaw	24.09	41	24.17	-0.3%
34	Miami	23.68	40	23.64	0.2%
35	Osaka Kansai	22.93	39	22.62	1.4%
36	Tokyo Narita	21.08	36	21.02	0.3%
37	Bangkok	20.58	35	20.45	0.6%
38	Washington	20.22	35	20.21	0.0%
39	Beijing	18.94	32	18.47	2.6%
40	Helsinki	18.85	32	18.57	1.5%
41	Dublin	18.06	31	18.12	-0.3%
42	Dubai	17.97	31	17.85	0.7%
43	Mumbai	17.87	31	18.39	-2.8%
44	Johannesburg	15.92	27	15.72	1.3%
45	Sao Paulo	15.22	26	15.10	0.8%
46	Jakarta	15.22	26	14.82	2.7%
47	Seoul Incheon	14.43	25	14.21	1.5%
48	Delhi	14.04	24	13.95	0.6%
49	Oslo	11.90	20	11.92	-0.2%
50	Kuala Lumpur	10.86	19	10.76	0.9%