CITY AIRPORT DEVELOPMENT PROGRAMME (CADP1) S73 APPLICATION

ENVIRONMENTAL STATEMENT

VOLUME 1: MAIN ES

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City Airport Development Programme (CADP1) S73 Application

Volume 1: Environmental Statement
Chapter 4: Aviation Forecasts

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4   Aviation Forecasts

4.1   Previous CADP1 Forecasts and Recent Trends

4.1.1   The S73 planning application is an essential component of the airport's Covid-19 recovery plan to 2031 and beyond and seeks to make best use of the runway and existing and approved infrastructure in accordance with the Government's Making Best Use (MBU) policy, as confirmed in the recent Flightpath to the Future Strategic Framework published by the Department for Transport (DfT) in May 2022.

4.1.2   The original demand forecasts underpinning CADP1 planning application and assessed in the 2015 UES, projected that the airport would reach 6 million passengers per annum (mppa) by 2025 in the Core Development Case and that, if the airlines grew their load factors faster than anticipated, the passenger throughput could reach 6.5 mppa by 2025. Prior to the onset of the Covid 19 pandemic, the airport was on track to achieve these forecasts, with more than 5 million passengers handled in 2019 in line with expectations. The airport now anticipates being back to pre-pandemic passenger levels between 2024 and 2025.

4.1.3   Changes in the nature of the airlines using the airport, with the demise of Flybe and greater emphasis on BA Cityflyer (BACF), has resulted in more 'regional jet' size aircraft such as the E190 being used than was envisaged when the CADP1 demand forecasts were first prepared. Whereas the CADP1 projections expected 5.1 million passengers in 2020 to be handled on 93,000 commercial aircraft movements, in practice this throughput was attained in 2019 with just over 80,000 commercial aircraft movements, reflecting the increased capacity of aircraft used and higher passenger load factors. Hence, the consented 111,000 annual aircraft traffic movements (ATMs) can now be expected to accommodate many more passengers than originally assumed.

4.1.4   Since CADP1 was granted planning permission on appeal in 2016, the profile of demand using the airport has changed, with a more even balance of business and leisure traffic as well as more airlines basing their aircraft at the airport overnight. The changes in the passenger mix (proportionally fewer business and more leisure passengers) are a consequence of changes in airline operating patterns, with relatively less dependence on the traditional peaks of traffic at the airport (i.e. inbound in the morning and outbound in the early evening) in part due to the fact that there are more aircraft based overnight at the airport. As a consequence, these aircraft are used to operating more flights in the middle part of the day and this results in some spreading of the peak throughout the day. This means that the passenger demands on the terminal in the peak hour are less than originally expected and the planned CADP1 infrastructure can handle more passengers on an annual basis than originally assumed, particularly when the effect of new technologies such as self-service check-in are taken into account.

4.2   Current Demand Forecasts

4.2.1   The detailed forecast parameters, prepared by York Aviation on behalf of LCY, have informed the reassessment of capacity provided by the CADP1 scheme and the required phasing to meet the future demand forecasts. This takes into account the future implementation of the remaining components of CADP1, the retention and provision of the temporary facilities (which is the subject of a separate planning application submitted in conjunction with the S73 application) and the anticipated construction programme to complete the works. It is considered that, once completed, the planned works will have sufficient capacity to handle the forecast demand up to 111,000 ATMs and 9.0 mppa.

4.2.2   Demand projections for the Development Case (DC) and Do Minimum (DM) scenarios have been prepared. The forecasts take into account any prolonged influence of the Covid-19 pandemic and draw upon the latest DfT approach to aviation forecasts as adopted for the Jet Zero Strategy[1], using assumptions as set out in the Jet Zero technical consultation of March 2022[2] including the revised econometric relationships used to derive these updated air passenger demand forecasts as well as the latest expected carbon costs.

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[1] Jet Zero Strategy, Department for Transport, July 2022.
[2] Jet Zero Modelling Framework, Department for Transport, March 2022.

4.2.3   As explained further in the Need Case (ES Volume 3), the forecast future growth rates for UK air passenger demand are derived from these econometric relationships, having regard to the latest post-Covid-19 economic forecasts, projected carbon costs and other factors impacting the cost of air travel. They are, hence, consistent with the achievement of the Jet Zero Strategy.

4.2.4   A range of forecasts have been produced taking into account the potential for variation around the core assumptions adopted. The core assessment case – the Development Case – is based on the 50th percentile of the range of underlying demand forecasts, with the 20th percentile adopted as a reasonable lower bound for underlying growth and the 80th percentile as a reasonable upper bound. Further detail on the derivation of the range of forecasts and the detailed assumptions used is set out in the Need Case.

4.2.5   Account is also taken of local economic growth factors in the areas served by the airport, including the potential increase in population living within the vicinity of the airport. LCY's share of the market has been determined based on its historic performance in meeting demand locally and across London and takes into account both recovery in business travel and increased potential for leisure travel from the airport to meet the needs of the local population. It also factors in capacity constraints at the other London airports, in particular Heathrow and Gatwick, meaning that LCY is expected to increase its share of the overall market in the short to medium term.

4.2.6   The resulting passenger and aircraft movement forecasts are set out in the tables and figures in this chapter. Under the DC Scenario, it is predicted that the passenger throughput at the airport will grow progressively from 2023 onwards, with passenger numbers reaching 7.0 mppa by 2027 and 9.0 mppa by 2031, by which time 111,000 annual movements will have been reached and corporate aviation (Jet Centre) activity will largely have been replaced by commercial passenger aircraft traffic movements (PATMs). This growth would be facilitated by, amongst other factors, the proposed extension to Saturday afternoon opening hours which will act to incentivise airlines (especially BACF) to re-fleet more rapidly and to base more aircraft at the airport, without which the airport's ability to meet growing passenger demand locally would be limited and growth would be slower, as would re-fleeting to quieter aircraft types

4.2.7   Under the DM Scenario, it is assumed that all existing operational conditions relating to the CADP1 planning permission would remain in force. This would have the result of supressing growth, such that the existing 6.5 mppa cap would only be reached in 2031. The airlines would re-fleet more slowly in the absence of a change to the operating hours and thereby delay the introduction of quieter aircraft types and the additional seating capacity associated with such new generation aircraft. In the DM Scenario it is also envisaged that the airport would promote Jet Centre activity to make use of its available annual aircraft movement capacity and that, in line with the assumptions made at the time of the CADP1 application, such movements by corporate aviation aircraft could grow to 9,000 a year.

4.2.8   The forecasts are detailed in the Need Case and summarised below in Tables 4.1 and 4.2 and Figures 4.1 and 4.2 for the DM Scenario and the DC Scenario.

Table 4.1: ATMs under the DM and DC Scenarios

ATMs	2024	2025	2026	2027	2028	2029	2030	2031
DM Scenario								
PATMs	73,080	73,630	76,370	77,465	82,245	84,985	84,985	84,985
Jet Centre Movements	5,000	5,000	6,000	7,000	8,000	9,000	9,000	9,000
Total ATMs	78,080	78,630	82,370	84,465	90,245	93,985	93,985	93,985
DC Scenario								
PATMs	73,280	78,110	85,585	92,255	96,965	99,265	106,035	111,000

Jet Centre Movements	5,000	5,000	5,000	5,000	5,000	5,000	4,965	0
Total ATMs	78,280	83,110	90,585	97,255	101,965	104,265	111,000	111,000

Table 4.2: Total Annual Passengers under the DM and DC Scenarios

Total Passengers (Millions)	2024	2025	2026	2027	2028	2029	2030	2031
DM Scenario	4.9	5.0	5.3	5.4	5.9	6.3	6.4	6.5
DC Scenario	4.9	5.4	6.4	7.1	7.6	7.9	8.6	9.0

Figure 4.1: Passenger Forecasts in the Development Case compared to Do Minimum Case
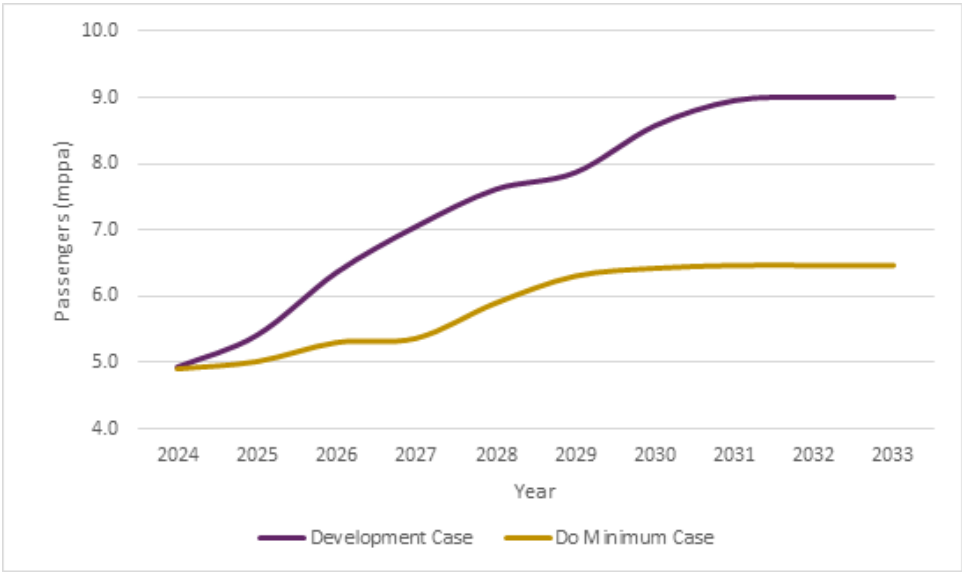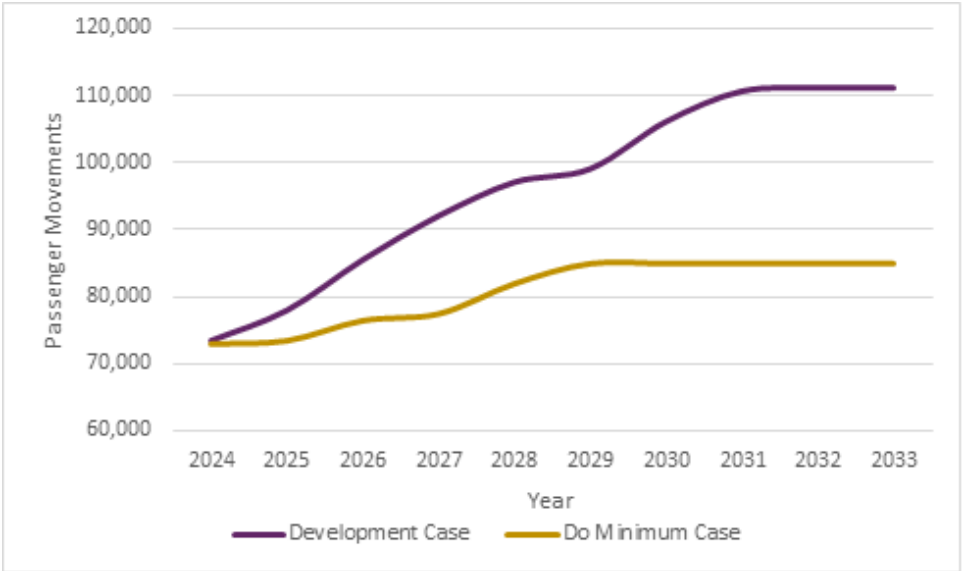

Figure 4.2: Passenger Aircraft Movement Forecasts in the Development Case compared to the Do Minimum Case

4.2.9   The fleet mix assumptions underpinning the DM and DC Scenarios are illustrated in Figures 4.3 and 4.4 below. In the DC Scenario, the transition to newer generation aircraft is expected to take place more quickly, incentivised by the greater aircraft utilisation facilitated by allowing operations on Saturday afternoons. The increased utilisation also creates the conditions whereby it is economic for airlines to grow their operations at LCY more quickly to meet a greater proportion of local demand for travel. In the DM Scenario, airlines would still be expected to modernise their aircraft fleets over time and introduce more new generation aircraft but, without the incentive to re-fleet early, this transition is expected to be slower.

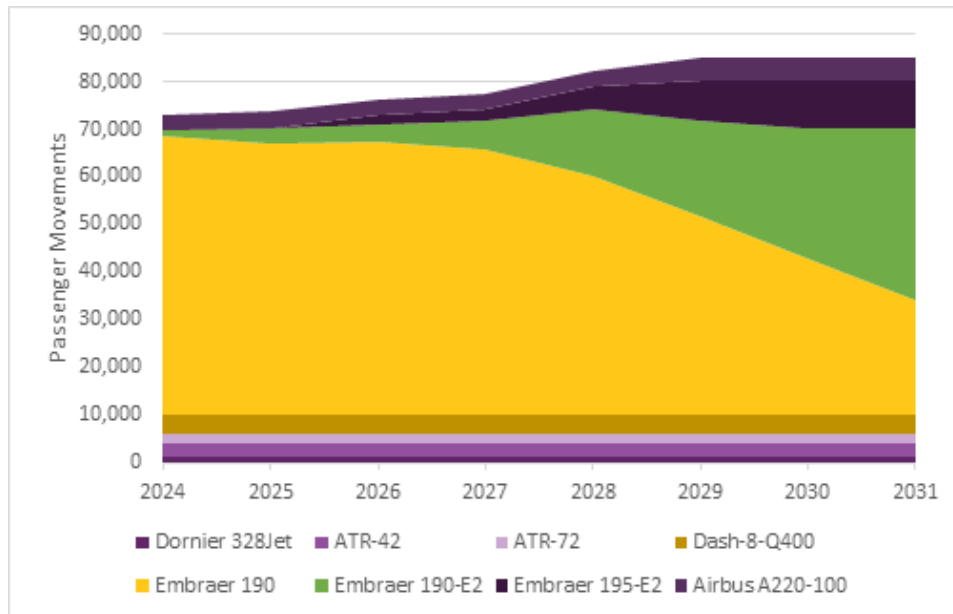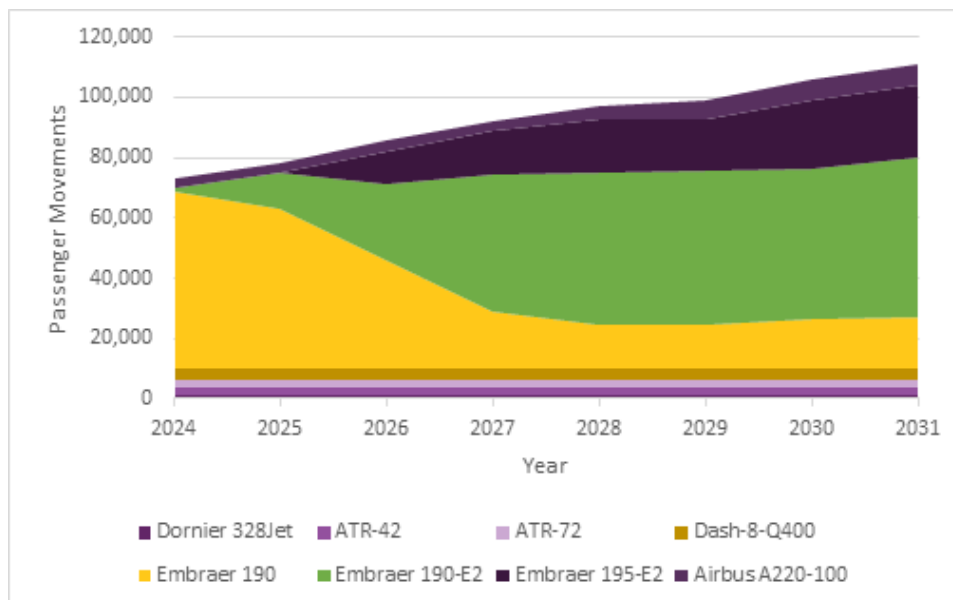**Figure 4.3: Fleet Mix under the DM Scenario**

Figure 4.4: Fleet Mix under the DC Scenario

4.2.10   The main assessment years have been adopted as follows, as explained further in Chapter 3 of the ES: EIA Methodology:

➤   2025 – The point at which passenger numbers will have recovered and, in the DC Scenario, exceeded pre-Covid 19 levels of 2019. Therefore, this represents the commencement of the growth projections;

➤   2027 - The Transitional Year in which the current passenger cap of 6.5 mppa is reached (and exceeded) in the DC Scenario; and

> ➢ 2031 – The Principal Assessment Year in which the passenger cap of 9 mppa is reached in the DC Scenario.

4.3   Sensitivity Tests

4.3.1   Alongside the core forecasts outlined in the preceding sections, a DC Faster Growth and DC Slower Growth scenarios have been developed to reflect the inevitable uncertainties of predicting future demand in the light of the recovery from the pandemic and wider economic circumstances. The Faster Growth case reflects faster economic growth with lower underlying costs of carbon, whereas the Slower Growth case reflects slower economic growth with higher costs of carbon. The forecasts take into account the expected airline response to varying levels of demand in terms of the timing when new routes and additional frequencies of service would become viable at LCY.

4.3.2   The Faster and Slower Growth scenarios inform the sensitivity tests assessed within the ES and are set out in Tables 4.3 and 4.4, alongside the core DC Scenario for comparative purposes.

4.3.3   Further information on the derivation of the forecasts and further detail on the traffic mix in the assessment cases is set out in the Need Case.

Table 4.3: ATMs under the Faster Growth and Slower Growth Scenarios

ATMs	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Core Case	73,280	78,110	85,585	92,255	96,965	99,265	106,035	**111,000**	111,000	111,000
Faster Growth	73,280	80,430	88,325	96,565	102,915	**111,000**	111,000	111,000	111,000	111,000
Slower Growth	73,280	75,955	82,610	88,845	92,610	96,520	102,615	105,590	107,740	**111,000**

Table 4.4: Total Annual Passengers under the Faster Growth and Slower Growth Scenarios

Total Passengers (Millions)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Core Case	4.9	5.4	6.4	7.1	7.6	7.9	8.6	**9.0**	9.0	9.0
Faster Growth	5.0	5.7	6.6	7.5	8.3	**9.0**	9.0	9.0	9.0	9.0
Slower Growth	4.9	5.2	6.0	6.7	7.1	7.6	8.1	8.4	8.6	**9.0**