# Airport Charges bespoke analysis

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Review of Airport Charges bespoke analysis
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# 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.

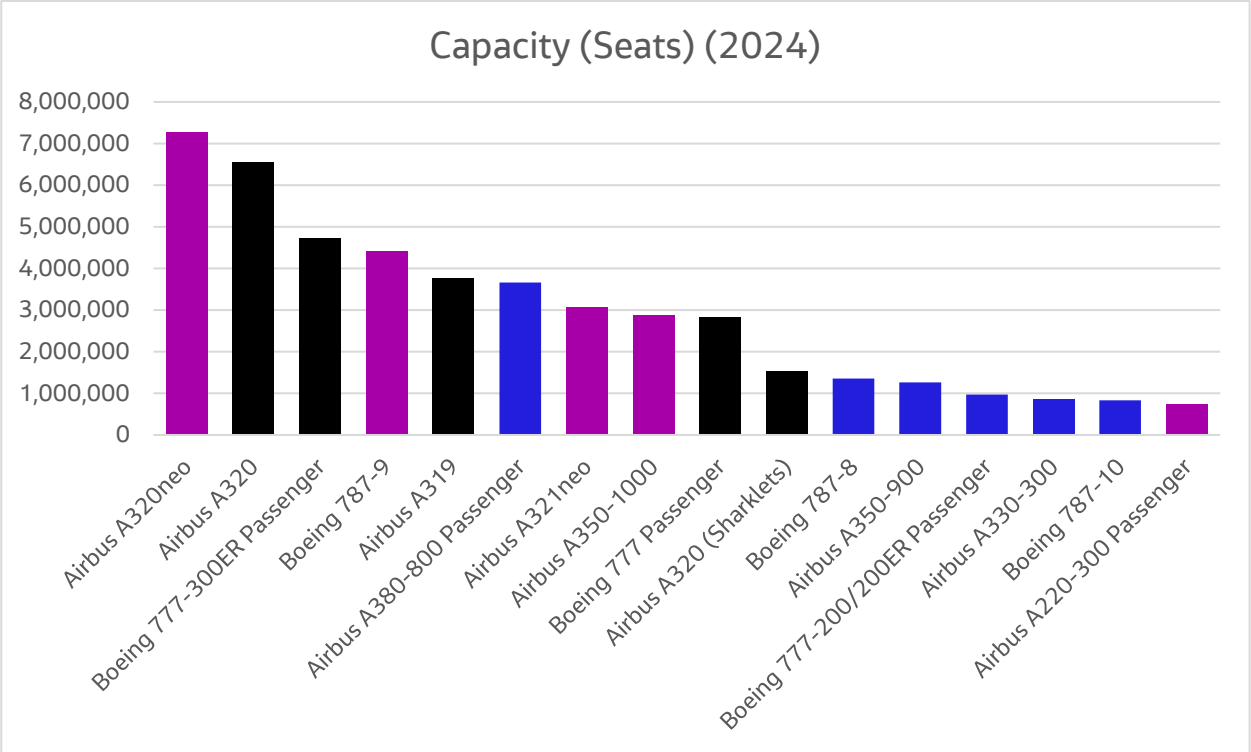


**Figure 1 - Carrying capacity at Heathrow (by seats) in 2024, source: OAG Analyser, extracted March 2025.**

# 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 from £70.87 to £58.62, which represents a reduction of 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% |