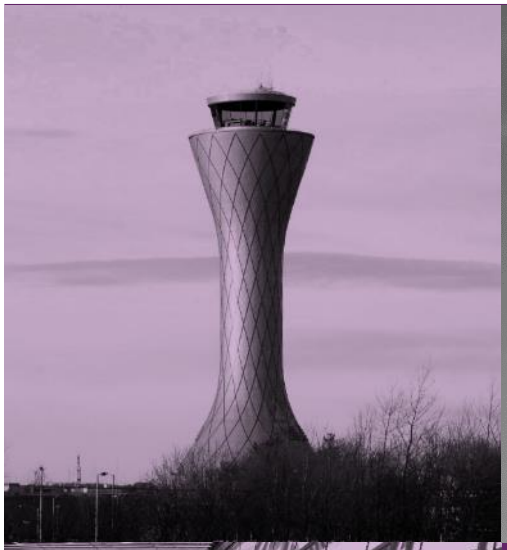
CITY AIRPORT DEVELOPMENT PROGRAMME
(CADP1) S73 APPLICATION

ENVIRONMENTAL STATEMENT

VOLUME 3: NEED CASE

DECEMBER 2022



London City Airport

S73 Application

Need Case

December 2022

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Executive Summary

Background

1. This Need Case has been prepared to support a Section 73 (S73) Planning Application by London City Airport (LCY), to amend the City Airport Development Programme 1 (CADP1) planning permission, 13/01228/FUL (as varied[1]), granted in July 2016. The major civil engineering works associated with CADP1; namely, the construction of a taxiway parallel to the runway and the creation of a concrete deck over King George V Dock to provide 8 new aircraft stands, were completed in 2020. The remaining CADP1 works were put on hold in early 2020 due to the outbreak of the Covid-19 pandemic and the adverse effect this had on the number of flights and passengers using the airport, as well as a severe reduction in income. The parallel taxiway and 4 of the new stands are now fully operational and the remaining apron areas will be brought into use as required. The works to the terminal and other associated infrastructure remain on hold.

2. The airport presently operates under the following key CADP1 conditions:

- A passenger cap of 6.5 million passengers per annum (mppa);
- Restricted to a total of 111,000 annual aircraft movements;
- A limit of 45 aircraft movements per hour;
- A restriction of 25 aircraft stands available for commercial (passenger) aircraft;
- Restricted opening times of 06:30-22:30 Monday to Friday, 06:30 – 13:00 Saturday and 12:30-22:30 Sunday, with the last half hour in each case available for late movements only;
- A limit of 400 late movements outside of the core operating hours to allow for flights which are unavoidably delayed; and
- A limit of 6 movements in the half hour between 06:30-06:59 each day, with a limit of 2 movements in the 06:30-06:44 period.

3. The S73 Application is seeking permission for the following proposed amendments related to aviation activity:

- An increase in the number of passengers able to use the airport each year, from 6.5 million currently permitted to 9 million per year (expected to be achieved by around 2031);
- An extension of operational hours on Saturday to allow flights and aircraft maintenance activity to take place through the afternoon up to 18:30 hours, with an additional hour for arriving flights up to a maximum of 12 during British Summer Time[2] and consequential amendments to the number of flights permitted at weekends;
- An increase in the actual number of flights permitted to land and take-off between 06:30 and 06:59 (from a maximum of 6 to a maximum of 9), with an increase in the number permitted between 06:30 and 06.44 from 2 to 4;

[1] There have been a number of non-material amendments to the application.
[2] Which aligns with the IATA Summer Scheduling season from the last Sunday in March each year to the last Sunday in October.

- All movements during additional operating hours and the additional slots in the early morning period for use only by cleaner, quieter, new generation aircraft; and
- Greater flexibility in the parking locations of the already permitted aircraft to allow for the wider wingspan of new generation aircraft.

There are also minor amendments proposed to the terminal forecourt and to the facilitating works during construction of the project.

4. These changes are referred to as the 'proposed amendments'. The CADP1 scheme as amended by the proposed amendments constitutes the 'proposed development'.

5. There will be no change to the number of aircraft movements currently allowed at LCY each year at 111,000; no change to the permitted hourly runway movement rate at 45 movements per hour; and no increase in the number of aircraft stands above 25 or other changes to the airfield infrastructure.

6. The design and layout of the new terminal buildings and further enhancements to the airport campus, which were approved in 2016 under the CADP1 permission, will remain substantially unaltered and these will be built out commensurate with the recovery of passenger demand, albeit at a slower pace than originally envisaged prior to the onset of the Covid-19 pandemic. As a consequence, a separate planning application has been submitted to retain a number of temporary buildings put in place to enable the airport to operate pending completion of the CADP1 works, including the new terminal buildings. That application also provides for the provision of temporary gate room facilities that are required to keep the airport operational during the remaining construction operations. These temporary facilities will be removed once the CADP1 works are complete.

Policy

7. There is policy support for this proposal in the Government's *Beyond the Horizon The future of UK aviation Making best use of existing runways* published in 2018. This remains policy as is confirmed in the Government's recent *Jet Zero Strategy*, in which the Government makes clear that the target to attain net zero carbon by 2050 is not a barrier to aviation growth and that it remains policy for airports to seek to make best use of their runways, subject to consideration of more direct local impacts such as in relation to noise, traffic and economic benefits. This S73 Application is framed to enable LCY to do just that by enabling it to serve more of its local demand, using the already consented infrastructure and within existing aircraft movement limits. The application is entirely consistent with aviation policy.

8. It is also clear that policy supports the growth of aviation because of its economic contribution, both as a direct generator of employment and economic benefit but also because of the key role of aviation connectivity in supporting economic development more widely. This is highlighted in Build Back Better and in the Levelling Up agendas. To this end, the role of LCY in supporting the global economy in London and in supporting growth and regeneration in East London is particularly important, not least given Newham's priority for levelling up.

Traffic Performance

9. Prior to the pandemic, LCY exhibited a robust growth performance consistent with the expectations as set out at the time of the CADP1 Application. However, changes in the mix of airlines and types of aircraft using the airport means that the anticipated passenger growth through to 2019 was achieved using fewer aircraft movements than originally envisaged and this trend is expected to continue,

meaning that the consented 111,000 annual aircraft movements are now able to accommodate more passengers, the full use of which would allow the airport to better meet growing demand within its catchment area over the period beyond 2025.

10. There have been two principal changes in the market since the CADP1 application was approved and in the way in which the airlines serve the market that provide a context for the S73 Application:

- A greater reliance on aircraft based overnight at the airport, dedicated to flying to and from LCY as their primary base of operation, creating opportunities for middle of the day flying to a range of leisure destinations and a spreading of peaks of demand over the day; and
- Growth in the demand base local to the airport, particularly growth in demand for leisure services and the airline response to this growing market, resulting in changes to the profile of passengers using the airport to a more even split of business and leisure passengers, including those visiting friends and relatives[3].

11. These changes in the nature of operations at the airport mean that not only can more passengers be handled on the same number of aircraft movements but the changes in the profile of demand means that more passengers can be handled with the same infrastructure.

12. It is evident that the airport plays an important role in serving the local demand for air travel in the local boroughs due to its convenient location and ease of access. This includes business travellers, inbound visitors and, increasingly, local residents. It commands a high share of the local market on the routes that it serves, highlighting the importance of it being able to grow and increase the range of destinations served to better meet local demand by expanding its route network, including leisure services to meet the needs of the growing local population.

The Need for Extended Opening Hours and Greater Flexibility

13. Delivering growth to meet the needs of local passengers requires the conditions to be created for the airlines to both modernise and grow their fleets of aircraft based at LCY. This requires extended operating hours on a Saturday to reduce the current inefficiency in terms of aircraft utilisation of having to park aircraft for 24 hours over a weekend or to position the aircraft away from LCY to operate from other airports without restricted operating hours. Modernisation of the aircraft fleets is key to delivering real noise benefits, which would see noise levels of individual aircraft reduce on average compared to current levels, even with growth. Without a change to the operating hours, not only would growth be significantly slower than required to keep pace with local demand but the modernisation of the fleets would take longer to achieve, so delaying the noise benefits.

14. The proposed amendments will allow the airlines to grow their route network, increasing frequencies of service to existing destinations and services to new destinations. Specifically, longer operating hours on Saturdays would create more opportunities for local residents to use their local airport for leisure as well as business purposes, with a greater range of holiday destinations available at weekends, to places such as the Eastern Mediterranean, including the Greek Islands, or the Canary Islands, which currently cannot be served on Saturdays as the airport shuts too early for the return flight to operate. Importantly, the changes will also allow better connections to hubs, such as Amsterdam, to provide

[3] Known as VFR passengers.

onward connections to global points facilitated by increased early morning and Saturday afternoon operations. The changes will also support inbound tourism.

15. Greater flexibility for the airlines to operate on Saturday afternoons would secure the economic benefits from growth in activity at LCY at a much earlier date, creating valuable job opportunities for local people. Additional shift patterns would enhance the work opportunities, particularly for those seeking part time employment or non-standard working patterns to fit their lifestyles.

16. If greater operational flexibility is not provided through extended opening on Saturday afternoons, as well as the greater flexibility to increase the number of movements in the early morning period from 6 to 9, the airport might only reach around 8.8 mppa by 2039, with much slower delivery of economic benefits as the more rapid take-up of market opportunities by the airlines would not be enabled if current restrictions on the utilisation of aircraft are retained.

Forecasts

17. If the proposed amendments are approved, it is forecast that LCY would reach 9 mppa by 2031 in the Development Case. These forecasts are consistent with the core assumptions underpinning the Government's Jet Zero trajectory, which allow for LCY to grow in line with its Masterplan published in 2020 up to a maximum of 11 mppa and 151,000 annual movements. The forecasts in this Need Case assume that should carbon costs be higher and/or economic growth slower, growth in demand to 9 mppa at LCY would be slower, with 9 mppa forecast to be reached in c.2033 in the Slower Growth Case. Should economic growth be higher and/or carbon costs lower, then the airport could reach 9 mppa earlier in 2029 in the Faster Growth Case.

18. The forecasts rely on Saturday opening hours being extended to 18:30, and with the extra 1 hour allowance for arriving aircraft in summer. This would allow the airport to directly accommodate c.500,000 additional passengers over the year within additional opening period on a Saturday and the ability to operate for more of the week would help to incentivise earlier fleet modernisation by the airlines, particularly those based at the airport like BACF. If the current hours are retained, growth would be materially slower and the consented 111,000 annual aircraft movements might not be reached until the late 2030s, with 9 mppa achieved at an even later date.

19. Fundamentally, allowing growth at LCY would be meeting a need for air travel, based on underlying air passenger demand, over the period to 2031 and beyond when available capacity at the other airports serving London will be limited.

Economic Impact

20. As well as meeting the passenger demand to travel, growth to 9 mppa will deliver substantial benefits to the economy of London and the areas around the airport in particular, as represented by the Local Study Area:

- Across the Local Study Area, growth to 9 mppa will deliver 1,870 new jobs (1,630 FTE jobs), of which 1,340 total are direct jobs at the airport (1,170 FTE jobs), which will be available to local people supporting the levelling up agenda in Newham and neighbouring boroughs;
- Across London, it will deliver 2,180 additional jobs (1,900 FTE jobs) (over 2019), of which 1,340 total are direct jobs at the airport (1,170 FTE jobs);

- Support 1,250 person years of employment across London through the construction phase, adding £257m to GVA;
- Provide a boost to business productivity, supporting the growth of and investment in key sectors in the local economy equivalent to £398 million a year by 2031 (£99 million more than in 2019);
- Support tourist expenditure in London of £558 million a year by 2031, (£227 million more than 2019);
- The proposed amendments will have a net positive impact on socio-economic welfare of £371 million over the next 60 years;
- Provide a boost to the Local Study Area economy of £220 million in GVA and 1,940 person years of employment as a result of the construction programme between 2025 and 2031;
- Support the Global Britain and economic recovery agendas.

These benefits would not be delivered without the greater operational flexibility provided by the proposed amendments and if the airport is constrained to only handling 6.5 mppa.

21. Enabling these benefits is particularly important in the context of the need for growth and regeneration in East London, in particular to support levelling up initiatives in Newham and neighbouring boroughs. Furthermore, allowing LCY to grow would support broader initiatives to grow the UK economy and that of London in particular, in support of *'Build Back Better'*.

Capacity Requirements

22. Changes in the mix of airlines and types of services using LCY mean that there has been a greater than originally anticipated spreading of passenger traffic using the airport over the day. When allowance is made for the passengers expected to use the airport on Saturday afternoons, if the proposed amendments are approved, then the expected busy hour passenger demand on the terminal at 9 mppa is virtually identical to that originally expected when the airport reached 6.5 mppa in the CADP1 Application. Hence, the CADP1 works, as originally consented, are capable of accommodating 9 mppa without further expansion.

23. Given the delays to the construction of the passenger terminal extension works, due to the effects of the pandemic in terms of the lower passenger throughput and the impact on the financial position of the airport, there will be a need to retain the existing temporary facilities for a longer period, provide additional temporary gaterooms and adopt a number of operational measures to ensure that demand can be accommodated pending delivery of the approved CADP1 terminal infrastructure. It is envisaged that the main construction works could commence in 2025 and be completed to meet demand by 2031, albeit the build out could be slightly later depending on actual growth in passenger volumes, as demonstrated in the slower and faster growth cases.

24. In the event of the proposed amendments not being approved, it is envisaged that the interim operational measures would be retained for a longer period given that the number of passengers using the airport would be capped at 6.5 mppa and it would take longer for the airport's finances to recover sufficient to allow the construction of the CADP1 infrastructure over the same timeframe. In this scenario, it is envisaged that the CADP1 works could be delayed into the late 2030s (c.2037/8).

Conclusion

25. In overall terms, there is a strong and compelling need for the proposed amendments, which would enable the airport to comply with Government policy by making best use of its consented runway capacity. The projected growth to 9 mppa can be accommodated within the currently consented CADP1 infrastructure.

1. Background

1.1 This Need Case has been prepared to support a Section 73 (S73) Planning Application by London City Airport (LCY), to amend the City Airport Development Programme 1 (CADP1) planning permission, 13/01228/FUL (as varied[4]), granted in July 2016, for the following:

a. Demolition of existing buildings and structures;

b. Works to provide 4 no. upgraded aircraft stands and 7 new aircraft parking stands;

c. The extension and modification of the existing airfield to include the creation of a taxilane running parallel to the eastern part of the runway and connecting with the existing holding point;

d. The creation of a vehicle access point over King George V dock for emergency vehicle access;

e. Laying out of replacement landside Forecourt area to include vehicle circulation, pick up and drop off areas and hard and soft landscaping;

f. The Eastern Extension to the existing Terminal building (including alteration works to the existing Terminal Building) to provide reconfigured and additional passenger facilities and circulation areas, landside and airside offices, immigration areas, security areas, landside and airside retail and catering areas, baggage handling facilities, storage and ancillary accommodation;

g. The construction of a 3 storey Passenger Pier to the east of the existing Terminal building to serve the proposed passenger parking stands;

h. Erection of a noise barrier at the eastern end of the proposed Pier;

i. Erection of a temporary noise barrier along part the southern boundary of the application site to the north of Woodman Street;

j. Western Extension and alterations to the existing Terminal to provide reconfigured additional passenger facilities and circulation areas, security areas, landside and airside offices, landside retail and catering areas and ancillary storage and accommodation;

k. Western Energy Centre, storage, ancillary accommodation and landscaping to the west of the existing Terminal;

l. Temporary Facilitation works including erection of a noise reduction wall to the south of 3 aircraft stand, a Coaching Facility and the extension to the outbound baggage area;

m. Works to upgrade Hartmann Road;

n. Landside passenger and staff parking, car hire parking and associated facilities, taxi feeder park and ancillary and related work;

[4] There have been a number of non-material amendments to the application.

o. Eastern Energy Centre;

p. Dock Source Heat Exchange System and Fish Refugia within King George V Dock; and

q. Ancillary and related works.

1.2 The major civil engineering works associated with CADP1; namely, the construction of a taxiway parallel to the runway and the creation of a concrete deck over King George V Dock to provide 8 new aircraft stands, were completed in 2020. The remaining CADP1 works were put on hold in early 2020 due to the outbreak of the Covid-19 pandemic and the adverse effect this had on the number of flights and passengers using the airport, as well as a severe reduction in income. The parallel taxiway and 4 of the new stands are now fully operational. In other words, most of the elements covered by items a to d above have been built with the foundations for the new passenger facilities also in place. A number of other temporary facilities have also been erected, including the Temporary Immigration Facility (TIF) and Temporary Outbound Baggage Building (TOBB).

1.3 The airport presently operates under the following key CADP1 conditions:

- A passenger cap of 6.5 million passengers per annum (mppa);
- Restricted to a total of 111,000 annual aircraft movements;
- A limit of 45 aircraft movements per hour;
- A restriction of 25 aircraft stands available for commercial (passenger) aircraft;
- Restricted opening times of 06:30-22:30 Monday to Friday, 06:30 – 13:00 Saturday and 12:30-22:30 Sunday, with the last half hour in each case available for late movements only;
- A limit of 400 late movements outside of the core operating hours to allow for flights which are unavoidably delayed; and
- A limit of 6 movements in the half hour between 06:30-06:59 each day, with a limit of 2 movements in the 06:30-06:44 period.

1.4 The S73 Application is seeking permission for the following proposed amendments:

- An increase in the number of passengers able to use the airport each year, from 6.5 million currently permitted to 9 million per year (expected to be achieved by around 2031);
- An extension of operational hours on Saturday to allow flights and aircraft maintenance activity to take place through the afternoon up to 18:30 hours, with an additional hour for arriving flights up to a maximum of 12 during British Summer Time[5] and consequential amendments to the number of flights permitted at weekends;
- An increase in the actual number of flights permitted to land and take-off between 06:30 and 06:59 (from a maximum of 6 to a maximum of 9), with an increase in the number permitted between 06:30 and 06.44 from 2 to 4;
- All movements during additional operating hours and the additional slots in the early morning period for use only by cleaner, quieter, new generation aircraft; and

[5] Which aligns with the IATA Summer Scheduling season from the last Sunday in March each year to the last Sunday in October.

- Greater flexibility in the parking locations of the already permitted aircraft to allow for the wider wingspan of new generation aircraft.

There are also minor amendments proposed to the terminal forecourt and to the facilitating works during construction of the project.

1.5 These changes are referred to as the 'proposed amendments'. The CADP1 scheme as amended by the proposed amendments constitutes the 'proposed development'.

1.6 There will be no change to the number of aircraft movements currently allowed at LCY each year at 111,000; no change to the permitted hourly runway movement rate at 45 movements per hour; and no increase in the number of aircraft stands above 25 or other changes to the airfield infrastructure. The design and layout of the new terminal buildings and further enhancements to the airport campus, which were approved in 2016 under the CADP1 permission, will remain substantially unaltered and these will be built out commensurate with the recovery of passenger demand, albeit at a slower pace than originally envisaged prior to the onset of the Covid-19 pandemic.

1.7 Given the pause of construction during the pandemic, it is now anticipated that the remaining CADP1 works (including the new terminal buildings) will be built out over a more prolonged period. It is expected that construction could recommence by the time that the airport returns to pre-pandemic passenger levels in 2025 and potentially be complete by 2031 if the proposed amendments are approved, or slightly later in the Slower Growth Case. Further details are provided in Chapters 2, 4 and 6 of the Environmental Statement ('ES') including the implications for the construction programme should the proposed amendments not be approved.

1.8 A separate planning application is being made alongside the S73 Application for the temporary retention of Permitted Development Facilities at LCY, comprising the Temporary Goods-in Facility (GIF), Temporary Immigration Facility (TIF), Temporary Outbound Baggage Facility (TOBB), temporary decked car park, temporary car rental building, as well as works to include the erection and retention of a Temporary Gate Room Facility and related works providing additional temporary facilities to maintain levels of service to passengers pending completion of the CADP1 works. These temporary facilities will be removed once the CADP1 works are complete.

1.9 This planning application will allow the airport to respond to passenger demand to 2031 in a sustainable way and will hasten the transition to 'new generation' aircraft, such as the Embraer-E2 family or Airbus A220 series aircraft, which are cleaner, quieter and more fuel efficient than much of the existing fleet at LCY.

Purpose of this Document

1.10 This document sets out the need for the proposed amendments to the conditions and covers both the aviation related case as well as the economic case for the development, including the specific benefits that would arise from allowing the airport to operate on Saturday afternoons. It also explains how the CADP1 infrastructure, as already consented, will enable the airport to handle 9 mppa. This document should be read alongside the Planning Statement and the Environmental Statement (ES).

Structure of Document

1.11 This document is structured as follows:

- **Section 2** sets out the aviation and economic policy context underpinning the proposed amendments;

- **Section 3** describes LCY's performance since the CADP1 development was consented in 2016;
- **Section 4** sets out the need for greater operational flexibility and extended opening hours;
- **Section 5** sets out the updated projections of demand to use LCY;
- **Section 6** outlines the economic case for the proposed amendments, setting out the economic benefits from allowing the airport to grow to meet more of its local demand for air travel;
- **Section 7** explains how the proposed infrastructure will enable a higher number of passengers can be accommodated.

2. Policy Context

2.1 This section addresses the key aviation policy context for the development and also the relevant economic policy context.

Aviation Policy

2.2 First of all, we address the aviation policy context for the proposed amendments. Aviation policy has been evolving and is set out in a number of policy documents dating from the Aviation Policy Framework (APF), published in 2013[6]. Although to some extent superseded by more recent policy statements, it remains the relevant start point for considering the extent to which the proposed amendments comply with aviation policy. The ongoing relevance of the APF was confirmed in the decision taken by the Secretary of State for Transport in relation to the Development Consent Order for Manston Airport[7].

Aviation Policy Framework 2013

2.3 Government policy related to the growth of aviation in the UK was set down within the APF, which articulated the strategy for supporting the growth and realising the benefits of aviation. The APF set out a number of key principles, highlighting in particular the important economic contribution of aviation:

"We believe that aviation infrastructure plays an important role in contributing to economic growth through the connectivity it helps deliver. For example, it provides better access to markets, enhances communications and business interactions, facilitates trade and investment and improves business efficiency through time savings, reduced costs and improved reliability for business travellers and air freight operations."[8]

2.4 The Government set out a key objective as:

"One of our main objectives is to ensure that the UK's air links continue to make it one of the best-connected countries in the world…….. To achieve this objective, we believe that it is essential both to maintain the UK's aviation hub capability and develop links from airports which provide point-to-point services (i.e. carrying few or no transfer passengers). This should be done in a balanced way, consistent with the high-level policies set out in this document and acknowledging Government's commitment to economic growth"[9]

and:

"In the short to medium-term, a key priority is to work with the aviation industry and other stakeholders to make better use of existing runway capacity at all UK airports."[10]

2.5 It was an important principle of the APF that the costs, particularly environmental costs of airport development, should be balanced against the benefits of growth:

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[6] Department for Transport, Aviation Policy Framework, 2013.
[7] TR020002-006369-220818 - Manston Airport PA08 Decision Letter, paras. 40, 48, 62, 106, 119, 190,
[8] Aviation Policy Framework, Department for Transport, 2013, para. 1.2.
[9] Ibid, para. 9.
[10] Ibid, para. 10.

"The Government's primary objective is to achieve long-term economic growth. The aviation sector is a major contributor to the economy and we support its growth within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise".[11]

2.6 The APF then provided the background to the establishment of the Airports Commission and consideration of the requirement for additional airport capacity, and specifically runway capacity, to meet the air travel needs of the South East of England.

2.7 In 2017, the Government began the process of consulting on a new Aviation Strategy, intended ultimately to replace the APF, to take forward the direction of aviation policy in the light of the in principle decision taken to support the building of a new runway at Heathrow and support for all airports making best use of their runways[12].

Airports National Policy Statement (ANPS)

2.8 The ANPS was published in June 2018 following the work of the Airports Commission in considering options for the provision of additional runway capacity in the South East of England. Although covering the need for new runway capacity and infrastructure in the South East, the ANPS is specific in that it is only directly applicable to the proposed new northwest runway at Heathrow[13]. Nonetheless, the Government made clear that it has relevance beyond Heathrow:

"the Secretary of State considers that the contents of the Airports NPS will be both important and relevant considerations in the determination of such an application, particularly where it relates to London or the South East of England."[14]

For other airport developments, the ANPS refers[15] back to the *Airports Policy Framework*[16] (APF).

2.9 Importantly, the ANPS endorsed the recommendation of the Airports Commission that, alongside the provision of a new runway at Heathrow, other airports were encouraged to make best use of their existing runways and made clear that individual proposals should be judged on their merits:

"the Government has confirmed that it is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have positive and negative impacts, including on noise levels. We consider that any proposals should be judged on their individual merits by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts." [17]

and

[11] Ibid, para. 5.
[12] Beoynd the horizon: the future of UK Aviation, A call for evidence on a new strategy, Department for Transport, July 2017, Foreword.
[13] Airports National Policy Statement, Department for Transport, June 2018, para. 1.41.
[14] Ibid.
[15] Ibid, para. 1.38.
[16] Aviation Policy Framework, Department for Transport, March 2013.
[17] Airports National Policy Statement, Department for Transport, June 2018, para. 1.39.

"the Government accepts that it may well be possible for existing airports to demonstrate sufficient need for their proposals, additional to (or different from) the need which is met by the provision of a Northwest Runway at Heathrow."[18]

2.10 Alongside setting the context for the MBU policy as discussed above, the ANPS does set out a number of assessment principles that are relevant to consideration of airport planning applications, including that, in relation to climate change:

"Any increase in carbon emissions alone is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the project is so significant that it would have a material impact on the ability of Government to meet its carbon reduction targets, including carbon budgets."[19]

Beyond the horizon: The future of UK Aviation: Making best use of existing runways (MBU)

2.11 The MBU policy was published alongside the *Airports National Policy Statement* (ANPS) in June 2018 and explicitly sets out the policy considerations for airports seeking to make best use of their existing runways, which is exactly what the S73 Application sets out to do. The policy statement concludes:

"Therefore, the government is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have negative as well as positive local impacts, including on noise levels. We therefore consider that any proposals should be judged by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts and proposed mitigations. This policy statement does not prejudge the decision of those authorities who will be required to give proper consideration to such applications. It instead leaves it up to local, rather than national government, to consider each case on its merits."[20]

2.12 In supporting airports making best use of their existing runways, the policy statement set out a number of relevant considerations, including the implications for the UK's carbon commitments and local environmental impacts. In particular, the Government made clear that:

"There are, however, some important environmental elements which should be considered at a national level. The government recognises that airports making the best use of their existing runways could lead to increased air traffic which could increase carbon emissions."[21]

2.13 The MBU policy also makes clear[22] that, as part of any planning application, airports will, nonetheless, need to demonstrate how they will mitigate against local environmental issues, taking account of relevant national policies, including any new environmental policies emerging from the anticipated new Aviation Strategy as well as demonstrating the economic benefits of making 'best use' and how these benefits will be shared with communities around the airport[23].

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[18] Ibid, para. 1.42.
[19] Ibid, para. 5.82.
[20] Beyond the horizon – the future of UK Aviation: Making best use of existing runways, Department for Transport, June 2018, para. 1.29.
[21] Ibid, para. 1.11.
[22] Ibid, para. 1.26.
[23] Ibid, para. 1.22.

Aviation 2050 – the future of UK Aviation

2.14 As part of the development of its new Aviation Strategy, in December 2018 the Government published a Green Paper *Aviation 2050*[24] outlining its proposals for a new aviation strategy. These policy proposals remain an important cross reference for the direction of long term aviation policy.

2.15 This Green Paper was founded on the important economic role of aviation:

"Aviation has long been at the heart of the United Kingdom's economic success"

and

"A thriving aviation sector is tangible evidence of economic confidence, growing tourism, increased trade, and business investment."[25]

2.16 In particular, the Green Paper highlighted the importance of aviation in the context of wider economic objectives within the global economy:

"Aviation is important for the government's goal of building a global and connected Britain. The UK already plays a prominent role on the world stage with the biggest international aviation network in Europe and currently the third largest in the world. Through the Aviation Strategy the UK will be equipped to build new connections in rapidly growing aviation markets, and to use the leverage we have internationally to pursue our objectives on environmental measures and liberalisation."[26]

2.17 The Green Paper elaborated the reasons for this support:

"Air travel benefits most of us, either directly or indirectly. For many people, it is the means by which they can enjoy a well-earned holiday. It is important for maintaining social and family ties with loved ones who may be based across the world. Business air travel also brings trade and investment to the UK, generating prosperity.

Aviation is also an increasingly important facilitator of our modern lifestyles and the means by which many of the goods that we buy online are flown in to the country before arriving at our doorsteps, as well as the medicines and other vital products that we rely upon. Aviation is, in its own right, a passion that is enjoyed by many. It is also an industry that is at the cutting edge of the development of new and exciting technology, from drones to electric planes and to the edges of space itself.

Aviation is also vital to how the UK is connected to the global economy. The UK's aviation network is connected to a vast number of international locations accessible through airports across the country. This helps to maintain important social and cultural links and is vital for facilitating an environment for businesses to engage in international opportunities."[27]

2.18 The Green Paper also set out support for the local economic contribution that airports make to the regions within which they are located.

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[24] Aviation 2050 – the future of UK aviation: a consultation, Department for Transport, December 2018.
[25] Ibid, Foreword.
[26] Ibid, Executive Summary, page 13.
[27] Ibid, paras. 1.5-1.7.

"Airports are vital hubs for local economies, providing connectivity, employment, and a hub for local transport schemes. The government wants to see, through the Aviation Strategy, that these benefits are maximised, by ensuring that:

• markets are functioning effectively for consumers and local communities

• airports are delivering the connectivity that regions need to maximise their potential

• the industry continues to provide high quality training and employment opportunities

• barriers to the air freight industry are reduced"[28]

2.19 Specifically, *Aviation 2050* reconfirmed the Government's support for airports *"making best use of their existing runways"*[29].

Flightpath to the Future

2.20 The most recent statement of Government Aviation Policy is *'Flightpath to the Future'*[30] (FttF). The purpose of this strategy is to set out *"a strategic framework for aviation over the next ten years"*[31]. Whilst FttF represents the most recent statement of Government aviation policy, it is intended primarily as a 10-year recovery strategy and cross references other policy documents such as the *Airports National Policy Statement* (ANPS), *Beyond the Horizon: Making best use of existing runways (MBU), Aviation 2050* and the *Jet Zero* consultation as also containing relevant policy. Hence, it is clear that FttF does not supersede existing policy but brings it up to date. In particular, *Flightpath to the Future* sets out to address the challenges faced by the industry following the Covid-19 pandemic and taking into account the effects of Brexit, with the key aims being to secure:

"A future where aviation remains of huge strategic importance to the country post-Brexit allowing tourism, business and trade to thrive. A future where UK aviation becomes synonymous with sustainability, and part of the solution to climate change. And a future where the UK consolidates its position as one of the world's most important aviation hubs."[32]

2.21 The Government re-confirms its support for airport expansion:

"That means supporting airport expansion where it's justified, to boost our global connectivity and level up the UK."[33]

And, specifically, the Government confirms the relevance of earlier policy statements in respect of airport growth and development.

"Airports have a key role to play in boosting our global connectivity and we continue to be supportive of sustainable airport growth. Our existing planning frameworks for airport growth provide a robust and balanced framework for airports that want to grow within our strict environmental criteria."[34]

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[28] Ibid, Executive Summary,
[29] Ibid, para. 1.21.
[30] Flightpath to the Future, Department for Transport, May 2022.
[31] Ibid, Foreword.
[32] Ibid.
[33] Ibid.
[34] Ibid, page 4.

The existing policy frameworks are defined as *Beyond the horizon – the future of UK Aviation: Making best use of existing runways*[35] and the *Airports National Policy Statement*[36] discussed above.

2.22 The strategic framework set out in FttF is based around four key themes:

- Enhancing global impact for a sustainable recovery;
- Embracing innovation for a sustainable future;
- Realising benefits for the UK;
- Delivering for users.

2.23 It also sets out a 10 point plan under these themes for delivering the key priority areas, as follows:

- Recover, learn lessons from the pandemic and sustainably grow the sector - including to committing to growth and working together towards a future where the sector can recover, grow and thrive in a way that is sustainable, resilient and connected;
- Enhance the UK's global aviation impact and leadership;
- Support growth in airport capacity where it is justified, ensuring that capacity is used in a way that delivers for the UK;
- Put the sector on course to achieve Jet Zero by 2050 – with specific targets for 10% SAF by 2030 and zero emissions flights across the UK this decade;
- Capture the potential of new technology and uses – including routinely using new aircraft to provide new and improved low carbon services;
- Unlock local benefits and levelling up - including through trade, air freight, aerospace, investment and tourism as well as allowing people to benefit from improved connections across the union and regions;
- Unleash the potential for next generation professionals;
- Make the UK the best place in the world for General Aviation;
- Improve the consumer experience;
- Retain our world leading record on security and safety with a world leading regulator.

Enhancing global impact for a sustainable recovery

2.24 Under the first of the four strategic themes, the Government makes clear its commitment to enabling growth in the sector but accompanied by a commitment to address environmental issues and ensuring that development is sustainable:

"The Government is committed to growth in demand and working with industry to ensure we enable the sector to recover. We want the aviation sector to build back better, alongside supporting a greener future, and more sustainable growth."

and

[35] Beyond the horizon – the future of UK Aviation: Making best use of existing runways, Department for Transport, June 2018

[36] Airports National Policy Statement, Department for Transport, June 2018.

"We are also committed to continuing to improve global connectivity for the UK"[37]

2.25 Specifically, the Government stresses the link between improving connectivity and achieving competitive advantage for the UK to leverage trade and investment:

"A central aspect of achieving our future ambitions will be to continue to enhance our global aviation impact. At the heart of aviation is facilitating travel internationally to connect people, goods, and businesses across the globe. The UK will promote and improve its global connectivity to facilitate sustainable growth, as well as embracing UK aviation strengths and competitive advantage to deliver our ambitions to incentivise UK trade and investment opportunities."[38]

2.26 It is in this context that support for airport expansion and the concept of making best use of existing airport capacity is confirmed:

"Airport expansion has a key role to play in realising benefits for the UK through boosting our global connectivity and levelling up. It is also essential that we utilise existing airport capacity in a way that delivers for the UK, putting the needs of users first and supporting our aims to enhance global connectivity."[39]

2.27 Importantly, Government makes clear that enhancing global connectivity is not solely for business or inbound tourism reasons but is also to allow UK citizens to connect to the world:

"Enhancing our global connectivity, including both making the UK more accessible to visitors, and making the rest of the world more accessible for people living in the UK, is essential for the future success of the sector. The pandemic has demonstrated more than ever the importance of human connection, and the Government is committed to working with the sector to ensure UK aviation delivers the best possible global connectivity."[40]

Embracing innovation for a sustainable future

2.28 A key theme throughout FttF is the importance of growth being sustainable and, in particular, ensuring that the sector contributes to the Government's decarbonisation goals, as set out in the *Jet Zero Strategy* that we discuss further later in this section. The Government is clear that airport expansion must demonstrate that these obligations are being met and that local impacts must be managed within the context of the noise policy framework, referring back[41] to its earlier consultation document *Aviation 2050*[42] for details of that framework including:

- *"setting a new objective to limit, and where possible, reduce total adverse effects on health and quality of life from aviation noise."*[43]

[37] Flightpath to the Future, page 6.
[38] Ibid, page 18.
[39] Ibid, page 6.
[40] Ibid, page 19.
[41] Ibid, page 35.
[42] Aviation 2050: the Future of UK Aviation consultation document, Department of Transport., December 2018.
[43] Ibid, para. 3.115.

It is important to note that LCY already operates with a noise cap – a contour limit – in place as well as a Quota Count budget for annual movements.

Realising benefits for the UK

2.29 The local importance of airports and aviation is also recognised in FttF, not just in terms of the wider connectivity benefits but also for the direct role that such activity plays in providing jobs and supporting local economic activity. The importance of domestic airlinks to support connectivity within the Union was also recognised, which is significant in the context of the role that LCY plays in providing connections between the UK nations and London:

"Aviation plays an important role in many of our local communities. It is essential for the jobs and economic activity it directly supports, as well as supporting other parts of the economy, including business and tourism, and attracting inward investment. We are committed to working with the sector to ensure we recognise the existing comprehensive aviation infrastructure across the UK, and continue to support regional airports and airfields. We will also explore ways aviation can help boost UK domestic and union connectivity."[44]

2.30 Specifically, the role that aviation can play in supporting the levelling up agenda (see later in this section) was highlighted, both in terms of connecting regions but, in the case of LCY, the role that local benefits can play in supporting the levelling up of East London and Newham in particular:

"Aviation also has a central role in delivering local benefits across the UK. This includes championing the levelling up agenda, strengthening union connectivity, boosting economic success, and supporting local jobs. It is important to recognise the role our extensive airport, airfield and aviation infrastructure network plays in providing benefits to local communities, as well as supporting associated supply chains."[45]

2.31 Again, support for airport expansion and the relevance of the pre-existing planning frameworks was stressed:

"Airport expansion has a key role to play in realising benefits for the UK through boosting our global connectivity and levelling up. We continue to be supportive of airport growth where it is justified, and our existing policy frameworks for airport planning provide a robust and balanced framework for airports to grow sustainably within our strict environmental criteria. They continue to have full effect, as a material consideration in decision-taking on applications for planning permission. The Government is clear that the expansion of any airport must meet its climate change obligations to be able to proceed."[46]

2.32 As part of this key theme, the Government also stressed the importance of strengthening aviation skills and support for diversity in the workforce. Further information is provided in the *Benefits and Mitigation Statement*.

Delivering for users

2.33 The final theme focusses on consumers and issues such as safety, security and quality of service. Once again, the important benefits of being able to travel are stressed:

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[44] Flightpath to the Future, Department for Transport, May 2022, page 42.
[45] Ibid, page 7.
[46] Ibid, page 7.

"Consumers are at the heart of UK aviation, and ensuring that the sector continues to deliver effectively for all consumers will be essential for its future success. The pandemic has highlighted more than ever the importance of air travel for connecting people around the world, and supporting families, friendships, and enabling global connections to thrive."[47]

Importantly, FttF has provided confirmation that the principal policy context for the S73 Application is Beyond the Horizon: Making best use of existing runways[48].

Jet Zero Strategy

2.34 Following consultation, the Government published its *Jet Zero Strategy* (Jet Zero) in July 2022[49]. This strategy sets out how the Government intends to ensure that it meets the target of net zero flying by 2050, consistent with its broader decarbonisation agenda and the requirements of the Paris Treaty. The strategy is based on three principles:

- setting an emissions reduction target for the sector to achieve the overall net zero target by 2050;
- all domestic flights achieving net zero by 2040; and
- all airport operations to be zero emission by 2040.

2.35 The strategy is underpinned by a commitment to adopt a CO_2 emissions reduction trajectory based on its 'High Ambition' scenario[50]. This will require the setting of binding CO_2 emission limits, which airlines will need to work within. The High Ambition scenario assumes a combination of the use of sustainable aviation fuels (SAFs), zero emission aircraft (e.g. hydrogen, electric), general fuel efficiency savings from engine technologies and airspace modernisation, as well as the impact of the Emissions Trading Scheme (ETS) and CORSIA in reducing carbon emissions.

2.36 In particular, the ETS covers all UK domestic flights and those within the European Economic Area and requires operators to have allowances[51] and these allowances will be adjusted downwards as aviation is brought within the 6th Carbon Budget from 2033 and in line with the targets set out in the Jet Zero Strategy. Given the nature of flying at LCY, the vast majority of flights are covered by the ETS requirements and will have to comply with the carbon budgets. In addition, there is a requirement for airlines to offset their carbon under the provisions of CORSIA[52], which covers virtually all flights from the airport due to the signatories to CORSIA.

2.37 Jet Zero assumes that the residual emissions, in line with the targets, will be addressed by abatement outside of the aviation sector to achieve a net zero position by 2050. We describe, in **Section 5**, how the demand projections underpinning the S73 Application have been developed consistent with this High Ambition scenario.

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[47] Ibid, page 60.
[48] Department for Transport, June 2018.
[49] Jet Zero Strategy – delivering net zero aviation by 2050, Department for Transport, July 2022.
[50] Jet Zero illustrative scenarios and sensitivities, Department for Transport, July 2022, Scenario 2 High Ambition.
[51] Permitting the emission of 1 tonne of CO_2.
[52] CORSIA – Carbon Offsetting and Reduction Scheme for International Aviation set up by the International Civil Aviation Organisation to which 114 countries are already signed up.

2.38 Notwithstanding these ambitious targets, Jet Zero sets out how the Government supports continued growth of aviation, repeating language from FttF including the continued relevance of the ANPS and MBU policies:

"The Government remains committed to growth in the aviation sector and working with industry to ensure a sustainable recovery from the pandemic. In our recently published strategic framework for the future of aviation – 'Flightpath to the Future' – we recognise that airport expansion has a role to play in realising benefits for the UK through boosting our global connectivity and levelling up. The framework is clear that we continue to be supportive of airport growth where it is justified, and our existing policy frameworks for airport planning provide a robust and balanced framework for airports to grow sustainably within our strict environmental criteria. We have also been clear expansion of any airport in England must meet our climate change obligations to be able to proceed."[53]

and:

"We will support airport growth where it can be delivered within our environmental obligations. The aviation sector is important for the whole of the UK economy in terms of connectivity, direct economic activity, trade, investment, and jobs. Before COVID-19, it facilitated £95.2 billion of UK's non-EU trade exports; contributed at least £22 billion directly to GDP[54]*; directly provided at least 230,000 jobs across all regions of the country and underpins the competitiveness and global reach of our national and our regional economies. We are committed to enabling a green recovery of the sector, as well as sustainable growth in the coming years. The Government's existing planning policy frameworks, along with the Jet Zero Strategy and the Flightpath to the Future strategic framework for aviation, have full effect and are material considerations in the statutory planning process for proposed airport development."*[55]

2.39 Jet Zero makes clear that the Government considers that it is possible to:

"achieve Jet Zero without the Government needing to intervene directly to limit aviation growth. The analysis uses updated airport capacity assumptions consistent with the latest known expansion plans at airports in the UK. The analysis indicates that it is possible for the potential carbon emissions resulting from these expansion schemes to be accommodated within the planned trajectory for achieving net zero emissions by 2050, and consequently that our planning policy frameworks remain compatible with the UK's climate change obligations."[56]

It is important to note that the airport capacity assumptions adopted for the Government's Jet Zero modelling made allowance for LCY's growth plans as set out in the airport's Master Plan 2020 of up to 151,000 annual aircraft movements and up to 11 mppa[57].

2.40 One of the key targets within Jet Zero is for airport operations to achieve zero carbon by 2040. The Government has indicated that it will issue a further call for evidence later this year to enable it to develop detailed implementation plans for this element of the strategy. LCY is already addressing this through its sustainability road map *Above and Beyond*[58].

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[53] Jet Zero Strategy – delivering net zero aviation by 2050, Department for Transport, July 2022, para. 3.56
[54] GDP – Gross Domestic Product: a measure of the size and health of a country's economy.
[55] Ibid, para. 3.61
[56] Ibid, para. 3.57
[57] Jet Zero: modelling framework, Department for Transport, March 2022, paras. 3.16-3.20 and Annex D.
[58] Above and Beyond; Our Road Map to a Sustainable Future, London City Airport, 2022.

Economic Policy

2.41 In this section, we outline the economic policy context for the proposed amendments. This provides a frame of reference for considering the benefits of the proposals as articulated in **Section 6**.

Build Back Better: Our Plan for Growth 2021

2.42 The Covid-19 pandemic placed a premium on initiatives aimed at stimulating recovery in the UK economy. The principles of this were set out in 'Build Back Better' supporting the vision for a Global Britain[59]. The need for aviation connectivity is founded in the Government's priorities for economic growth which articulated the need for infrastructure development to support connectivity:

"High quality infrastructure is crucial for economic growth, boosting productivity and competitiveness. More than this, it is at the centre of our communities. Infrastructure helps connect people to each other, people to businesses, and businesses to markets, forming a foundation for economic activity and community prosperity. Well-developed transport networks allow businesses to grow and expand, enabling them to extend supply chains, deepen labour and product markets, collaborate, innovate and attract inward investment." [60]

2.43 As is made clear in FttF, growth in the aviation sector is an integral part of these economic plans, with strong recognition of the economic contribution of the aviation sector in this, as in previous, aviation policy statements.

2.44 Build Back Better also introduced the concept of 'Levelling Up', which is relevant to this application given the airport's location in East London.

Levelling Up

2.45 Levelling up is a key part of the Government's Build Back Better strategy. Levelling up is not just about the UK regions but about improving the economic prospects and productivity of all underperforming parts of the country. The Levelling Up White Paper recognises that disparities in the performance of areas within cities can be just as great as disparities between regions and seeks to address economic underperformance wherever it arises:

"Even in high productivity cities, such as London, there are areas with low productivity"[61]

2.46 East London is a priority area for levelling up, including key parts of the Local Study Area[62]:

- Four local authorities are in the highest priority category for levelling up (Newham, Barking & Dagenham, Hackney and Waltham Forest) and three in priority 2 (Havering, Redbridge and Tower Hamlets)[63];

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[59] Build Back Better: our plan for growth, HM Treasury, March 2021.
[60] Ibid, page 31.
[61] Levelling Up the United Kingdom, HM Government, February 2022, para 1.2.1
[62] A Local Study area has been defined for assessing the local economic impact of the Airport based on the . This comprises the London boroughs of Barking and Dagenham, Bexley, Greenwich, Hackney, Havering, Lewisham, Newham, Redbridge, Southwark, Tower Hamlets, Waltham Forest and Epping Forest in Essex.
[63] Levelling Up Fund round 2 – list of local authority areas by priority category, Department of Levelling Up, Housing and Communities, March 2022.

- East London is a higher priority now than last year (four of the seven authorities have moved up in priority);
- The high priority is driven primarily by unemployment/lack of jobs – five of the seven authorities are in the top 20 for highest unemployment; and
- The Government has backed this with money - £40m for Newham and £10m for Tower Hamlets in Round 1 of the Levelling Up Fund.

2.47 LCY has an important role to play in delivering aviation connectivity vital to supporting the growth in areas of London that need to grow and deliver improved productivity. The growth of the airport will contribute directly to levelling up through the employment and income that it brings to the local area and also by providing more local air connections making the area more attractive for investment and driving productivity growth. Enhanced local air connections will also contribute to attracting talented individuals to live locally so enhancing the local talent pool to support innovation and growth more generally, particularly where these individuals need to maintain social connections to friends and family and where the ability to travel is seen as an important social benefit.

London Plan

2.48 The London Plan[64] is focussed on ensuring that London's economic growth benefits all and that growth is more evenly spread across the capital. This is pertinent to the application as the growth of East London has lagged other parts of the capital.

2.49 Policy T8 (Aviation) of the London Plan is supportive of the role aviation plays in the economy:

"London's major airports provide essential connectivity for passengers and freight, support vital trade, inward investment and tourism, generate prosperity, and provide and support significant numbers of jobs."[65]

2.50 The plan goes onto note the linkage between airports and the identified Opportunity Areas in London:

"The Mayor supports the role of the airports serving London in enhancing the city's spatial growth, particularly within Opportunity Areas well connected to the airports by public transport and which can accommodate significant numbers of new homes and jobs."[66]

2.51 The plan also makes clear the priority to make best use of existing airport capacity and that a priority is placed on airports with good quality rail access.

"It is important, in the first instance, to make best use of existing airport capacity"[67]

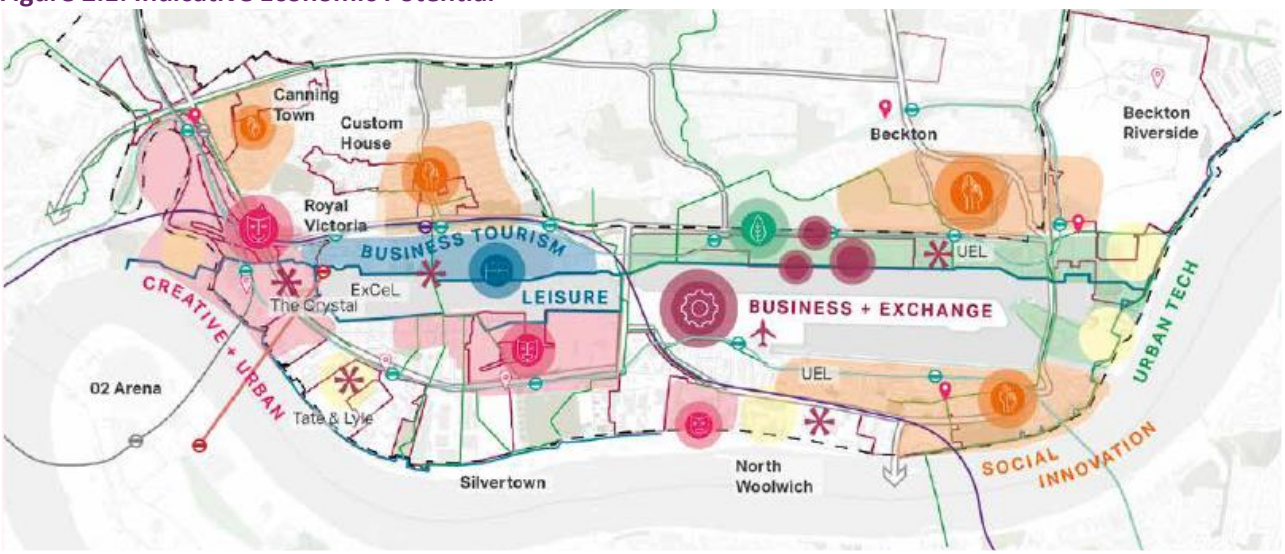
[64] The London Plan, Mayor of London, March 2021.
[65] Ibid, para. 10.8.2.
[66] Ibid, Policy T8 Aviation, A.
[67] Ibid, para. 10.8.3.

Royal Docks and Beckton Opportunity Area Planning Framework 2022

2.52 In February 2022, the Mayor of London consulted on the Royal Docks and Beckton Opportunity Area Planning Framework. This recognised the airport as one of the key "*anchor economic assets*"[68], which are of regional and international importance. The framework relies, to an extent, on leveraging the value of these assets, including the airport, to secure growth.

2.53 In terms of realising the economic potential of the Opportunity Area, the airport is clearly shown as positioned at the heart of a global enterprise and innovation district, *"building on its existing international connections" to* attract more creative and innovation businesses and foreign owned enterprises to the area. This will require enhancement of the international connectivity that the airport can offer

Figure 2.1: Indicative Economic Potential[69]



Local Economic Objectives, Policies and Plans

2.54 Allowing growth at the airport from 6.5 mppa to 9 mppa would also support a number of more local economic strategies and objectives within the Local Study Area. These are summarised in **Appendix A** and further information on relevant economic policy and context can be found in the **Environmental Statement, Chapter 7**.

2.55 The ways in which the growth of the airport if the proposed amendments are approved can support this economic agenda are set out in **Section 6**.

[68] Royal Docks and Beckton Opportunity Area Planning Framework Consultation Draft, Mayor of London, February 2022, Section 1.1.
[69] Ibid, Figure 3.59.

Policy conclusions

2.56 Government policy makes clear that the target to attain net zero carbon by 2050 is not a barrier to aviation growth and that it remains policy for airports to seek to make best use of their runways, subject to consideration of more direct local impacts such as in relation to noise, traffic and economic benefits. This S73 Application is framed to enable LCY to do just that by enabling it to serve more of its local demand, using the already consented infrastructure and within existing aircraft movement limits. The application is entirely consistent with aviation policy.

2.57 It is also clear that policy supports the growth of aviation because of its economic contribution, both as a direct generator of employment and economic benefit but also because of the key role of aviation connectivity in supporting economic development more widely. This is highlighted in Build Back Better and in the Levelling Up agendas. To this end, the role of LCY in supporting the global economy in London and in supporting growth and regeneration in East London is particularly important, not least given Newham's priority for levelling up.

3. London City Airport's Current Market Performance

Introduction

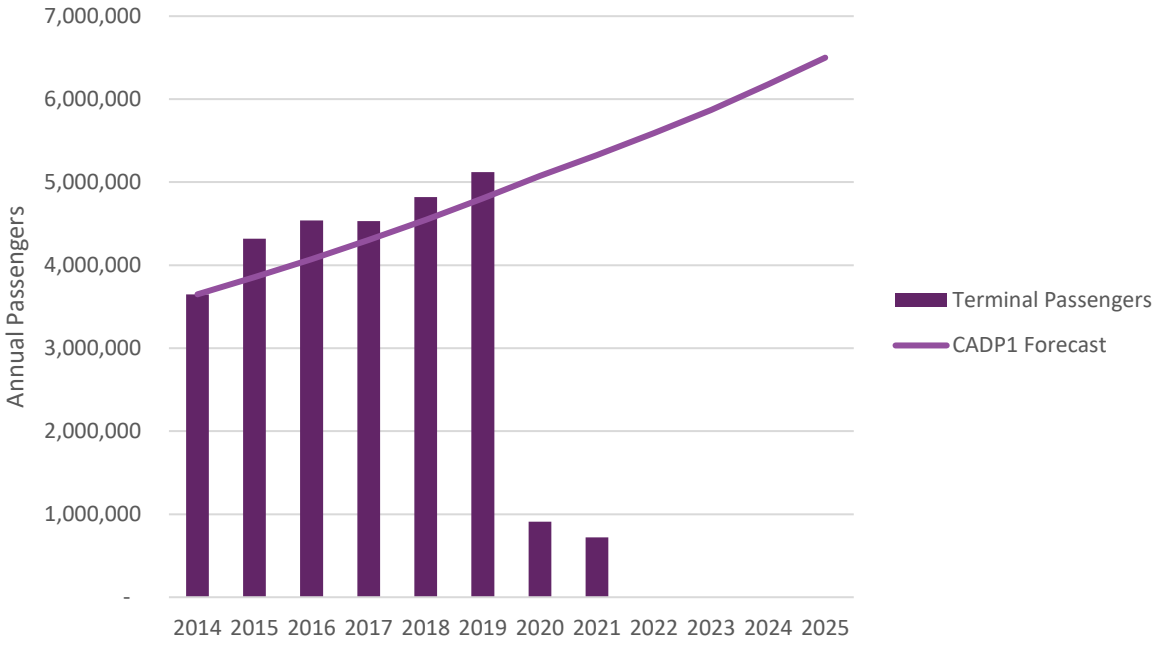
3.1 This section explains LCY's market performance since the CADP1 development was consented and includes a commentary on the impact of the COVID-19 pandemic and the extent to which there have been changes in the underlying market dynamics for the airport compared to the outlook that that informed the CADP1 Application, for which the assessment base year was 2014. This provides a context for the updated demand projections for the airport set out in the next section.

Current and Recent Passenger and Aircraft Movement Growth

Passengers

3.2 In 2019, passenger throughput at LCY was recorded by the Civil Aviation Authority (CAA) at 5,122,000 passengers, an increase of approximately 6.3% compared to the previous year. In the five-year period between 2014 (the base year for the original CADP1 Application forecasts) and 2019, the annual passenger throughput of the airport increased by 40%, with a compound annual growth rate (CAGR) of 7% year-on-year. This compares to the London airports as a whole, with a CAGR of 4.3% and all UK airports of 4.5%. Prior to the pandemic, the airport was actually performing slightly ahead of the CADP1 demand forecasts in passenger terms as illustrated in **Figure 3.1** below.

Figure 3.1: Annual Passenger Throughput at LCY compared to the CADP1 Forecasts



Source: CAA Airport Statistics, York Aviation

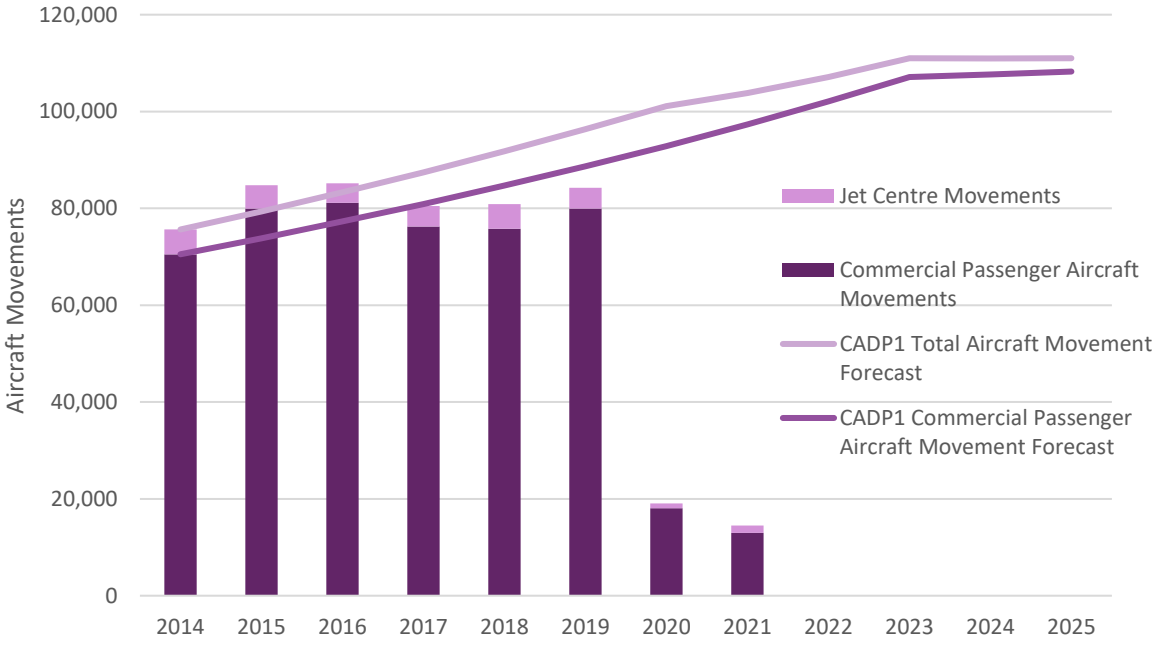
Aircraft Movements

3.3 **Figure 3.2** illustrates the pattern of aircraft movement growth since 2014. In 2019, the airport handled 84,274 aircraft movements, of which 79,942 were operating commercial passenger services. It is evident that, whilst the growth in passengers using the airport followed closely the CADP1 forecasts, the number of aircraft movements using the airport actually fell in 2017. There are two principal reasons why this arose:

- CityJet reducing operations at the airport, being replaced by other airlines operating with higher load factors and higher capacity aircraft[70];
- Fewer operations using smaller turbo-prop aircraft than were envisaged, particularly the growth of a network by Flybe.

3.4 Thereafter, the rate of aircraft movement growth has lagged that of passenger growth at 2.3% per annum over the period 2017-2019 as higher capacity larger aircraft were introduced and higher load factors attained. This means that more passengers are being handled on fewer aircraft movements than was previously expected and this trend is expected to continue.

Figure 3.2: Annual Aircraft Movements 2014 – 2019 compared to the CADP1 Forecast



Source: LCY, CAA Airport Statistics, York Aviation

Commercial Passenger Aircraft Movements

3.5 The slower growth in commercial passenger aircraft movements compared to passenger volumes can be attributed to the increase in passengers per movement, driven by higher load factors and larger average aircraft size. Whereas the CADP1 forecasts assumed that load factors would increase only marginally from 65.4% in 2014 to 67% by 2025 at 6.5 mppa, in practice the load factor achieved in 2019 was 71%. Furthermore, the average seating capacity of the aircraft increased from 80 in 2014 to 91 in 2019. This represented a faster increase in load factor and seating capacity than had been expected. The impact of these changes can be seen in **Figure B.1** in **Appendix B**, which illustrates an increase in the number of passengers per movement from 52 in 2014 to 63 by 2019 and **Figure B.2**, which illustrates the growth in average load factor over the period.

[70] The load factor is the proportion of seats sold on each flight.

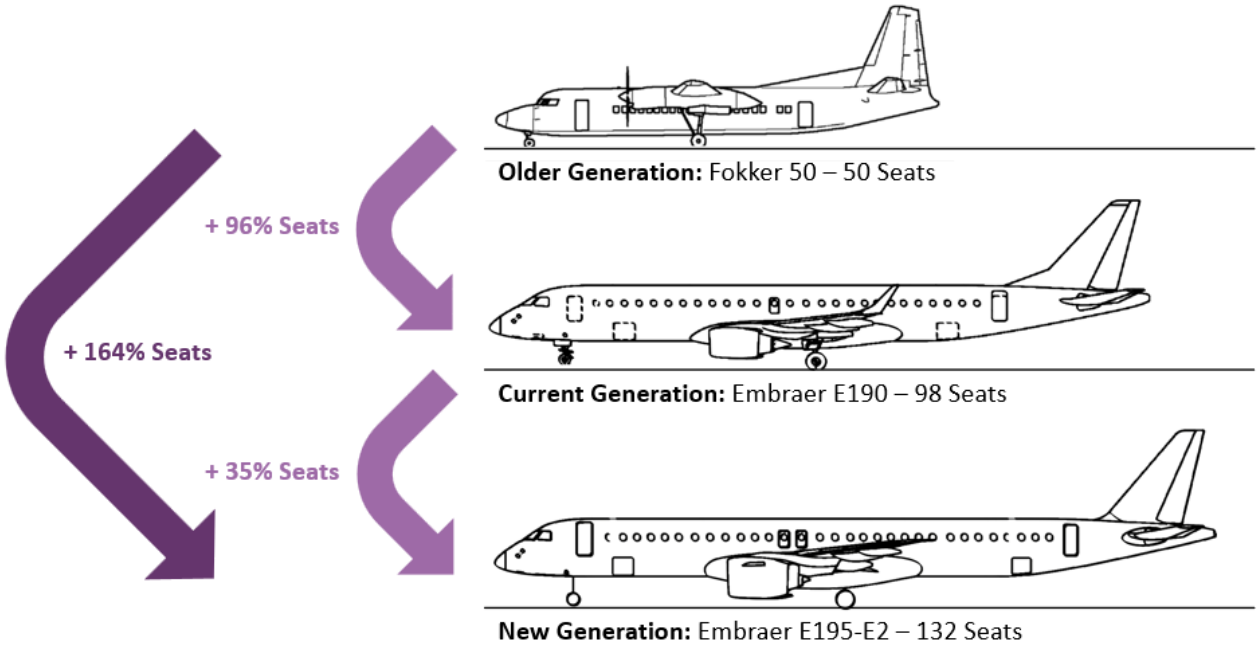
3.6 Whereas the CADP1 projections expected 5.1 million passengers in 2020 to be handled on 93,000 commercial aircraft movements, in practice this passenger throughput was attained in 2019 with just over 80,000 commercial aircraft movements. Building on these trends, it is now evident that the consented 111,000 annual aircraft movements can accommodate many more passengers than originally expected.

Fleet Mix

3.7 The average number of seats available on each flight has been increasing as airlines at LCY have replaced older generation, generally lower capacity, aircraft over time with larger jet aircraft. It is also partly a result of changes in the mix of airlines as those that historically operated smaller capacity aircraft have ceased operating at LCY. **Figure B.3 in Appendix B** illustrates the aircraft types scheduled to operate passenger flights at the airport between 2014 and 2019. Over this period, the Embraer E190 has gradually become the dominant aircraft type, driven by the increase of British Airways' (BACF's[71]) operation at the airport. This has also underpinned the growth in average aircraft size at the airport as a whole. Smaller aircraft types such as the Dornier 328 and the Fokker 50 have gradually become a smaller proportion of the fleet at the airport.

3.8 **Figure 3.3** illustrates the scale of changes in seat capacity of aircraft types that frequent LCY, starting with the older generation 50-seater Fokker 50, which was a significant part of the fleet mix at LCY until 2015. In the 2010s, BACF, began taking deliveries of larger Embraer E190 aircraft configured with 98 seats and this type of aircraft is also used by other airlines at LCY, such as LOT Polish Airlines, KLM and ITA Airways.

Figure 3.3: Seat Capacity Increases of Key Aircraft at London City Airport



Source: York Aviation

[71] BACF is a subsidiary of British Airways, which operates all of British Airways' flights at London City Airport.

3.9 Larger capacity aircraft that have started to operate from LCY are newer generation aircraft, such as the A220 (formerly CS100) and the Embraer-E2 family of aircraft[72], which have a wider wingspan and carry more passengers as also illustrated in **Figure 3.3**. Significantly, these new generation aircraft offer substantial noise and emissions benefits compared to the aircraft that they replace. A gradual introduction of such aircraft types was envisaged at the time of the CADP1 Application and the core case expected 16% of the flights to be operated by new generation quieter aircraft by 2025, with up to 23% if there was a faster transition from turbo-prop to jet aircraft. However, the ability to accommodate these aircraft was assumed to be limited by the need for them to backtrack on the runway due to limitations on the use of the taxilane along the Main Apron. This taxilane has now been certified for use by larger Code C aircraft, such as the new generation types cited above, so the limitation can be removed, meaning that there will no longer be a runway capacity limitation on the number of such aircraft that can be accommodated as backtracking is no longer necessary.

3.10 Prior to the pandemic, the airport was on track to attain the expected rate of fleet transition in line with the CADP1 assumptions, with Swiss already operating the A220-100 at LCY prior to the pandemic. However, given that the new apron was not in place to support a large number of such operations prior to the pandemic, the rate of fleet transition was always expected to accelerate from 2020 as additional apron became available. Although the opening of this additional apron and the airlines' transition to newer aircraft was delayed due to the pandemic, it is now envisaged that these new generation aircraft are likely to make up an increasing proportion of the fleet over time, significantly greater than the 23% of the fleet expected in 2025, when the airport was expected to reach 6.5 mppa, at the time of the CADP1 Application. However, the rate of introduction of these cleaner, quieter aircraft above the level anticipated in the CADP1 Application is dependent on the proposed amendments that are the subject of this S73 Application as will be explained in later sections.

Business Aviation Aircraft Movements

3.11 LCY also handles a small number of business aviation movements through its Jet Centre. At the time of the CADP1 projections, the number of business aviation movements was expected to grow initially from just over 5,000 in 2014 to 8,300 in 2020 before being squeezed out by commercial passenger aircraft movements, with only 2,800 assumed to still be operating in 2025 under the CADP1 projections. Because of the focus on delivering the CADP1 infrastructure and promoting the growth of commercial passenger operations, this growth did not materialise and the number of Jet Centre business aviation movements was only 4,300 in 2019[73].

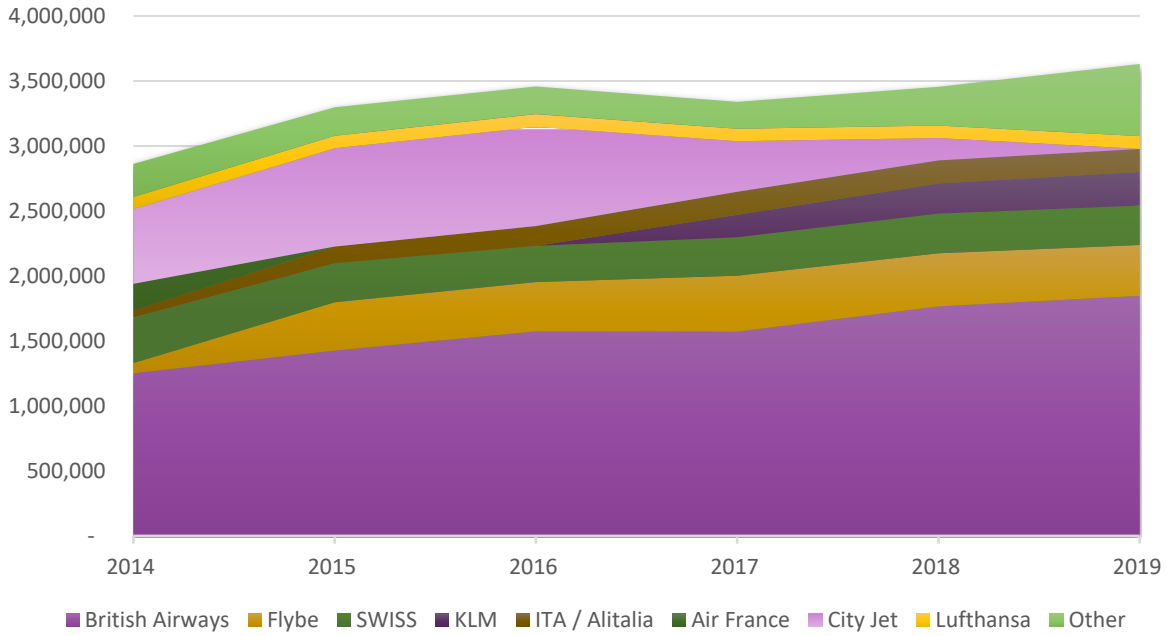
[7272] The Embraer195-E2 is certificated but not yet operating, although operations are expected to commence in the near future.

[73] Includes positioning flights to/from LCY.

Routes and Airlines

3.12 Commercial passenger operations at the airport are conducted by a range of major network carriers and their subsidiaries as well as other independent regional airlines. The mix of carriers at the airport has varied somewhat over the years, but BACF has been the largest carrier at the airport for some time and accounted for just over half of the seat capacity in 2019[74]. **Figure 3.4** illustrates the changes in the airline mix at LCY over time, with BACF increasing its share and the decline of CityJet from its position as the second largest carrier at the airport at the time of the CADP1 Application. In 2019, Flybe was the second largest airline at the airport but the airline failed in early 2020, during the pandemic, and, although it has recommenced flying, it has not done so at LCY. The failure of Flybe explains why there is less flying by turbo-prop aircraft at LCY than was envisaged at the time of the CADP1 Application.

Figure 3.4: Outbound Seat Capacity at London City Airport by Carrier (2014 – 2019)



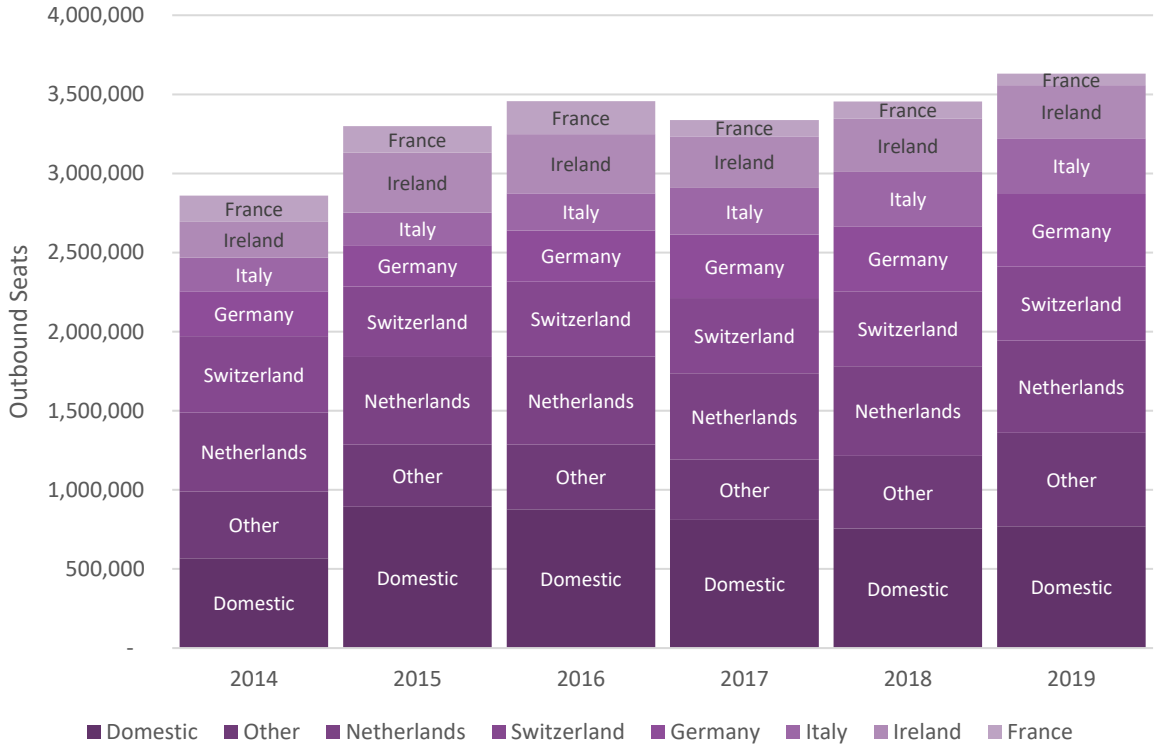
Source: OAG

3.13 The increase in BACF's operation at the airport has been characterised by an increase in aircraft based overnight at the airport. This has created increased opportunities for middle of the day flying to a range of leisure destinations using based aircraft.

3.14 Whilst the mix of carriers at the airport has varied over the years, the core route network has changed relatively little, with all services being to domestic or European destinations except for a transatlantic British Airways service to New York via Shannon that operated until March 2020. Approximately 21% of seat capacity at the airport in 2019 was to domestic destinations, with the remaining 79% to European destinations. This split between domestic and European destinations was broadly the same as in 2014, albeit domestic routes made up a higher proportion of the seat capacity in the intervening years, particularly following the entry of Flybe. **Figure 3.5** below shows the annual seat capacity provided from LCY by destination country between 2014 and 2019.

[74] Online Airline Guide (OAG).

Figure 3.5: Outbound Seat Capacity by Destination Country (2014 – 2019)



Source: OAG

3.15 The airport has also seen growth in the number of destinations served on a scheduled basis, growing from 46 in 2012 to 49 in 2019. **Figure 3.6** overleaf illustrates the breadth of LCY's route network in 2019, which included a range of key European business centres such as Zurich, Luxembourg and Edinburgh as well as a growing number of leisure orientated destinations including Faro, Split and Mykonos. Since the original CADP1 Application, some routes, such as Dresden and Hamburg, that primarily served business passenger have ceased and replaced by more leisure type routes. This is mirrored in a shift observed in the proportion of passengers travelling for business or leisure purposes that we explore later in this section. It should be noted that, over the longer term, we would expect some of these discontinued services to return to LCY as it continues to grow and as capacity constraints bite at other London airports. Improved aircraft performance and economics, associated with the next generation of aircraft, are also expected to increase the number of more distant, leisure focussed destinations that can be served over time.

Figure 3.6: London City Airport's Scheduled Route Network in 2019

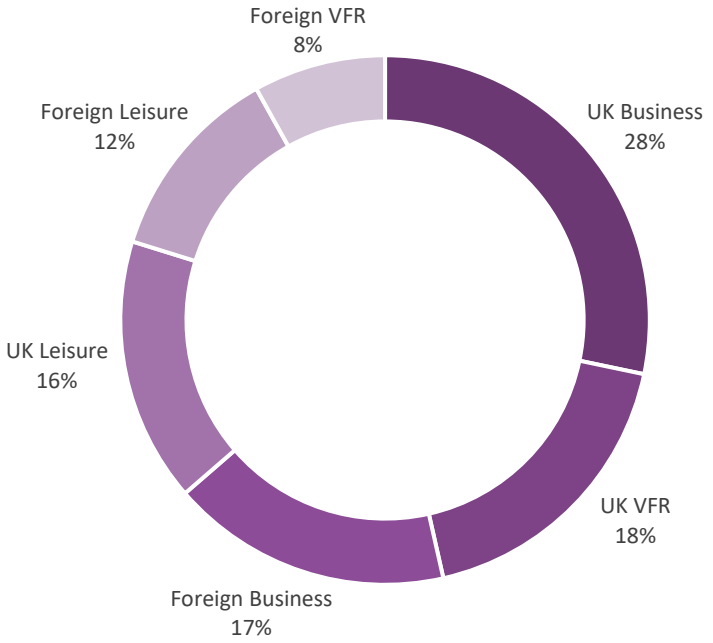
Source: OAG.

Passenger Characteristics

3.16 **Figure 3.7** illustrates the passenger mix at LCY in 2019[75]. Leisure passengers have been divided into those travelling for 'pure leisure' purposes such as a holiday, and those travelling to visit friends and family (VFR). The single largest passenger segment was UK resident business travellers, who accounted for approximately 28% of all passengers using the airport in 2019. Overall, the proportion of passengers travelling for business purposes was 46% (rounded) in 2019, down from 52% in 2014 as shown in **Figure 3.8**. This change reflects the increasing role of the airport in serving its local leisure market. Despite this fall in the proportion of business passengers using LCY, business passenger usage still makes up a higher proportion of total demand than at any other UK airport, including Heathrow. As discussed further in paragraph 3.19 below, the actual number of business passengers using LCY grew by over 20% between 2014 and 2019.

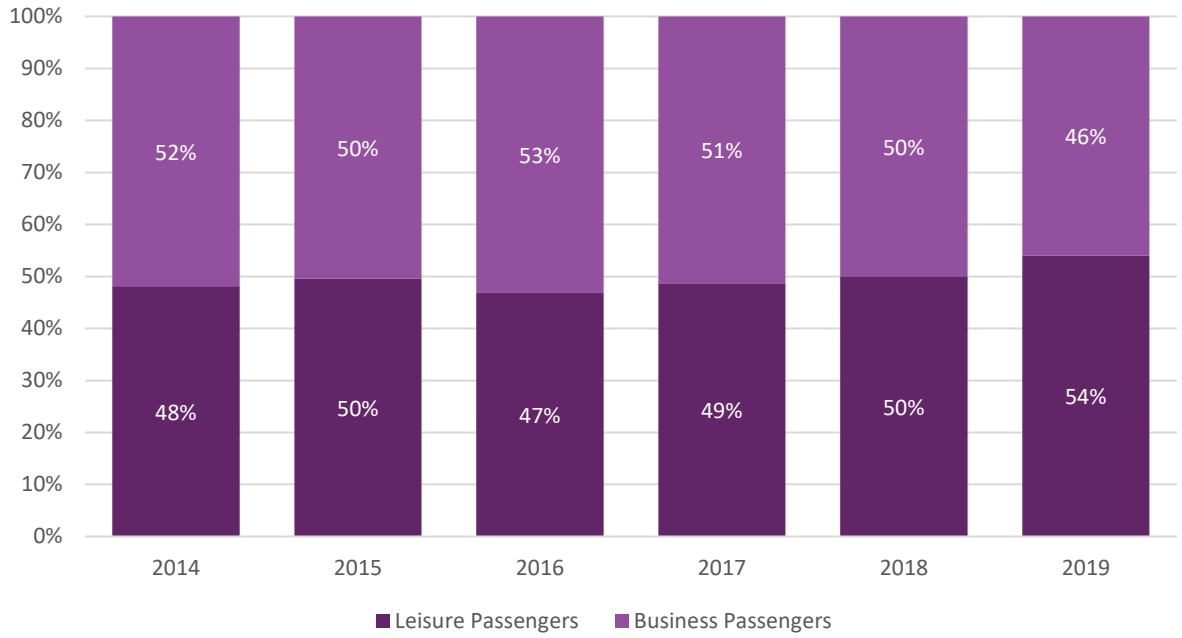
[75] This is derived from CAA Passenger Survey data.

Figure 3.7: Business and Leisure Split between UK and Foreign Resident Passengers (2019)



Source: CAA Passenger Survey data

Figure 3.8: Proportion of Business and Leisure Passengers using London City Airport (2014 – 2019)



Source: CAA Passenger Survey data

Catchment Area and Leakage

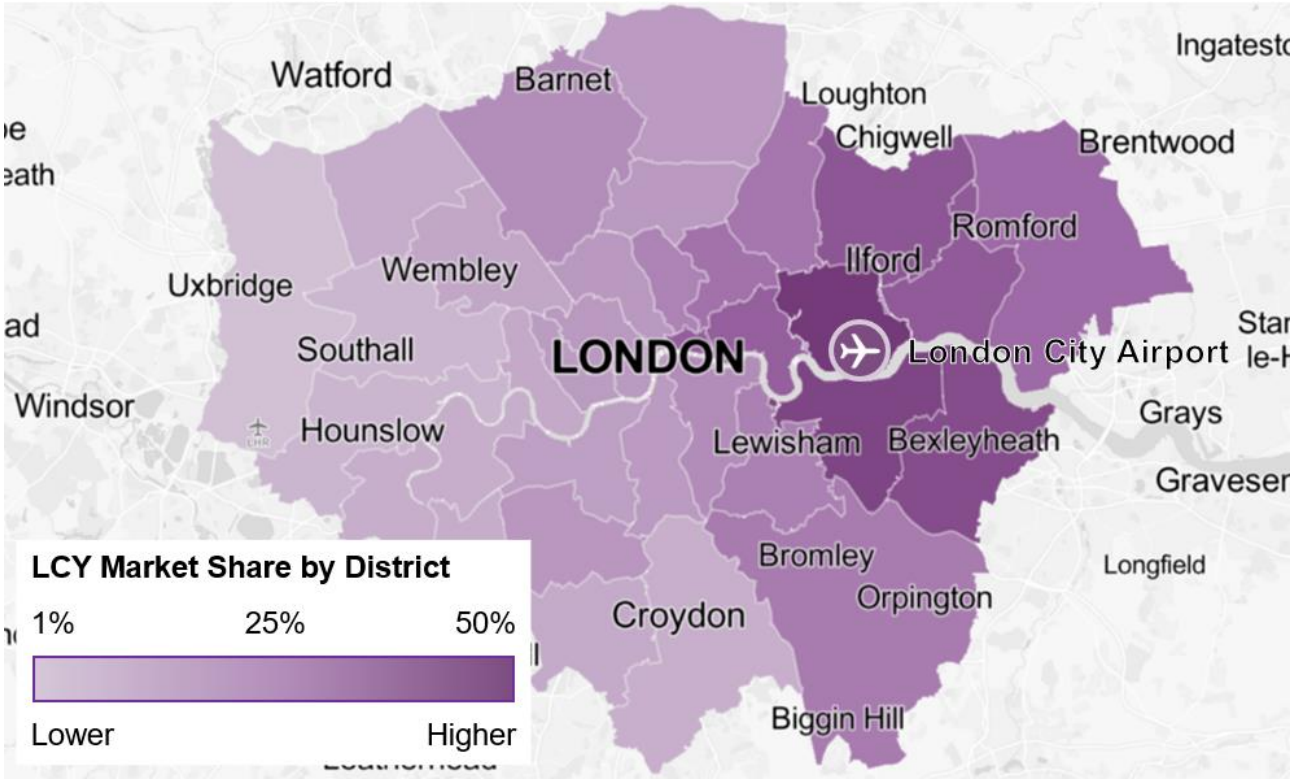
3.17 **Figure 3.9** illustrates the catchment area by local authority district from which the airport drew its passengers from in 2019. It demonstrates the relatively local nature of the airport's catchment, with approximately 4.1 million passengers (80%) coming from or destined for London boroughs and the dominance of boroughs to the east of London, particularly Newham and Tower Hamlets. However, the airport did attract some demand from across a total of 245 UK districts in 2019.

Figure 3.9: London City Airport's Passenger Catchment Area (2019)

Source: CAA Passenger Survey data. Imagery and mapping: Mapbox and OpenStreetMap

3.18 The airport commands a relatively high market share of short haul air travel in the districts surrounding it, this is striking given the highly competitive London air transport market where multiple airports compete for passengers from overlapping catchment areas as shown in **Figure 3.10**, which illustrates the airport's market share on routes it operated in 2019 by London Borough. It is clear that the airport's market share is strongest across East London, particularly in Newham, Greenwich and Bexley, highlighting the important role that it plays in meeting the local demand for air travel and the needs of local business. The ability of the airport to fulfil this role and support growing demand depends on its ability to grow and expand the range of services that it offers to local passengers. The airport's market share on routes it operated in 2019 by London Borough is set out in **Table 3.1**.

Figure 3.10: London City Airport's Market Share on Routes Operated by London Borough (2019)



Source: CAA Passenger Survey data. Imagery and mapping: Mapbox and OpenStreetMap

Table 3.1: London City Airport's Share of Routes Operated by London Borough (2019)

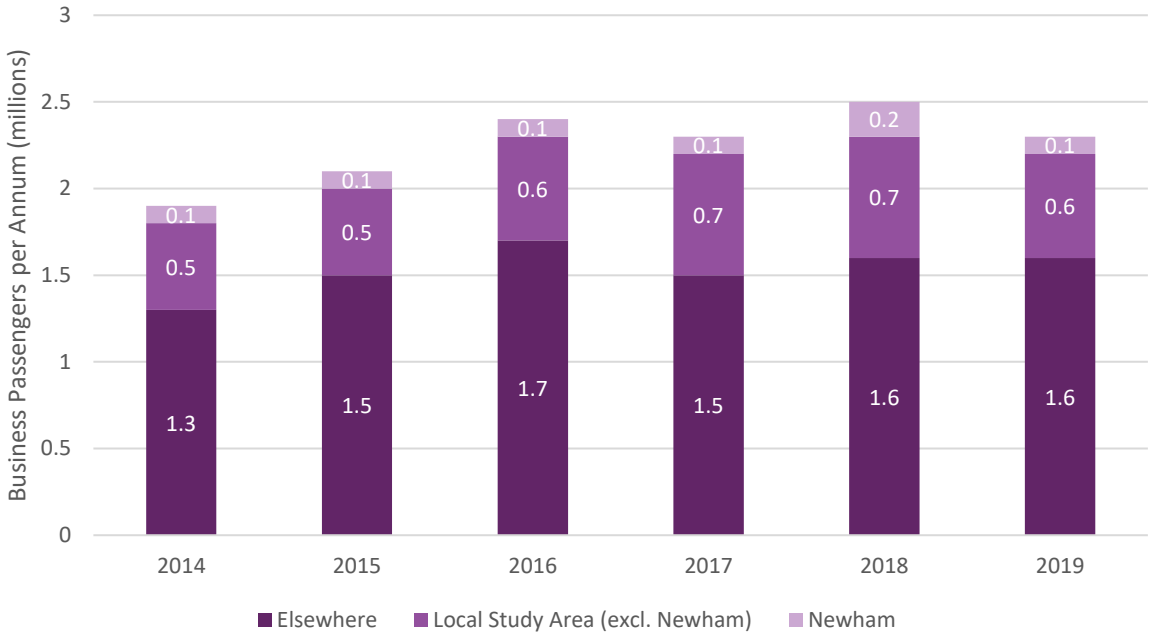
Rank	District	LCY's Share of Market
1	Newham	42.6%
2	Greenwich	38.3%
3	Bexley	35.5%
4	Redbridge	32.0%
5	Barking and Dagenham	30.4%
6	City of London	29.1%
7	Tower Hamlets	28.8%
8	Havering	24.9%
9	Hackney	23.0%
10	Waltham Forest	21.5%

Source: CAA Passenger Survey data

Business Passengers

3.19 Although the proportion of business passengers within the overall mix at LCY has been declining, the absolute number of business passengers using the airport has grown since 2014, albeit remaining relatively steady prior to the pandemic as illustrated in **Figure 3.11.** In 2019, the airport handled over 2.3 million business passengers, of which approximately 580,000 were from the Local Study Area and a further 123,000 were from Newham alone.

Figure 3.11: Business Passengers using London City Airport by Origin/Destination (2014-2019)



Source: CAA Passenger Survey data

3.20 **Table 3.2** lists the top districts from which LCY drew business passengers in 2019. Although the surface origins and destinations of business passengers are dominated by the City of London and City of Westminster, approximately 9% of the airport's business passengers had surface origins or destinations in Tower Hamlets (including Canary Wharf) and 6% in Newham. Overall, over 25% of business passengers using the airport had surface origins or destinations in the Local Study Area.

3.21 Business passengers at LCY make strong use of routes to key European business centres and domestic destinations. **Table 3.3** lists the most popular routes for passengers travelling for business purposes at the airport in 2014 and 2019. The domestic service to Edinburgh remained the most important route for business travellers throughout the five-year period. Destinations such as Amsterdam, Zurich, Frankfurt and Dublin also remained important during this time.

Table 3.2: Origin of Business Passengers using London City Airport (2019)

Surface Origin District	Business Passengers	% of Total
City of London	310,000	13.5%
Tower Hamlets	210,000	9.3%
City of Westminster	210,000	9.2%
Newham	150,000	6.4%
Islington	100,000	4.4%
Camden	90,000	4.0%
Southwark	90,000	4.0%
Greenwich	70,000	3.2%
Wandsworth	50,000	2.3%
Kensington and Chelsea	50,000	2.2%
Barnet	50,000	2.0%
Hackney	40,000	2.0%
Lambeth	40,000	1.9%
Bromley	40,000	1.8%
Merton	40,000	1.6%
Remaining Local Study Area	*160,000*	*7.0%*
Remaining London Boroughs	*160,000*	*7.0%*
Elsewhere	*380,000*	*18.3%*
Total	2,290,000[76]	100%

Source: CAA Passenger Survey data

Table 3.3: Top Destinations for Business Passengers using London City Airport

2014		2019	
Destination	**Business Passengers**	**Destination**	**Business Passengers**
Edinburgh	255,000	Edinburgh	330,000
Zurich	222,000	Amsterdam	276,000
Amsterdam	221,000	Zurich	228,000
Frankfurt	157,000	Dublin	221,000
Dublin	128,000	Glasgow	162,000
Glasgow	126,000	Frankfurt	158,000
Rotterdam	104,000	Milan (Linate)	129,000
Luxembourg	97,000	Rotterdam	107,000
Geneva	77,000	Geneva	102,000
Milan (Linate)	75,000	Belfast	96,000
Basel	43,000	Luxembourg	84,000
Aberdeen	41,000	Dusseldorf	54,000
Paris (Orly)	40,000	Berlin	59,000
Antwerp	40,000	Munich	55,000
Dusseldorf	38,000	Milan (Malpensa)	30,000
Madrid	34,000	Isle of Man	28,000
Stockholm	25,000	Warsaw	25,000
Isle of Man	18,000	Budapest	15,000
Jersey	17,000	Paris (Orly)	14,000
New York (JFK)	15,000	Billund	13,000

Source: CAA Passenger Survey data

[76] Excluding passengers transferring between flights at LCY

Characteristics of Business Passengers using London City Airport

3.22 **Table 3.4** sets out the average annual income of business passengers using the airport in 2019. Over half of business passengers had an annual income of over £57,500. Considering Newham in isolation, approximately 86% of its business passengers using the airport had an income of at least £34,500. By way of context, the median income per UK household for the financial year ending 2019 was £29,600[77]. The prevalence of relatively high earners using LCY suggests that the airport is an important asset for key decision makers in the businesses that use the airport, including within Newham and the local area.

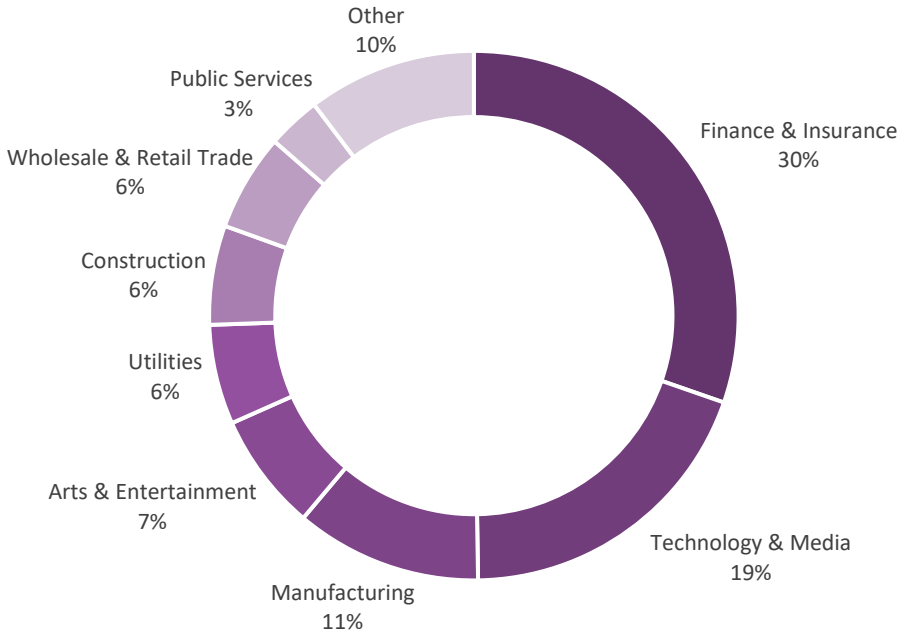
Table 3.4: Annual Income of Business Passengers using London City Airport (2019)

Annual Income Bracket	Newham	Local Study Area (excl. Newham)	Elsewhere
£0 - £22,999	0%	1%	1%
£23,000 - £34,449	14%	6%	5%
£34,500 - £57,499	30%	33%	23%
£57,500 - £114,999	47%	40%	43%
£115,000 - > £350,000	9%	19%	28%

Source: CAA Passenger Survey data

3.23 **Figure 3.12** shows the broad sectors that business passengers using the airport in 2019 were employed in. Business passengers employed in the finance and insurance sector represented the single largest sector, accounting for approximately 30% of the total, followed by those employed in the technology and media sector, accounting for 19% of the total. These top sectors are both high-value added sectors that have a high dependence upon air connectivity to conduct their business.

Figure 3.12: Employment Sectors of Business Passengers using London City Airport (2019)



Source: CAA Passenger Survey

[77] ONS Data

3.24 LCY had the highest market share of any other airport for short haul business passengers in 2019, with approximately 39% of Newham's business passengers choosing to use the airport for short haul services in 2019. For the rest of the Local Study Area, LCY captured 27% of all business passenger demand, despite its relatively limited range of routes. The relative market shares of the other airports are illustrated in **Figure B.4**. The high market share of the short haul business travel market commanded by LCY within Newham and the rest of the Local Study Area reflects the significant role the airport has in terms of offering connectivity to local businesses. This role in supporting local businesses would be enhanced if the airport is able to grow its network and serve a broader range of destinations.

Business Related Connectivity Provided by London City Airport

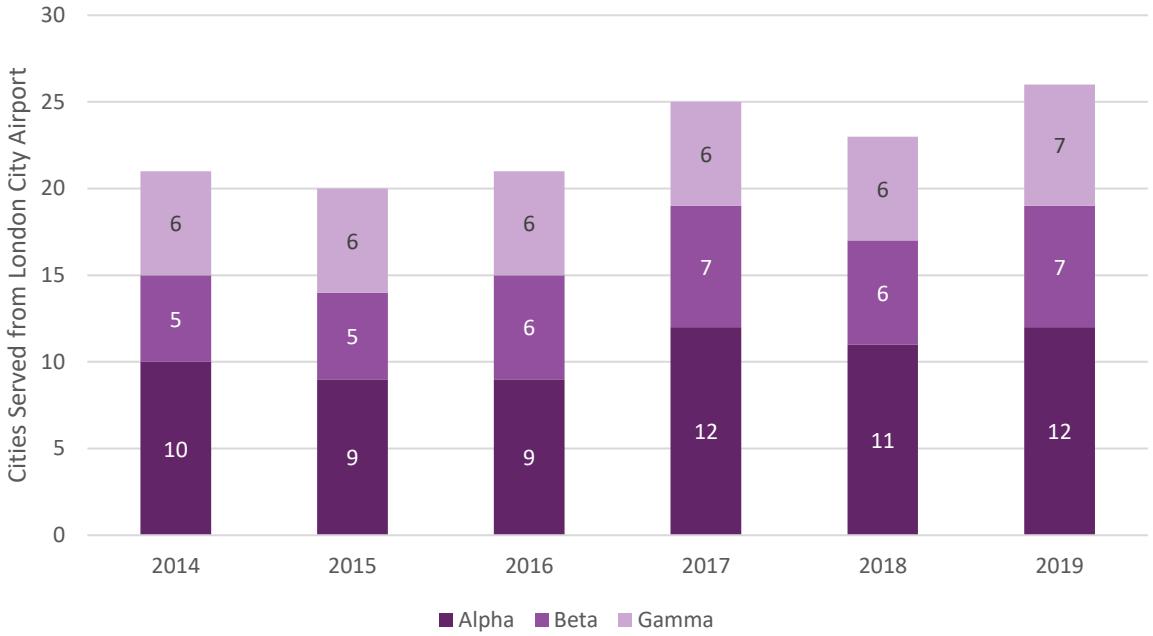
3.25 The analysis below considers the value of LCY's route network in terms of its ability to connect the local economy to key economic centres around the world. This has been done by considering its coverage of world cities, as defined by the Globalisation and World Cities Network (GaWC)[78]. The analysis here focusses on connectivity to what are referred to as Alpha, Beta and Gamma cities[79], which are all considered to be important cities for businesses internationally. The full list of cities categorised by GaWC is included in **Appendix A**.

3.26 **Figure 3.13** shows the number of GaWC cities served from LCY between 2014 and 2019. During this period, the number of world cities across the three GaWC classifications served from the airport has increased only slightly, which may reflect the prevalence of leisure orientated routes that have come forward at the airport to destinations that tend to have less significance for businesses.

[78] The World According to GaWC in 2020. The research analyses the location decisions of advanced service firms to establish a hierarch of world cities. Cities are then classified into a series of ranking starting with Alpha++ (the most important global cities) through to Gamma-.

[79] Alpha cities are highly integrated global cities providing advanced services for global regions and/or very important world cities that link major economic regions and states into the world economy. Beta level cities are important world cities that are instrumental in linking their region or state into the world economy. Gamma level cities are world cities linking smaller regions or states into the world economy, or important world cities whose major global capacity is not does not relate to the delivery of advanced services.

Figure 3.13: GaWC Cities Served from London City Airport (2014 – 2019)



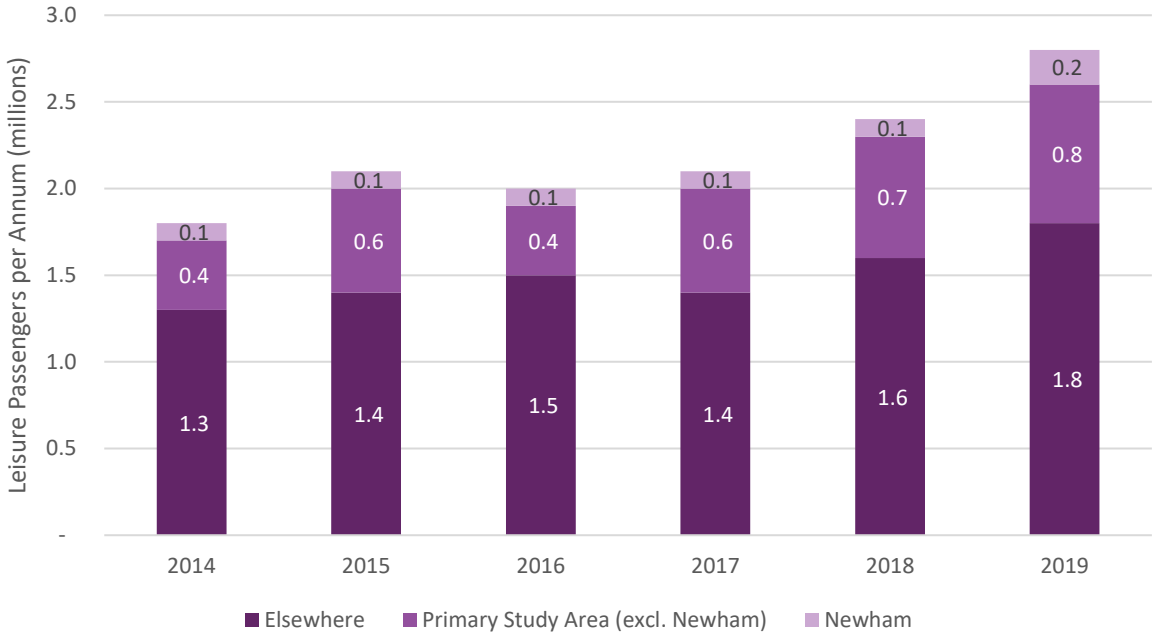
Source: York Aviation analysis of GaWC, The World According to GaWC 2020 and OAG

3.27 The airport's continued and stable connectivity to key economic centres is an important indicator of how the airport's growth to date has supported business activity both locally and across London. Whilst there has been some year-on-year variation in the airport's route network, there is a clear, albeit small, positive trajectory and an element of stability, indicating the airport's role in supporting businesses within the local economy, which will be enhanced if growth is permitted through the proposed amendments to the CADP1 conditions.

Leisure Passengers

3.28 LCY has seen strong growth in leisure passengers since 2014, growing from 1.75 million leisure passengers in 2014 to over 2.75 million leisure passengers in 2019 as shown in **Figure 3.14**. Much of the growth over this five-year period has come from Newham and the Local Study Area, with leisure passengers travelling to or from Newham increasing by approximately 122%, and passengers travelling to or from the Local Study Area increasing by 79%. This reflects the increasing attractiveness of the airport as its route network has grown to include more leisure orientated destinations and an increasing focus by the airlines on promoting the traditional city destinations to leisure passengers.

Figure 3.14: Leisure Passengers using London City Airport (2014 – 2019)



Source: CAA Passenger Survey

3.29 **Table 3.5** shows the main districts from which LCY drew its leisure passengers in 2019. The geographic distribution is similar to that for business passengers. The Local Study Area, including Newham, contributed approximately one-third of the airport's leisure passengers in 2019.

Table 3.5: Origins of Leisure Passengers using London City Airport (2019)

Surface Origin District	Leisure Passengers	% of Total
City of Westminster	240,000	8.8%
Newham	190,000	7.3%
Tower Hamlets	150,000	5.5%
Greenwich	140,000	5.1%
Kensington and Chelsea	130,000	4.7%
Camden	120,000	4.5%
Hackney	100,000	3.6%
Southwark	90,000	3.4%
Islington	80,000	3.1%
Redbridge	80,000	3.1%
City of London	80,000	2.9%
Lambeth	80,000	2.8%
Lewisham	70,000	2.8%
Bromley	70,000	2.6%
Barnet	50,000	2.0%
Remaining Local Study Area	*210,000*	*7.9%*
Remaining London Boroughs	*390,000*	*14.4%*
Elsewhere	*410,000*	*15.4%*
Total	2,680,000[80]	100%

Source: CAA Passenger Survey data

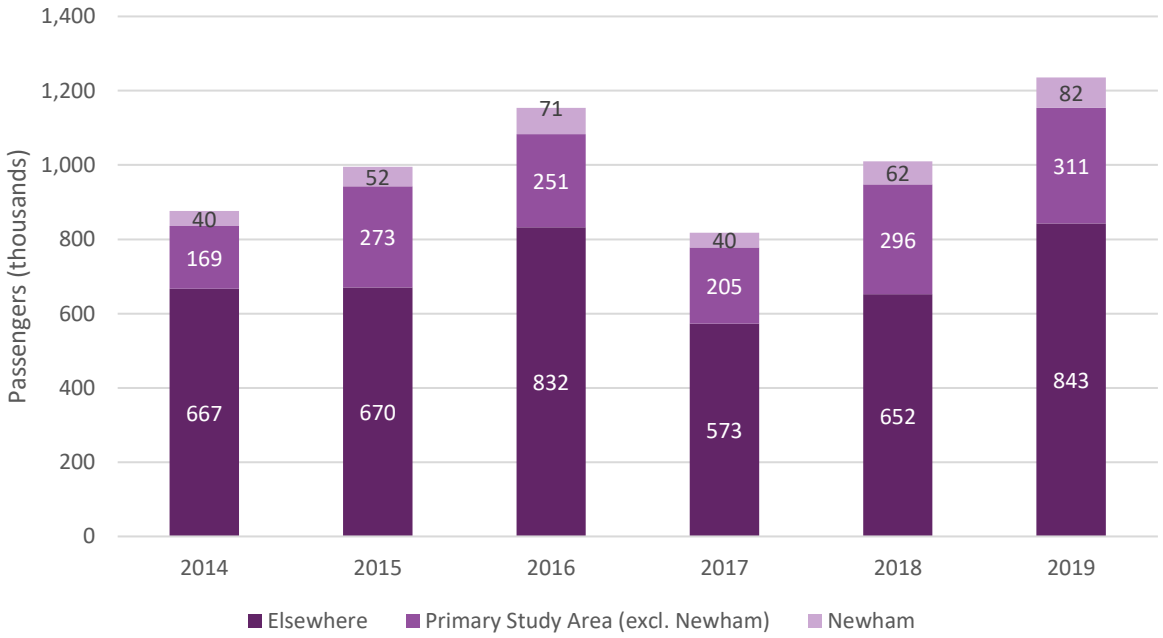
[80] Excluding passengers transferring between flights at LCY

3.30 The airport's influence is relatively strong within the core area it serves, with 14% and 8% of all short haul leisure passengers from Newham and Local Study Area using the airport, respectively. The airport operates within one of the most competitive aviation markets in the world, with six London airports competing for traffic to and from the capital. Whilst larger airports such as Stansted and Gatwick have larger market shares as shown in **Figure B.5**, LCY has a strong influence relative to its size. However, the airport's route network is significantly smaller in terms of its breadth, and the limited operating hours at weekends reduce its attractiveness to some leisure passengers.

Inbound Leisure Visitors

3.31 **Figure 3.15** illustrates the number of inbound passengers travelling for leisure purposes that used LCY between 2014 and 2019. This analysis includes foreign inbound passengers and domestic passengers inbound from Scotland, Northern Ireland, the Isle of Man and the Channel Islands. Whilst there has been some year-on-year variation, the number of inbound leisure passengers has increased over the period.

Figure 3.15: Inbound Leisure Passengers using London City Airport (2014 – 2019)

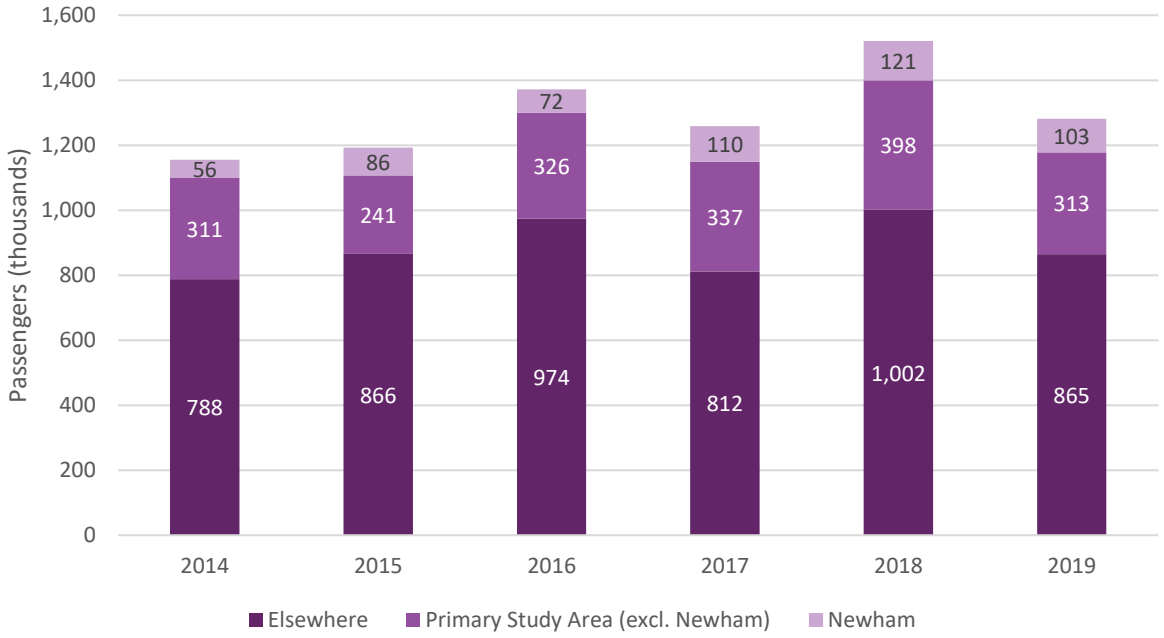


Source: CAA Passenger Survey data

Inbound Business Visitors

3.32 **Figure 3.16** presents the number of inbound passengers travelling for business purposes that used LCY between 2014 and 2019. There is slightly less annual variation compared to inbound leisure passengers, which may be because the core business orientated routes at the airport are stable and long established.

Figure 3.16: Inbound Business Passengers using London City Airport (2014 – 2019)



Source: CAA Passenger Survey

Conclusions on Traffic Performance

3.33 Prior to the pandemic, LCY exhibited growth consistent with the expectations as set out at the time of the CADP1 Application. However, changes in the mix of airlines and types of aircraft using the airport mean that the projected number of passengers is now being carried on fewer aircraft movements than originally envisaged and this trend is expected to continue, meaning that the consented 111,000 annual aircraft movements is now able to accommodate more passengers than originally envisaged, the use of which would enable the airport to better meet growing demand within its catchment area over the period beyond 2025.

3.34 There have been two principal changes in the market since the CADP1 application was approved and in the way in which the airlines serve the market that provide a context for the S73 Application:

- A greater reliance on aircraft based overnight at the airport, dedicated to flying to and from LCY as their primary base of operation, creating opportunities for middle of the day flying to a range of leisure destinations and a spreading of peaks of demand over the day; and
- Growth in the demand base local to the airport, particularly growth in demand for leisure services and the airline response to this growing market, resulting in changes to the profile of passengers using the airport to a more even split of business and leisure passengers, including those visiting friends and relatives.

3.35 These changes in the nature of operations at the airport mean that not only can more passengers be handled on the same number of aircraft movements but the changes in the profile of demand means that more passengers can be handled with the same infrastructure.

3.36 It is evident that the airport plays an important role in serving the local demand for air travel in the local boroughs due to its convenient location and ease of access, with 340,000 passengers to/from Newham using the airport in 2019. This includes business travellers, inbound visitors and, increasingly, local residents. It commands a high share of the local market on the routes that it serves, highlighting the importance of it being able to grow and increase the range of destinations served to better meet local demand by expanding its route network, including leisure services to meet the needs of the growing local population.

4. The Need for Greater Operational Flexibility

4.1 As noted in **Section 1**, LCY has planning permission for 111,000 annual aircraft movements and, as explained in the last section, there have been changes in the nature of airline operations at LCY since the original CADP1 projections were developed. Such changes are reflective of the dynamic nature of the aviation industry and highlight the importance of airports being able to adapt their operations to ensure that passenger needs can be met efficiently. As a result of the changes in the way that the airlines use the airport, it is now possible for it to accommodate a greater proportion of the local passenger demand for air travel within the already consented 111,000 annual aircraft movements.

4.2 Creating the conditions whereby the airport is able to serve more of its local demand is entirely consistent with the policy principle of an airport seeking to make best use of its existing runway. As will be demonstrated in **Section 7**, achieving full use of the consented 111,000 annual aircraft movements would not require any additional infrastructure over and above that consented under CADP1. However, greater operational flexibility is required to ensure that the airlines are incentivised to meet the potential future passenger demand in the most efficient and environmentally sensitive manner.

The Need for Extended Saturday Opening

4.3 Extended opening hours are essential both to enable airlines to serve demand, particularly for weekend leisure flying, and also to incentivise the main airline operators at LCY to accelerate their investment in cleaner, quieter, new generation aircraft as well as to increase their fleets of aircraft deployed at LCY. These new generation aircraft carry more passengers and can serve an extended range, so opening up new destinations and helping to better meet the demand from passengers as well as offering substantially enhanced noise and emissions performance.

4.4 Extended hours on Saturdays will make operating to/from LCY more attractive to all airlines allowing a much broader range of services to operate and making it more attractive for airlines to serve the airport, specifically those with new generation aircraft able to make use of the additional operating period on a Saturday afternoon and the additional slots in the early morning period. The benefits of extended Saturday opening arise in three principal ways:

- Allowing based airlines to achieve greater utilisation from the fleet of aircraft based at LCY so incentivising earlier replacement of current generation aircraft and growth, including incentivising more airlines to base aircraft at LCY;
- Enabling airlines serving hubs to improve their ability to offer a wide range of global connections to/from LCY that work in both directions over the week;
- Offering point to point airlines more opportunities to serve LCY and its local market with a consistent schedule 6 days a week, making initiating new routes and services more viable.

4.5 Growth to 9 mppa, in line with expected demand by passengers to use the airport over the anticipated timeframe to 2031, is unlikely to be achievable unless airlines are incentivised to grow and refleet to new generation aircraft such as the E190/195 E2s or A220 aircraft. Not only would this refleeting to higher capacity new generation aircraft facilitate growth, these aircraft have a materially better environmental performance than the previous generation of aircraft that they would replace. These new aircraft carry more passengers and offer an extended range and so can help the airport to better meet the needs of local passengers. Although other new and existing airlines are expected to grow their services to/from LCY, particularly given the capacity constraints at the other London airports over the remainder of this decade, BACF is expected to be a key driver of the growth in services to ensure that the airport can maximise its contribution to meeting local demand and delivering local benefit.

4.6 We now consider the impact of extended Saturday opening under the three headings above.

Incentivising Airlines to Re-fleet

4.7 In terms of based airlines and incentives to refleet, a key consideration is the position of BACF, which accounted for just over 50% of the operations at the airport (in terms of seat capacity – see **Figure 3.7**) in 2019. However, it is important to recognise that similar considerations would apply to any other airline basing or considering basing aircraft at LCY.

4.8 Just as BACF is important to LCY, the airport represents over 95% of BACF's operation, highlighting the importance of the airport to the airline. Because BACF's operation is concentrated at LCY investment decisions on fleet replacement and growth are closely related to opportunities available at LCY. Similarly, the decisions taken by BACF will have a proportionately significant impact on the pattern of growth and operations at LCY. However, these considerations would apply to any other airline in future with a substantial base of operations at LCY.

4.9 The airline is reaching a decision point as to when to retire its older aircraft and refleet, including the extent to which it should plan for increasing passenger demand in its decisions as to which and how many aircraft to order and over what timeframe. Whilst the efficiency and the environmental performance of new generation aircraft are beneficial to the airline and provide an incentive to refleet as aircraft age and the costs of maintenance increase, the ability to achieve additional utilisation of aircraft is critical to justify significant investment decisions by airlines, particularly at an early date. Otherwise, it is likely that older aircraft would be maintained in the fleet for longer and there would be less incentive to invest in increasing capacity through larger aircraft or through adding aircraft to the fleet.

Current Operating Pattern

4.10 BACF's growth at LCY in the period prior to the pandemic has led to a change in the pattern of aircraft operations across the day and across the week, partly reflecting increased passenger demand for leisure flying from LCY. This change has been accompanied by an increase in the airline's overall operation at LCY, in absolute and proportionate terms relative to the overall number of passengers handled at the airport. Historically, the airline focused on basing aircraft overnight away from LCY and operating into the airport around the peak and shoulder periods, often leaving aircraft sitting on the ground for long periods in the middle of the day at LCY, before operating the afternoon and evening peak services to meet predominantly business travel demands. Whilst inbound services to LCY in the morning and return flights in the evening remain a key part of the BACF operation, the pattern is now more mixed overall. BACF now bases more aircraft overnight at LCY to deliver early morning outbound services, complementing inbound services, and makes greater use of aircraft in the middle of the day, often to more leisure orientated destinations.

4.11 Another significant change has been the development of weekend flying from other UK airports by BACF to make more use of their aircraft than is currently possible to and from LCY given the closure from Saturday to Sunday lunchtimes. Aircraft utilisation is key to efficiency and to the airline's viability overall. This can take two forms, either operating flights from an airport that aircraft flew to on a normal schedule from LCY on a Friday night (e.g. Edinburgh) or where a positioning flight is required from either LCY or another airport on the network to a weekend base (e.g. London Stansted or Manchester). These positioning flights are typically empty flights with no seats available for sale[81] and are, thus, uneconomic in themselves.

4.12 Currently, being unable to operate on Saturday afternoons forces airlines reliant on LCY, such as BACF, to operate in an inefficient fashion. Tracking the use of aircraft on an indicative weekend in June 2019[82] shows that BACF aircraft were either forced to operate occasional services from other airports, such as Stansted, Edinburgh or Manchester, or aircraft were simply parked up, often having been positioned out to other airports. This is illustrated in the profile of operations by the airline and the indicative pattern of use of each aircraft[83] as illustrated in **Figure 4.1**, which indicates that:

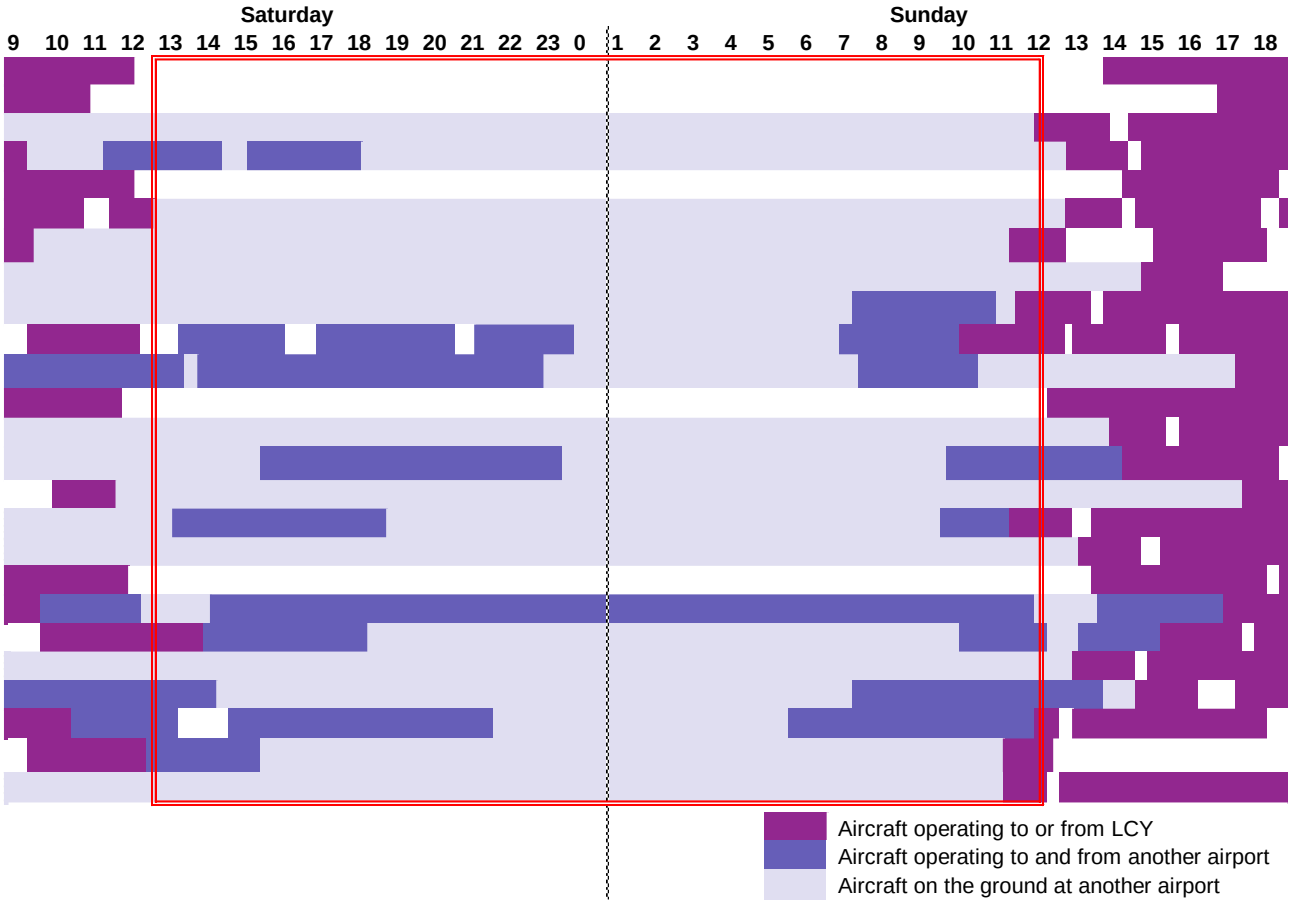
- 6 aircraft were scheduled to be overnight at LCY over Saturday night and these aircraft were unable to be productively used for 24 hours, meaning that the revenue earning potential was entirely foregone;
- 10 aircraft operated leisure type services from/to other airports, such as Manchester, Stansted or Edinburgh, of which only the latter was part of the normal pattern of operations although seats were offered for sale on the single weekly return flight to Manchester but aircraft to Stansted were positioned there solely for the purpose of weekend flying;
- 7 aircraft were parked up elsewhere, e.g. Glasgow, some positioning out on a Friday night, or at European airports to which flights were operated on a Friday evening or Saturday morning with the return flight on Sunday afternoons, meaning that these aircraft are not productively used through the whole or most of Saturday or Sunday morning.

[81] The exception being a flight to Manchester on a Friday night returning on a Sunday afternoon albeit, in practice, few seats were sold.
[82] June 14th-17th 2019.
[83] Excluding the A318 operation to and from New York which is no longer operating.

4.13 This pattern of operation, with a large number of empty positioning flights, and aircraft not being productively used for revenue earning flights for a substantial period of the week is simply economically inefficient as we discuss further below.

4.14 A further consideration for BACF, is that operating weekend services to/from these other airports means that they earn less revenue than if the flights were operated from LCY as average fares on like for like routes operated from other airports earn BACF around 25% less per passenger[84] than an equivalent operation from LCY. Hence, by being forced to use their aircraft from other airports in order to maintain some level of utilisation at weekends, BACF has to accept lower yields and may well have to pay higher airport charges as the scale of its operations at these other airports is too small to avail of any volume discounts for its weekend leisure services. Even if parked or positioned out, the aircraft are often simply incurring costs but not generating any revenue.

Figure 4.1: Indicative Weekend Operating Pattern



Source: OAG

[84] York Aviation analysis of RDC Apex data.

The Economics of Fleet Renewal

4.15 BACF has made clear to the airport that being able to increase its operations from LCY on Saturdays is important to its refleeting decisions. This would require the proposed amendments to be approved. Otherwise, the investment required in new aircraft is considered not to be economic in the near term. The existing fleet will still need to be replaced but this is unlikely to occur early enough to enable demand to be met and the noise benefits realised at an early date. The inefficiencies in aircraft utilisation highlighted above are a key factor and, without the ability to make better use of aircraft, this would impact on decisions as to the size of the future fleet at the point in time of replacement as well as the timing of replacement given that the value of the existing fleet of aircraft is largely written down whereas new aircraft come at a substantial cost in the first instance. The same considerations would apply to any other airline with a substantial operation now or in future at LCY.

4.16 Based on the typical life of aircraft in BACF's fleet, the timing of replacement could be expected to be in the late 2020s if the aircraft were retained to their full depreciation life, which is the assumption underpinning the Do Minimum Case with a slower transition to new generation aircraft assumed across the whole fleet operating at LCY. However, given the noise benefits of new generation aircraft and the potential for growth, in the first instance through higher seating capacity with potential for aircraft to be added to the fleet in the medium term, attaining earlier fleet transition, requires the airlines to be incentivised to refleet and it is noted that it is not unprecedented for airlines to refleet as early as 12 years when circumstances have been right to incentivise replacement.

4.17 A fundamental issue for BACF currently is the low utilisation attained with the current fleet given the airline's dependence on LCY and the current limitations in terms of operating hours. These affect BACF's (or any other based airline's) ability to productively use its aircraft as highlighted in **Table 4.1** below, which shows average block hour utilisation and rotations by day for BACF aircraft in 2019. This includes operations at other airports than LCY. This shows that block hour utilisation on Saturdays is 52% below the weekly average and rotations per day are 63% below a typical weekday. The effect of this lower utilisation is that it creates a disincentive to refleet and to grow. There would be a significant efficiency gain from extended opening on a Saturday which would incentivise fleet replacement and also, potentially, enable airlines to offer lower fares to local travellers.

4.18 There is a potential profitability upside to BACF, and potentially other airlines as well, from extended opening on Saturdays as increased utilisation would enable additional revenue to be earned. This would provide improved financial performance to incentivise refleeting and growth at LCY. Furthermore, new generation jet aircraft would deliver the following benefits over and above their improved environmental performance:

- Around 20% more fuel efficient (and consequently less carbon);
- A noise departure footprint around 60% less than the older jet aircraft that they would replace;
- More seats per aircraft, hence automatically offering more efficient operations;
- Lower maintenance costs.

4.19 However, these benefits alone would not be sufficient to ensure early refleeting in the absence of the ability to operate their aircraft for more of the week to and from LCY without the need to position these aircraft to other airports to operate or leave them on the ground over the weekend. Overall, allowing operations on Saturday afternoons is fundamental to creating the conditions for BACF to refleet at an early date and meet the growing local demand for air travel from LCY.

Table 4.1: Average Block Hours by Day or Week for BACF Aircraft

	LCY Operations Only		Other Airport Operations		Total	
Day of Week	**Average Daily Block Hours per Aircraft**	**Average Daily Rotations per Aircraft**	**Average Daily Block Hours per Aircraft**	**Average Daily Rotations per Aircraft**	**Average Daily Block Hours per Aircraft**	**Average Daily Rotations per Aircraft**
Monday	8.7	2.7	0.0	0.0	8.7	2.7
Tuesday	8.5	2.8	0.0	0.0	8.5	2.8
Wednesday	8.7	2.8	0.0	0.0	8.7	2.8
Thursday	8.8	2.9	0.0	0.0	8.8	2.9
Friday	8.7	2.7	0.1	0.0	8.8	2.7
Saturday	2.1	0.6	1.5	0.3	3.6	0.9
Sunday	4.8	1.4	0.8	0.2	5.6	1.5
BACF Total	**7.2**	**2.3**	**0.3**	**0.1**	**7.5**	**2.3**
BACF CAA Data Hours					*6.9*	*2.2*
BA Mainline Short Haul					*8.5*	*2.1*

Note: differences on BACF between OAG and CAA caused by differences in definition of hours.

Source: BA Cityflyer from OAG or CAA Statistics (where marked), BA from CAA Statistics

Hub Services

4.20 A key benefit from extended hours on a Saturday afternoon is that it would facilitate better global connections to/from LCY**.** For airlines serving hubs, such as KLM, Lufthansa and Swiss, the limited hours on Saturdays means that it may not be possible to offer a two-way connection (outbound and inbound or vice versa) where there outbound flight from LCY on a Saturday would result in an unreasonably long connecting time or the inbound flight have to depart back to LCY too early to allow a connection from a global point. Hence, extended opening on Saturdays will create new opportunities for KLM and other airlines serving hubs to offer a better range of hub connections, opening up additional global travel opportunities for local travellers over more of the week, improving customer service and choice for both business and leisure travellers.

Point to Point Services

4.21 The operating patterns for most other airlines using LCY are expected to remain largely consistent with those seen historically, focusing on inbound peak time operations, supplemented in some cases by shoulder period flights to allow for flexibility for business passengers. For many of these airlines, operating point to point services to LCY, the changes in opening hours on a Saturday is not expected to fundamentally change their patterns of operation but for airlines whose only London operation is to LCY, such as Luxair, Saturday afternoon opening will enable additional services to be operated so opening up additional travel opportunities for local passengers and those from across London. Furthermore, allowing a better range of services over more of the week, so meeting more of passengers' demand for travel, enhances the viability of direct operations to LCY and so is likely to contribute to airlines adding new destinations and frequencies of service at an earlier date than might otherwise be possible.

Benefits of Saturday Afternoon Opening

4.22 Extending the operating hours on a Saturday will not just lead to new aircraft movements in the afternoon but will be a driver for growth across the whole day as airlines will be able to operate comprehensive schedules throughout Saturday, which will include some additional services in the morning (as highlighted earlier, only a proportion of the BACF fleet actually operates any services at LCY on a Saturday currently reflecting the limitations on sector length and the ability for the aircraft to return to LCY due to the closure time on Saturdays).

4.23 The extended hours will allow longer sectors to be operated and this will be particularly beneficial for outbound leisure passengers, as many of the key leisure points in the Mediterranean cannot be easily served by a return service within the current operating hours. Being able to operate normal schedules to these points (i.e. not having an outbound flight on a Saturday morning and a return on a Sunday evening) will be attractive to the airlines and will encourage them to operate a broader range of departure and arrival times to points such as Alicante, Malaga and Palma, as well as enabling a wider range of leisure destinations such as Split, Cagliari and Zakynthos. Furthermore, with the increased operating range of the new generation aircraft from the airport, points such as Tenerife and Lanzarote would be possible destinations for flights on Saturdays (but unlikely to operate on weekdays as these routes would prevent an airline from operating its core business schedule easily). It could be expected that the airlines would also then offer a wider range of flights around these longer leisure sectors to maximise aircraft utilisation and this would be expected to lead to more city and domestic destinations being added to the schedule as well to optimise aircraft utilisation and which are likely to be attractive to both inbound and outbound leisure passengers. Achieving these benefits in terms of the range and frequency of destinations served will require opening to 18:30 on Saturdays year round, with an extra hour for arriving flights only (limited to 12) during the Summer[85].

4.24 As noted above, extended opening hours on Saturdays will be attractive not only to BACF, but also to a number of other airlines operating at LCY, bringing benefits for local passengers, particularly the ability to improve hub connections from the east of London, allowing passengers to make a wider array of connections from their local airport on a Saturday to meet late afternoon and evening departures globally. Airlines such as KLM and SWISS typically charge less for flights via a European hub than would be charged for direct services from a London airport, particularly Heathrow. As a result, additional opportunities on Saturdays and early in the morning with such airlines can offer real fare saving benefits to those local passengers that would find it convenient to use LCY to connect via a hub. This is expected to be particularly attractive to leisure passengers living in the vicinity of the airport who are likely to prefer such connections compared to a more expensive direct flight using Heathrow or Gatwick. When combined with greater flexibility in the first half hour (see later in this section), the ability to operate convenient hub connections will encourage further airlines to launch such services to LCY over time, bringing further competition, lowering fares and increasing network breadth to the local community.

[85] British Summer Time - aligning with the IATA Summer Scheduling season from the last Sunday in March each year to the last Sunday in October.

4.25 The airport is proposing a commitment that only cleaner, quieter, new generation aircraft[86] will be allowed to operate in any newly extended hours on a Saturday as well as for any additional flights (above the six currently permitted) in the first half hour of the day as outlined below. This will require airlines to replace their older fleets with cleaner, quieter, new generation aircraft in order to benefit from any increased flexibility. This, in turn, will result in the benefits of quieter aircraft being felt by the airport's neighbours throughout the week. It is expected that there would be a gradual build-up of services on Saturdays over the forecast period as any remaining older generation aircraft which cannot fly during this period are phased out and new generation aircraft are introduced operating not just on Saturdays but through the rest of the week.

4.26 The extended hours will also offer greater employment flexibility for those working at the airport, as it will require some shift coverage at times, which may be more attractive to some employees (for example those wishing to balance family life). However, the economic benefits are not specific to the local employment opportunities on Saturdays. To the extent that extended opening hours and operational flexibility lead to growth at the airport coming forward earlier than would otherwise be the case, employment and other economic benefits will arise at an earlier date. The economic benefits arising from this greater operational flexibility, including Saturday afternoons, are set out in **Section 6** and form a key part of the case for the proposed amendments.

Early Morning Operations

4.27 Greater flexibility for movements in the first half hour of the day (both weekdays and Saturdays) will be attractive to the carriers for the reasons discussed, in part, above. As previously identified, BACF has increased the number of aircraft overnighting at LCY and, on many days of the year, the permitted limit of 6 movements in the first half hour is now fully scheduled[87] meaning that additional based aircraft would have to delay their first departure so wasting potential flying time and aircraft utilisation. This, of itself, is a disincentive to base more aircraft at LCY. Additional inbound flights also cannot be scheduled.

4.28 Increasing movements in this period will allow the airlines to better meet the needs of the local market, offering increasing outbound business destinations on some weekdays and maximising the leisure opportunities on Saturdays and at quieter times of the year (for business travel). This increases scheduling flexibility for the airlines, enabling them to achieve improved utilisation and higher load factors by being better able to schedule aircraft activity to meet the demand.

4.29 As well as facilitating additional based aircraft, additional early morning arrivals or departures to/from the UK for airlines, such as KLM, Lufthansa and Swiss. would improve the range of connections available through European hub airports, improving global connectivity and supporting the needs of businesses to access long haul markets in particular. This will also bring benefits to local leisure passengers, increasing their options for air travel at lower typical fares compared direct services from London.

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[86] New generation, quieter aircraft and turboprop aircraft that operate within the defined noise criterion set out in Chapter 8, section 8.5 of the ES will be permitted to operate in these periods.

[87] Even though 6 movements are scheduled, the actual number of movements on the runway, as controlled by the current condition, on average is lower due the time that it takes for departing aircraft to taxi to the runway.

4.30 Increasing early morning operations will also contribute to refleeting incentives as the 3 additional actual runway movements[88] proposed, over and above the 6 movements currently allowed, in this early morning period will also be restricted to cleaner, quieter, new generation aircraft only as with the additional hours on a Saturday. Hence, airlines wishing to operate additional flights at this time will have to operate quieter aircraft and this is likely to influence their fleet deployment choices at LCY. Coupled with the improved operating efficiency at LCY, this would provide a strong incentive for airlines, including based airlines such as BACF or those overnighting aircraft at LCY, to accelerate refleeting. Hence the proposed change to the number of flights allowed in the first half hour of the day is also aimed at incentivising the airlines to operate the quietest possible aircraft to LCY at all times.

Conclusions on the Need for Extended Opening Hours and Greater Flexibility

4.31 Delivering growth to meet the needs of local passengers requires the conditions to be created for the airlines to both modernise and grow their fleets of aircraft based at LCY. This requires extended operating hours on a Saturday to reduce the current inefficiency in terms of aircraft utilisation of having to park aircraft for 24 hours over a weekend or to position the aircraft away from LCY to operate from other airports without restricted operating hours. Modernisation of aircraft fleets is key to delivering real noise benefits, which would see noise levels of individual aircraft reduce on average compared to current levels, even with growth. Without a change to the operating hours, not only would growth be significantly slower but the modernisation of the fleets would take longer to achieve, so delaying the noise benefits.

4.32 The proposed amendments will allow the airlines to grow their route network, increasing frequencies of service to existing destinations and services to new destinations. Specifically, longer operating hours on Saturdays would create more opportunities for local residents to use their local airport for leisure as well as business purposes, with a greater range of holiday destinations available at weekends, to places such as the Eastern Mediterranean, including the Greek Islands, or the Canary Islands, which currently cannot be served on Saturdays as the airport shuts too early for the return flight to operate. Importantly, the changes will also allow better connections to hubs, such as Amsterdam, to provide onward connections to global points facilitated by increased early morning and Saturday afternoon operations. The changes will also support inbound tourism.

4.33 Greater flexibility for the airlines to operate on Saturday afternoons would secure the economic benefits at a much earlier date, creating valuable job opportunities for local people. Additional shift patterns would enhance the work opportunities, particularly for those seeking part time employment or non-standard working patterns to fit their lifestyles.

4.34 If greater operational flexibility is not provided through extended opening on Saturday afternoons, as well as the greater flexibility to increase the number of movements in the early morning period from 6 to 9, the airport might only reach around 8.8 mppa by 2039, with much slower delivery of economic benefits as the more rapid take-up of market opportunities by the airlines would not be enabled.

[88] The actual number of slots scheduled on any given day may exceed 9 reflecting the difference between scheduled time of operation and actual runway time.

5. Future Demand Projections

5.1 In this section, we outline the updated demand forecasts for LCY and explain why some assumptions have changed since the projections that originally underpinned the CADP1 Application. The detailed forecasting methodology is presented in **Appendix D** including the core assumptions. Our methodology and assumptions are consistent with those adopted by the Department for Transport in preparing their scenario forecasts underpinning the Jet Zero Strategy.

5.2 We have developed passenger forecasts for a core Development Case, our most likely growth projection, as well as a Slower Growth Case (with lower underlying market growth) and Faster Growth Case (with faster underlying market growth). We also present the fallback position (Do Minimum Case), highlighting how the airport is expected to grow if the conditions applied as part of CADP1 are not changed and the ultimate passenger cap of 6.5 mppa remains.

Changes From CADP1 Projections

5.3 As explained earlier, there have been changes in the nature of airline operations at LCY since the original CADP1 projections were developed, reflecting the dynamic nature of the aviation industry. Amongst the key changes that have taken place are:

- The loss of the CityJet and Flybe operations, of which the latter has had the greatest impact because significant growth using smaller turboprop aircraft was expected from Flybe;
- As discussed in the previous section, much of the growth has come from BACF, operating larger aircraft and at higher average load factors than the carriers they replaced, although peak period load factors remain consistent with the CADP1 assumption of 85%;
- More aircraft based overnight at the airport has shifted some of the growth away from the traditional peaks in the morning and early evening;
- As a consequence, a greater proportion of activity is by aircraft dedicated to flying to and from LCY as their primary base of operation rather than aircraft operating into the airport from elsewhere;
- This revised pattern of operation has enabled the airlines to operate a number of leisure type routes from the airport, particularly in the middle part of the day and resulting in increased use of the airport by leisure passengers.

5.4 These operational changes have implications for the way in which growth at the airport is expected to happen to enable it to meet air passenger demand within its catchment area and having regard to anticipated constraints on the capacity that will be available at the other airports serving London over the next decade. They also highlight the importance of airports being able to adapt how their infrastructure is used to ensure that they can continue to satisfy demand from passengers and airlines.

Development Case

5.5 The core Development Case forecasts are predicated on the proposed amendments to the operating conditions being made. We set out later in this section, the implications for the demand forecasts in the event of there being no change to the operating hours on Saturdays as this would have a material impact on the rate of growth.

Passenger Forecast

5.6 The passenger forecast methodology and assumptions are presented in detail in **Appendix D**. In summary, these have been derived using a semi-bottom-up forecasting model, which takes account of specific airport capacity factors that are unique to LCY (such as stand availability by aircraft size, aircraft capabilities, runway movements etc.), but develops the specific forecast based on the scale of the underlying market and LCY's ability to capture a share of that market (the market capture rate) to ensure that routes are only added to the forecast that could viably be operated over time.

5.7 The underlying market growth rates, used to establish expected future levels of demand within the airport's wider catchment area, are derived from an econometric model, developed using Monte Carlo[89] techniques, to assess the expected level of growth in the underlying market dependent on income, measured by GDP, and the cost of flying, including taking fully into account the costs associated with carbon and its abatement. The growth rates are derived using DfT elasticities, but use updated economic data and the latest values for the cost of carbon[90]. The inclusion of updated carbon costs is consistent with the Government's latest Jet Zero assumptions. The Monte Carlo simulation generates a range of forecast outcomes allowing for future uncertainties. The mid-point (50th percentile) has been adopted as the 'most likely' forecast of future underlying demand to inform the Development Case, with the 80th percentile used to inform the Faster Growth Case and the 20th percentile the Slower Growth Case. In this way, the forecasts allow for potential uncertainties in the market, including the cost of carbon and its abatement.

5.8 A small uplift to the growth rates has been applied for core districts in the east of London to reflect faster than average population growth to the east, as projected by the Greater London Authority (GLA), with the underlying market grow rates for Newham and Tower Hamlets uplifted in proportion to the faster expected population growth rate.

5.9 The forecasts are then built bottom up, taking into account the level of underlying demand within the airport's catchment area, by adding new routes within each forecast year and making assumptions about:

- the likely aircraft type/capacity that would operate each route;
- the expected daily frequency; and
- conversion of the daily frequency to a total annual frequency of service and capacity for each route using typical busy day to annual passenger ratios to estimate.

5.10 Based on typical market capture rates of passengers from each catchment area district observed for existing routes at LCY, the forecasting model indicates the likely demand which could be drawn to each new service if it was operated and, if this is sufficient to make the service viable, the route is retained in the forecast capped by a reasonable upper bound load factor. Increases of frequency and changes to aircraft types on existing routes are modelled in the same way, with frequencies added to new routes in some cases where the likely demand exceeds the capacity at reasonable load factors.

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[89] Monte Carlo simulation is a mathematical technique based on probabilities of occurrence of the various input assumptions. The simulation runs the potential different combinations of inputs, weighted by their probabilities, many times to determine a broad range of growth rates for each year for the forecast.

[90] Jet Zero: further technical consultation, Department for Transport, March 2022 and are derived from the most recent appraisal guidance from BEIS - Valuation of greenhouse gas emissions: for policy appraisal and evaluation, September 2021.

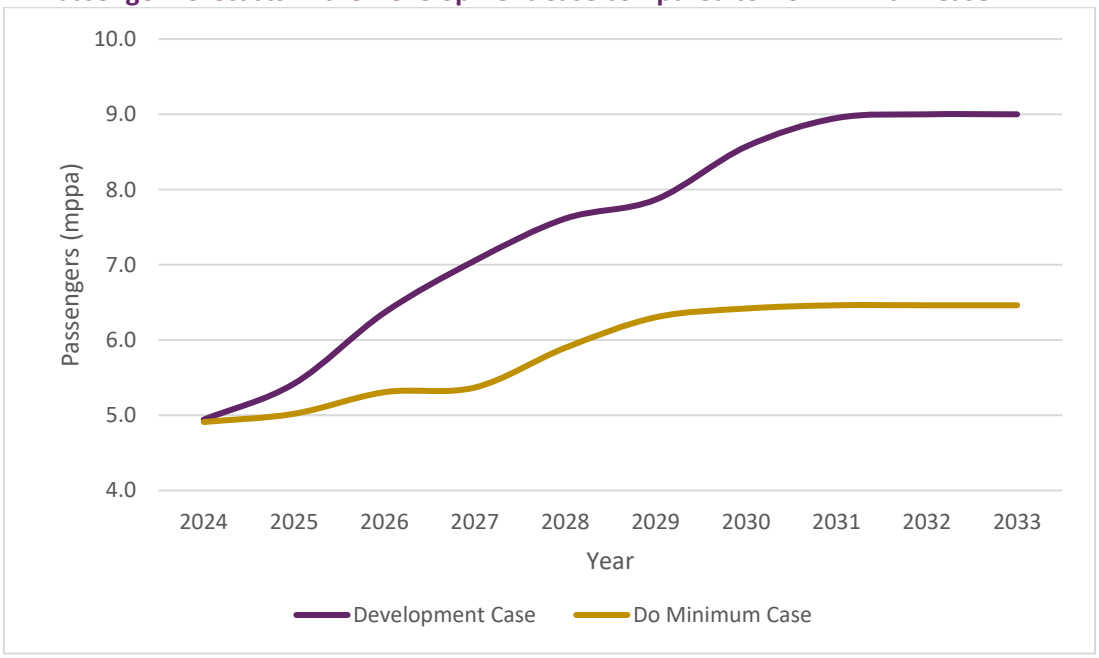
5.11 As outlined in **Appendix D**, some uplift in LCY's share of the local market has been assumed across core forecast districts to reflect the airport attracting a higher proportion of overall passenger demand on the routes it serves as constraint bites at other London airports over the forecast period, particularly at London Heathrow. The uplift in market capture rates is modest at only 1% of the market capture rate per annum[91] but, when combined with new routes that will clawback demand from other airports, this is assumed to lead to LCY increasing its share of the London market over the period to 2031. Overall, this is expected to lead to an increase in LCY's share of the overall London airports from around 3% in 2019 to 4% by 2031.

5.12 The Development Case forecast indicates that the airport will reach 9 million passengers and 111,000 movements in 2031 in this core case. The represents a Compound Annual Growth Rate (CAGR) of 4.8% per annum from 2019. This is lower than historic growth rates seen, with the CAGR from 2014 to 2019 being 7.0% per annum and, over the longer term, 6.2% from 2009 – 2019. This reflects recovery from the effects of the pandemic and expectations of increased costs of carbon, counterbalanced by LCY attracting a share of demand from the other constrained airports.

5.13 Without the uplift in the passenger cap, the airport is expected to be virtually full by 2029, and there would be little scope for any new services at this point, with marginal load factor growth leading to the airport reaching 6.5 million passengers in the Do Minimum Case.

5.14 The passenger forecast results for the core Development Case and the Do Minimum Case can be seen in **Figure 5.1**.

Figure 5.1: Passenger Forecasts in the Development Case compared to Do Minimum Case



Source: York Aviation

[91] If LCY captured 30% of the demand historically, the market capture uplift assumed in each year of the forecast would be only 0.3%.

5.15 Given an increasing focus on leisure flying, the proportion of passengers travelling for business purposes is expected to decline further to around 35% in the Development Case, albeit the absolute number of business passenger using the airport would continue to increase as the airport is able to meet more of the local demand.

Fleet Mix

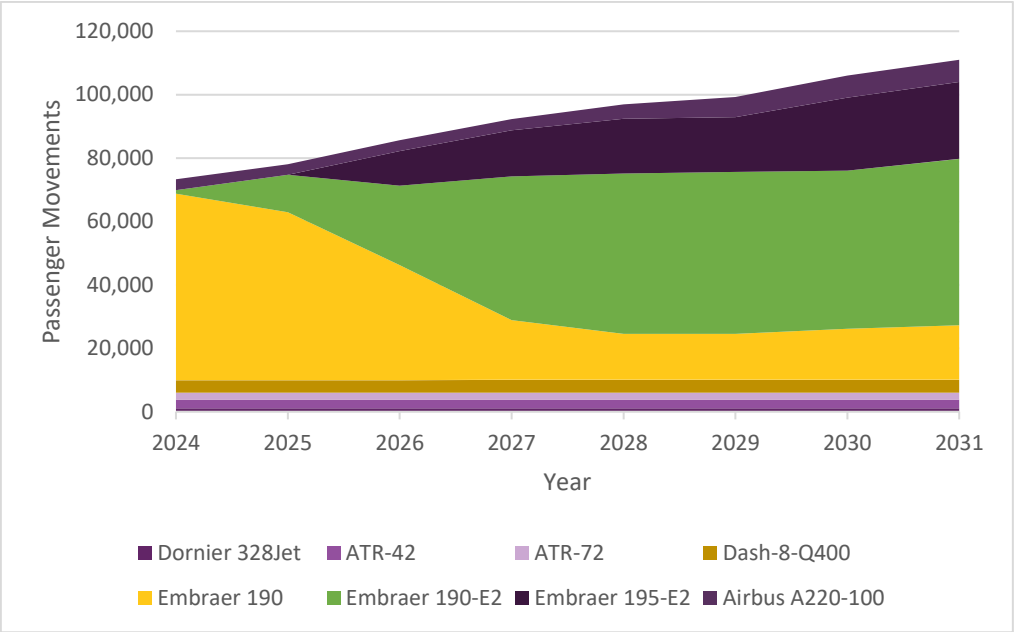
5.16 The fleet mix has been derived from LCY's discussions with key airlines operators, public statements around fleet renewal and through assumptions about the rate at which other airlines may seek to change their fleets at the airport. The fleet mix is designed to present a 'reasonable worst case' for the environmental assessment and, therefore, does not assume total modernisation of the fleet across the forecast period to allow for inevitable variations in airlines and airline fleet plans that cannot reasonably be accurately projected.

5.17 A key element of the fleet mix, however, is the assumption around the renewal of the BACF fleet, with an expectation that the carrier would transition to Embraer 190-E2 and Embraer 195-E2[92] aircraft over time and would expand the fleet if it could make good use of new aircraft resources, based on greater operational flexibility through extended operating hours as discussed in the previous section. The rate of this transition and the level of fleet expansion is dependent on the proposed amendments, particularly to the operating hours, being approved. For the Development Case and the Faster and Slower Growth Cases, the overall expectation as to the size of the future BACF fleet is consistent and it is only the rate of delivery and growth which varies, depending on the strength of the underlying market that the airline would seek to serve. In the Do Minimum Case, however, we understand that BACF's appetite to replace aircraft quickly and to expand significantly would both be curtailed by the inability to make best use of costly new aircraft assets. The result is that fleet replacement would occur at the latest possible time, having regard to the economics of fleet replacement, in this case.

5.18 We expect most of the growth at LCY to be delivered through jet aircraft, with turboprop operations expected to remain minimal going forward when compared to CADP1 (when Flybe was assumed to expand its operation using turboprop aircraft). The dominance of jet types can be seen in **Figure 5.2** in the core Development Case. The impact of a slower replacement of aircraft and growth by BACF can be seen in **Figure 5.3**. In both cases, there is expected to be a small residual use of turboprop aircraft.

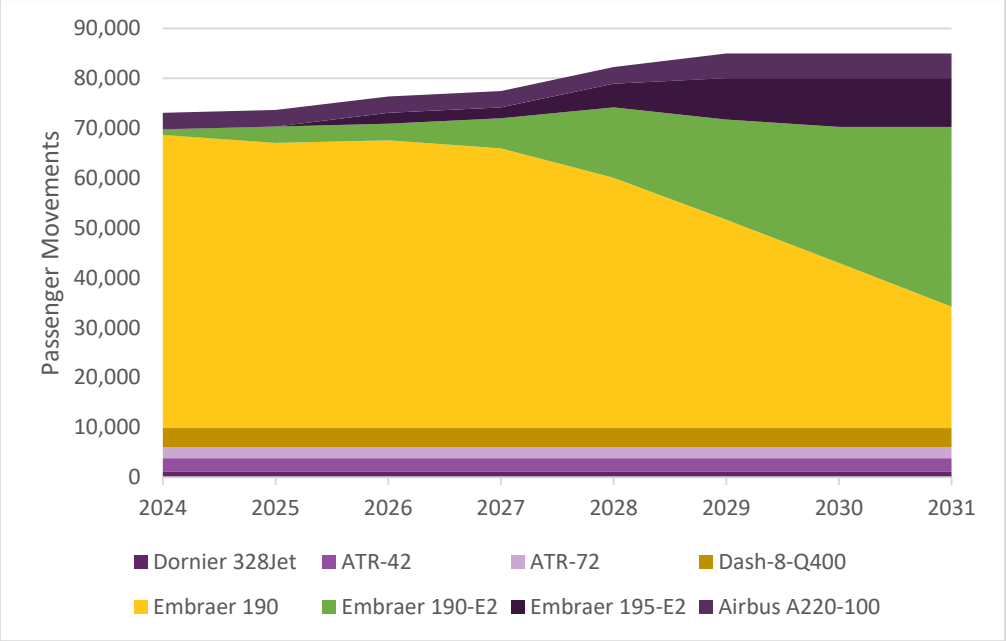
[92] Or equivalent new generation aircraft such as the Airbus A220 family.

Figure 5.2: Passenger Aircraft Fleet Mix – Development Case



Source: York Aviation

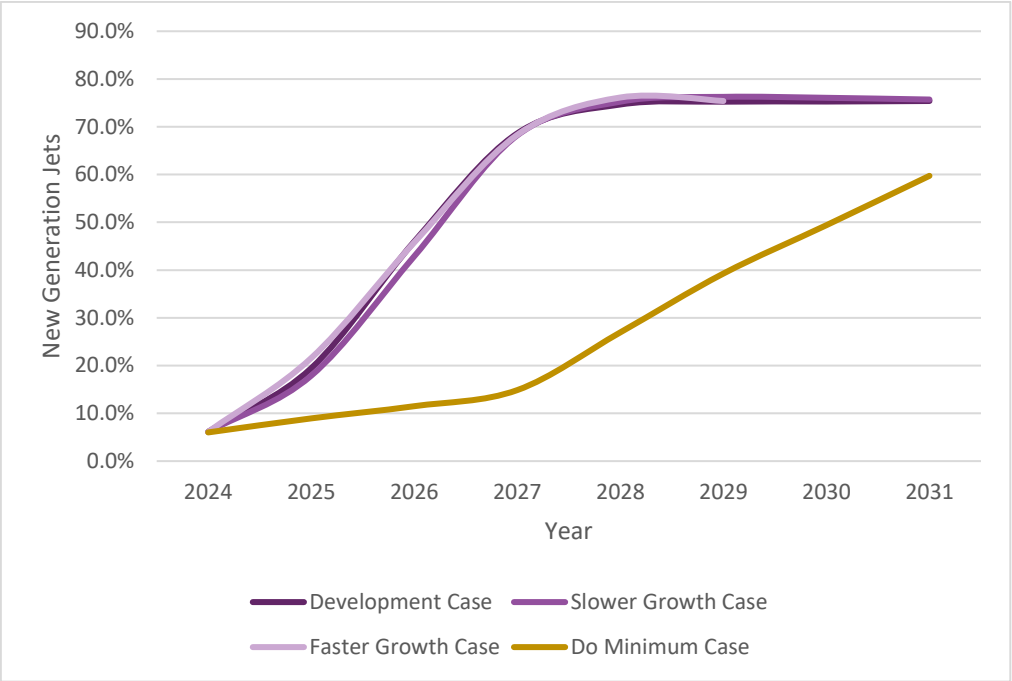
Figure 5.3: Passenger Aircraft Fleet Mix - Do Minimum



Source: York Aviation

5.19 In the Development Case, we expect the changeover to new generation aircraft to be accelerated as the increased operational flexibility will be attractive to BACF and other airlines. Clearly, with BACF currently being the largest operator at LCY, this is expected to have a significant impact on the proportion of new generation aircraft at the airport. In combination with BACF, assumptions around fleet renewal by airlines such as Lufthansa, as well as the stated desire by KLM to operate some new generation aircraft to LCY, leads to the rapid increase of new generation aircraft from around 2025-26 onwards. This can be seen in **Figure 5.4**.

Figure 5.4: New Generation Jets as Share of Total Passenger Fleet



Source: York Aviation

5.20 The overall fleet mix projections are shown in **Table 5.1** below for the core Development Case, whilst the Do Minimum fleet mix is shown in **Table 5.2**. The fleet mixes set out in these two tables represent the 'most likely fleet' mix for assessment purposes.

Table 5.1: Annual Core Development Case Passenger Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Dornier 328J	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
ATR-42	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740
ATR-72	2,195	2,195	2,195	2,195	2,195	2,195	2,195	2,195
Dash-8-Q400	3,940	3,940	3,940	4,045	4,045	4,045	4,045	4,045
Embraer 190	58,815	52,940	36,265	18,875	14,490	14,490	16,135	17,235
Embraer 190-E2	1,100	11,805	25,040	45,250	50,545	51,095	49,840	52,420
Embraer 195-E2	0	0	10,915	14,555	17,260	17,260	22,985	24,270
Airbus A220-100	3,395	3,395	3,395	3,500	4,595	6,345	7,000	7,000
Total	73,280	78,110	85,585	92,255	96,965	99,265	106,035	111,000

Source: York Aviation

Table 5.2: Annual Do Minimum Case Passenger Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Dornier 328J	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
ATR-42	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740
ATR-72	2,195	2,195	2,195	2,195	2,195	2,195	2,195	2,195
Dash-8-Q400	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840
Embraer 190	58,815	57,170	57,715	56,070	50,200	41,745	33,135	24,355
Embraer 190-E2	1,100	3,295	3,295	6,035	14,100	20,135	27,260	36,040
Embraer 195-E2	0	0	2,195	2,195	4,780	8,295	9,780	9,780
Airbus A220-100	3,295	3,295	3,295	3,295	3,295	4,940	4,940	4,940
Total	73,080	73,630	76,370	77,465	82,245	84,985	84,985	84,985

Source: York Aviation

5.21 We present the 92-day fleet mixes, as used in the noise assessments, within **Appendix D**. This includes specific allowances for the expected additional operations within the first half hour of the operating day 06:30-07:00, which are counted as the night period for noise assessment purposes, and on a Saturday afternoon. Based on likely operating patterns it is estimated that this would generate an average of 8.9 movements per day, but a further sensitivity has been produced which assumes the full 9 movements would be used every morning throughout the 92-day period. These early morning fleet mixes are provided in **Appendix D**.

5.22 It is recognised that there are other potential fleet mixes that could operate on a Saturday under the proposed definition of permitted new generation aircraft and, whilst not considered likely, a variant fleet mix has been developed assuming that a proportion of additional movements at weekends might operate with the noisiest permitted new generation aircraft able to use LCY, i.e. the A220-300 and applied to both the Development Case and the Do Minimum Case and referred to as the Alternative Fleet Mix. This sensitivity test has been prepared solely to inform the noise assessment work so as to demonstrate the likely worst case noise impact at weekends and is included in **Appendix D**.

5.23 Over the longer term, as new aircraft types are developed in line with the expectations in the Government's Jet Zero Strategy, it is expected that the fleet will switch to include next generation types, including zero-emissions aircraft. Given that smaller aircraft types, such as those which dominate at LCY, are likely to be at the forefront of this development, then it is likely LCY will see a higher proportion of Jet Zero Aircraft than the national average by 2050. The following assumptions have been factored into the 2050 fleet projection required for the greenhouse gas assessments and are based on changes from the 2031 assessment year fleet:

- Current generation turboprop aircraft replaced with zero emissions turboprop;
- Current generation jet aircraft (e.g. Embraer 190) replaced with new generation jet (e.g. Embraer 190-E2);
- New generation jet (e.g. Embraer 190-E2) replaced with zero emissions jet;
- Jet Centre aircraft types replaced by zero emissions aircraft (75%) or kept unchanged (25%) in 2050.

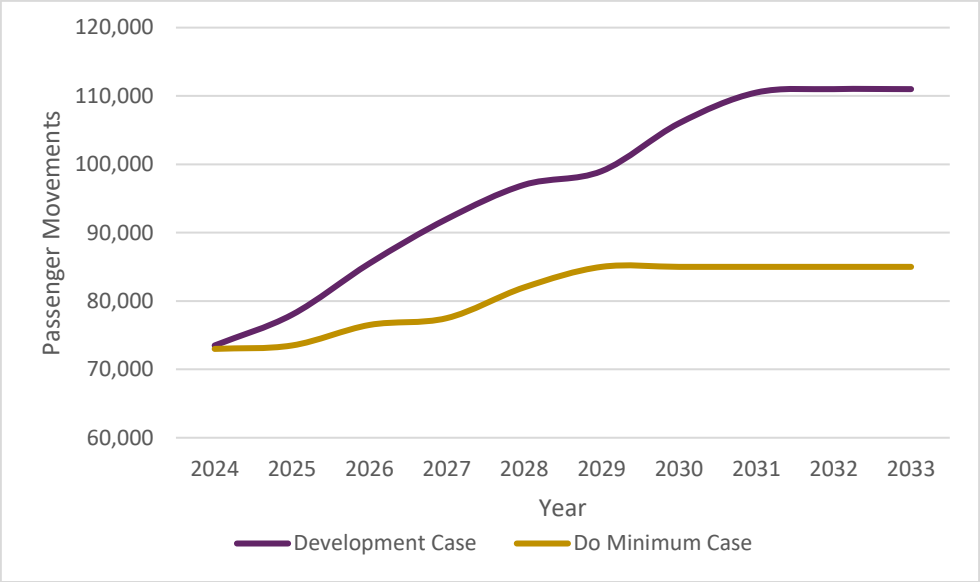
5.24 Given the timescales between 2031 and 2050 it has been assumed that the proportion of the fleet which is zero-emission will be consistent between the DC and DM cases over this timeframe, albeit in the DC case it may be assumed that these aircraft enter service earlier at LCY due to the natural fleet replacement timescales after the switch to new generation aircraft from 2025 onwards.

Aircraft Movement Forecasts

5.25 On this basis, **Figure 5.5** illustrates the forecast growth in passenger aircraft movements in the core Development Case. These are an output from the forecasting approach which builds up from daily to annual movements based on typical busy day to annual ratios. However, the movements are capped at 111,000 annual aircraft movements (including Jet Centre movements).

5.26 In the Development Case, it is anticipated that the additional operating hours will incentivise BACF to expand more quickly than may otherwise be the case, and this underpins more rapid growth in movements in the early period of the forecast.

Figure 5.5: Passenger Aircraft Movement Forecasts in the Development Case compared to the Do Minimum Case

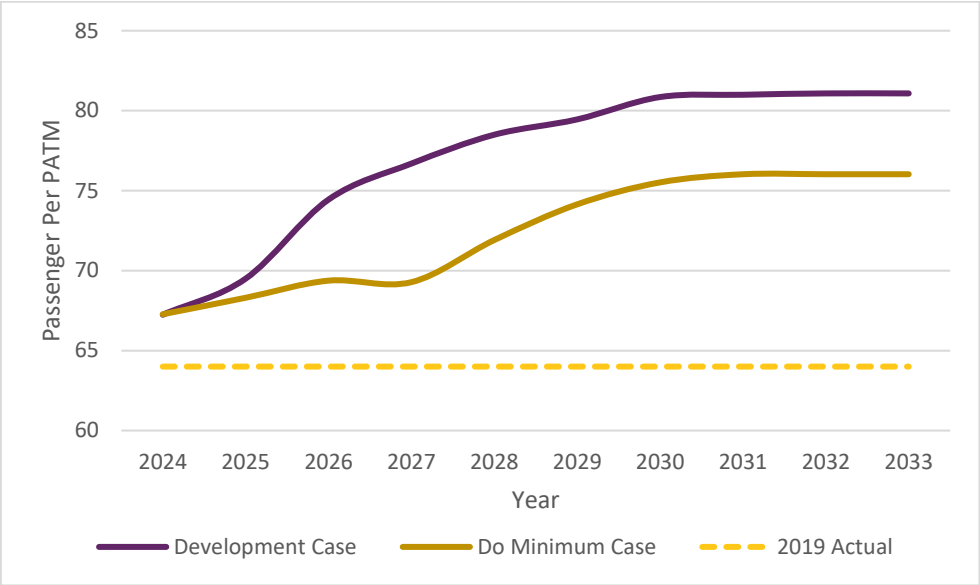


Source: York Aviation

5.27 Based on the fleet mix arising from the forecasts and the load factor assumptions outlined in **Appendix D**, the average number of passengers per aircraft movement was derived for the Development Case, as illustrated in **Figure 5.6**. The removal of the 6.5 mppa restriction is expected to allow the airlines to operate more of the new generation aircraft with higher seat capacities, such as the Embraer E195-E2[93] and this is reflected in the higher number of passengers per aircraft movement in the Development Case when compared to the Do Minimum case.

[93] 132 seats compares to 110 seats on the Embraer E190-E2

Figure 5.6: Average Number of Passengers per PATM[94] in the Development Case compared to the Do Minimum Case



Source: York Aviation

Jet Centre

5.28 In order to show the maximum likely environmental impacts of the airport's growth, we have included an allowance for up to 5,000 business aviation movements at the airport's Jet Centre facility until such time as these movements are crowded out by commercial passenger aircraft movements as the airport approaches its 111,000 annual aircraft movement cap. This number of Jet Centre movements assumed is broadly in line with the highest figures seen in recent years (2018). As the airport grows and approaches 111,000 annual movements, so the number of business aviation movements is reduced in the forecast as commercial passenger aircraft movements take precedence for available slots. At 9 mppa, all of the consented movement capacity is expected to be taken up by passenger aircraft movements (PATMs).

5.29 As the airport is now expected to reach 6.5 mppa with fewer aircraft movements than previously anticipated in the Do Minimum Case, we have assumed that airport management would seek to maximise the use of the airport's overall movement limit to the extent possible. In this case, we have made an allowance for up to 9,000 annual business aviation movements by the end of the forecast period on the basis that this is likely to be the maximum that could be handled on the Jet Centre apron and, indeed, may require some of these aircraft to be handled on some of the main apron stands. This assumption is consistent with the assumption made in the Do Nothing Case for the CADP1 Application.

5.30 **Table 5.3** shows the Jet Centre fleet mix in the core Development Case, illustrating how these aircraft are excluded from the final forecast year as passenger movements use the full 111,000 annual movements.

[94] PATM – Passenger Air Transport Movement.

Table 5.3: Annual Core Development Case Jet Centre Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Challenger 350	1,284	1,284	1,284	1,284	1,284	1,284	1,280	0
Citation Sovereign	1,013	1,013	1,013	1,013	1,013	1,013	1,010	0
Citation XLS	783	783	783	783	783	783	781	0
FA7X	694	694	694	694	694	694	692	0
Phenom 300	525	525	525	525	525	525	523	0
C680	256	256	256	256	256	256	255	0
ERJ Legacy 600	196	196	196	196	196	196	195	0
Global Express BD-700	250	250	250	250	250	250	249	0
Total	5,000	5,000	5,000	5,000	5,000	5,000	4,985	0

Source: York Aviation

5.31 **Table 5.4** then shows the Jet Centre fleet mix in the Do Minimum Case, with the number of movements increasing as the airport seeks to maximise its runway capacity over time.

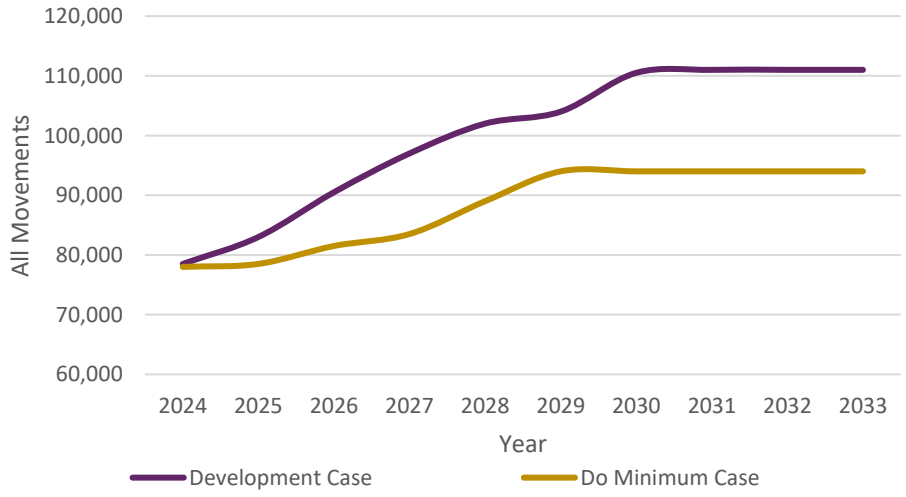
Table 5.4: Annual Do Minimum Jet Centre Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Challenger 350	1,284	1,284	1,541	1,798	2,055	2,311	2,311	2,311
Citation Sovereign	1,013	1,013	1,215	1,418	1,620	1,823	1,823	1,823
Citation XLS	783	783	940	1,096	1,253	1,409	1,409	1,409
FA7X	694	694	833	972	1,111	1,250	1,250	1,250
Phenom 300	525	525	630	734	839	944	944	944
C680	256	256	307	358	409	460	460	460
ERJ Legacy 600	196	196	235	274	313	352	352	352
Global Express BD-700	250	250	300	350	400	450	450	450
Total	5,000	5,000	6,000	7,000	8,000	9,000	9,000	9,000

Source: York Aviation

5.32 **Figure 5.7** then combines the passenger and jet centre movements to illustrate the growth in overall aircraft movements at LCY over the forecast period.

Figure 5.7: Total Aircraft Movement Forecasts (Passenger & Jet Centre) in the Development Case compared to the Do Minimum Case



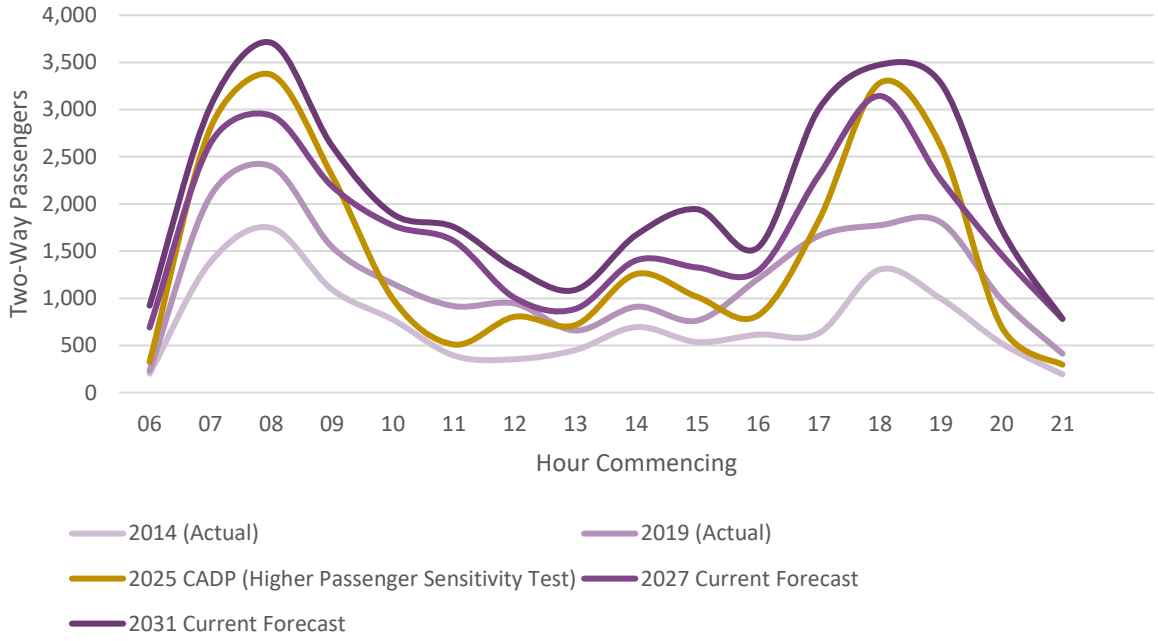
Source: York Aviation

Profile of Demand

5.33 The expected profile of demand over a typical busy day has been produced as outlined in **Appendix D**. In order to ensure a reasonable worst case assessment of the infrastructure and surface access implications of the growth, the profile is somewhat artificial as it seeks to account of the peak morning and evening hours of the year all within a single day by applying a constant load factor to the expected movements through the day. The resulting busy hours are considered representative of what would be expected in the morning and evening in future, albeit both peaks might not occur on a single day.

5.34 **Figure 5.8** shows the projected 2-way diurnal profile based on this approach and this illustrates how, in the actual data for 2014 and 2019, there was only a peak evident in the morning but, in reality, but there were also days when this pattern was reversed and the higher two-way demand peak was in the evening.

Figure 5.8: Busy Day Diurnal Profile of Passengers (Two-Way Passengers per Hour)



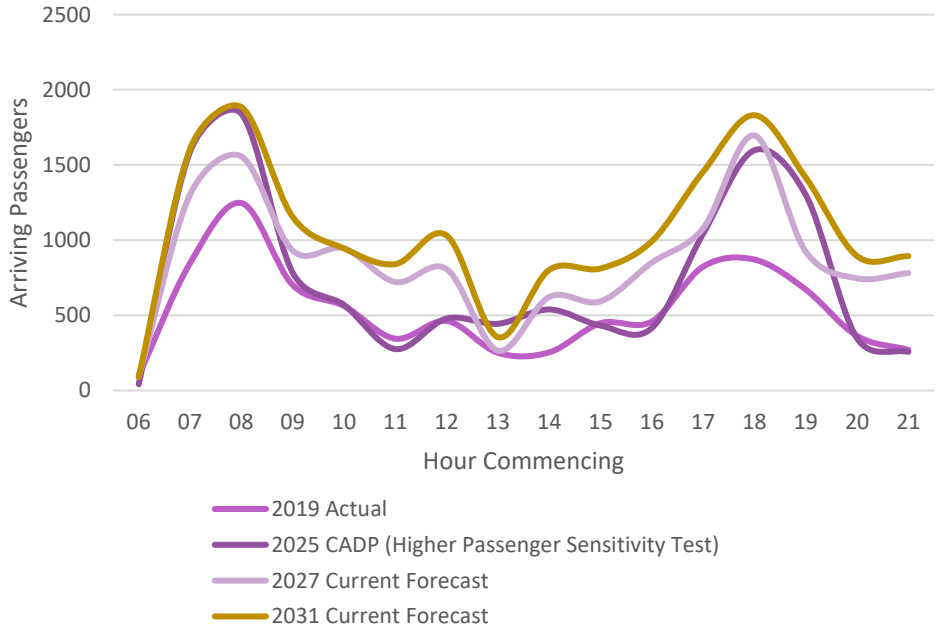
Source: London City Airport, York Aviation

5.35 Importantly, **Figure 5.8** illustrates how we expect the overall profile of passengers over the day to change compared to the CADP1 Application. As can be seen, the trend for greater numbers of passengers seen through the mid-morning and over wider evening peaks in 2019 profile is carried forward into the future projections. This reflects the changes in operation, particularly by BACF that were outlined earlier in this report, as well as typically higher load factors now being achieved throughout the day than was seen historically. These changes have particularly driven by increased leisure flying over the middle of the day. In the CADP1 projections, we adopted an assumed load factor of 50% for operations in the middle of the day, which reflected historic trends at that time. For the new forecasts, we have used a consistent 85% load factor throughout the busy day to reflect how the network and operations have altered.

5.36 The clear impact of this is that passengers carried in the peak periods represent a lower proportion of all passengers handled today and this is expected to continue in the future. Given that the capacity of airport infrastructure is based on the hourly demands on it, this means more passengers can be handled over the year than would be possible with higher relative peak periods. Consequently, more passengers each day and over the year can be handled through the CADP1 infrastructure given that there has been less growth in peak periods. At 9 mppa peak period passenger demand on the infrastructure is anticipated to be only slightly above that projected at the time of the CADP1 Application.

5.37 **Figure 5.9** shows a comparison of the current projections for arriving passengers, whilst **Figure 5.10** illustrates the departing passengers, both with comparisons back to the CADP1 expectations for 6.5 mppa at 2025 (Higher Passenger Sensitivity Test) and to 2019[95]. The impact of the changes in profile are more pronounced on the one-way projections and, in both cases, the implications of higher load factors and more movements through the middle of the day are clear, leading to relatively little change in the peak hour figures when compared to the CADP1 2025 projections, which relied on greater use of the peak periods. The arrival busy hour passenger flow is now expected to be virtually identical at 9 mppa to that originally projected for 6.5 mppa due to the change in the pattern of operations, moderating the previous strong inbound peak in the mornings. However, there is some small increase in the expected busy hour for departing passengers.

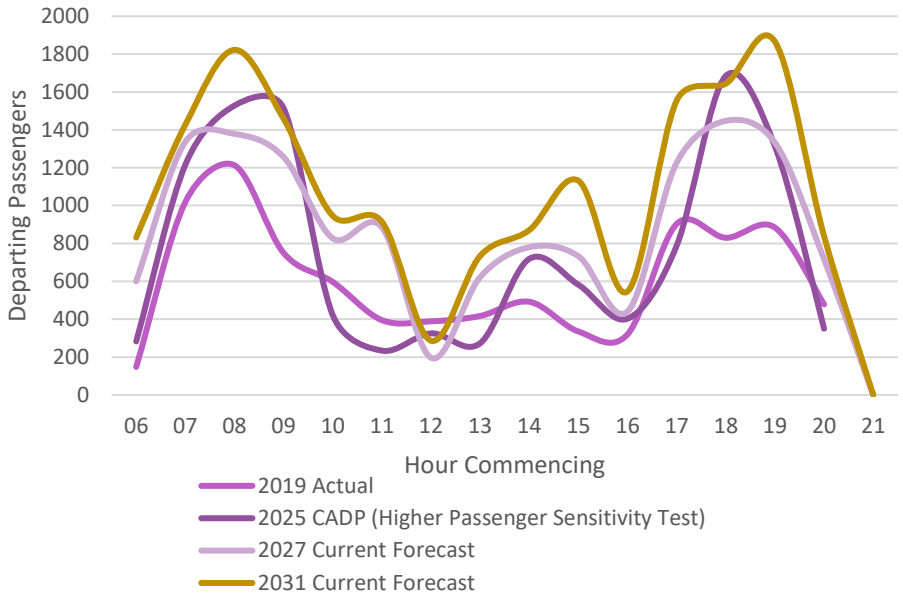
Figure 5.9: Busy Day Diurnal Profile of Arriving Passengers



Source: York Aviation

[95] The 2019 data reflects the day containing the busy hour in the morning but there are other days in the year with corresponding evening peaks.

Figure 5.10: Busy Day Diurnal Profile of Departing Passengers



Source: York Aviation

5.38 The daily profile of aircraft movements largely mirrors the profiles shown in the Figures above. We address the implications for terminal, apron and runway capacity further in **Section 7**. The hourly passenger figures, used for surface access assessment, are set out in **Appendix E**.

Saturday Afternoons

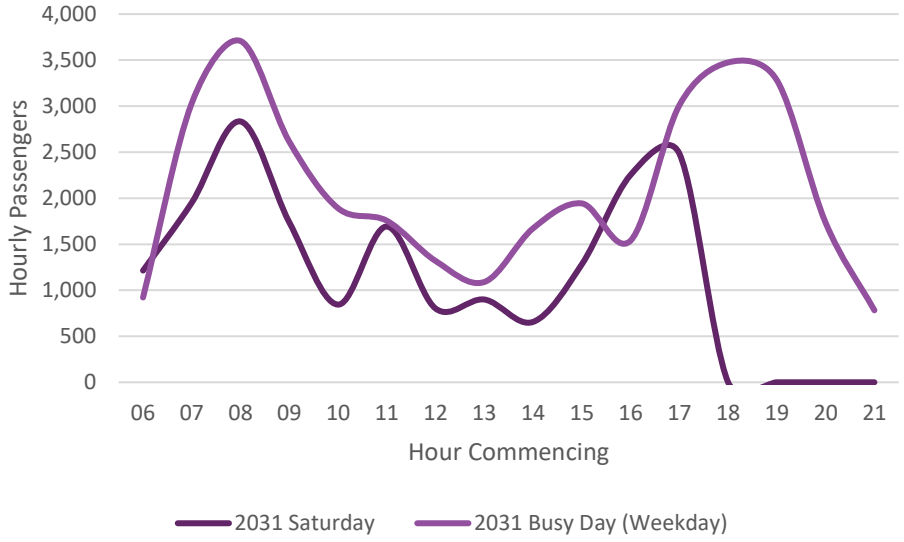
5.39 We have also considered the pattern of operations on a Saturday and the approach to determining what routes and service would be expected to operate on a Saturday afternoon is similar to the development of the busy day timetable, as outlined in **Appendix D**. Ultimately, releasing restrictions on a Saturday afternoon leads to growth in aircraft movements across the whole of a Saturday because aircraft (particularly those of BACF), which currently do not use LCY at all because of the short opening hours, will be able to operate a more comprehensive schedule across the full day (including mornings). This would include aircraft, for example, that currently position out on a Friday as illustrated in **Section 4.** Therefore, any passenger and movement uplift associated with the extension of operating hours on a Saturday will impact on the whole of the Saturday operation and not just the afternoon.

5.40 We developed an indicative schedule of aircraft movements for a Saturday. In general, it is expected that the overall number of movements will remain lower on Saturdays than during the week partly because of the shorter operating day and also because some business oriented services may not operate on Saturdays. Furthermore, based on discussions with BACF, we expect them to operate longer average flight sectors on a Saturday, focussing on more leisure type routes, so the number of movements in the day will be less than on a typical weekday with a mix of shorter business type destinations served and more distant leisure sectors. The number of flights operated will also be restricted by the proposed 18:30 closing time. Whilst the busy day timetable which underpins the core assessments features 371 flights, the typical Saturday timetable is only projected to have 198 movements, also operating at 85% load factor. The hourly passenger figures, used for surface access, related to the Saturday operations are also included within **Appendix E**.

5.41 Some more business oriented services, such as to city destinations, are expected to continue to operate on Saturdays but opening on Saturday afternoon will allow better hub connections to hubs such as Amsterdam, allowing more two-way global connections from LCY at weekends, facilitating more business and leisure travel. The pattern of existing operations on Saturdays is assumed to grow in line with growth over the week as a whole. However, the extended opening on Saturday afternoons means that the pattern of some operations change as long sectors are enabled and this is reflected in an adjusted profile of operations on a Saturday.

5.42 **Figure 5.11** shows a comparison of the busy day profile and a Saturday profile, as used for the surface access assessment.

Figure 5.11: Projected Saturday Profile of Two-Way Passengers



Source: York Aviation

5.43 At 9 mppa, in the Development Case and the Faster and Slower Growth Cases, around 500,000 passengers on an annual basis will be a direct consequence of the extended Saturday opening hours. However, by creating the conditions whereby airlines are incentivised to refleet and grow at LCY, additional based and non-based aircraft operations are expected to deliver a further 2 mppa of growth (from 6.5 mppa permitted under CADP1) that will be spread across the whole week as per the current profile but still, fundamentally, made possible by the extended opening hours facilitating airlines being able to serve more of the local air travel demand during the week.

Implications of No Change to Opening Hours

5.44 This forecast is only attainable over this timescale if the proposed amendments are approved and the airport is allowed more flexibility in its operational hours, specifically the ability to operate through to 18.30 on a Saturday afternoon, with an additional hour for up to 12 arrivals during the summer. If the passenger cap were lifted but extended operating hours on a Saturday, along with other operational flexibility, were not permitted, then growth would be expected to follow the Do Minimum Case growth path, reflecting slower fleet transition and growth, until 6.5 mppa is reached, increasing incrementally thereafter until a ceiling of 8.8 mppa would be reached with 111,000 movements in the late 2030s reflecting smaller aircraft on average using the airport. 9 mppa would not be reached until the mid to late 2040s.

5.45 As a result, there would be a lower average aircraft size as, without extended operating hours, based airlines (particularly BACF) would be less willing to invest in higher capacity aircraft types without a commercial case (through greater utilisation) for their higher acquisition cost when compared to the smaller variants of the same aircraft. Although other airlines would still refleet in line with requirements across their broader networks, the scale of the BACF operation at LCY means that its refleeting decisions have a significant impact.

5.46 Development over this timeframe would also be likely to lead to more focus on business orientated routes and business users, potentially offering less benefit to local residents than with extended Saturday opening, which could offer more leisure routes and hub connections at an earlier point in time as well as potentially lower fares through better aircraft utilisation and larger aircraft with lower direct operating costs.

Faster and Slower Growth Cases

5.47 Reflecting the inevitable uncertainties inherent in projecting future demand, particularly in the current circumstance of recovery from the pandemic, we have prepared two sensitivity test cases to reflect a reasonable range of time over which the airport could reach 9 mppa if the proposed amendments are approved.

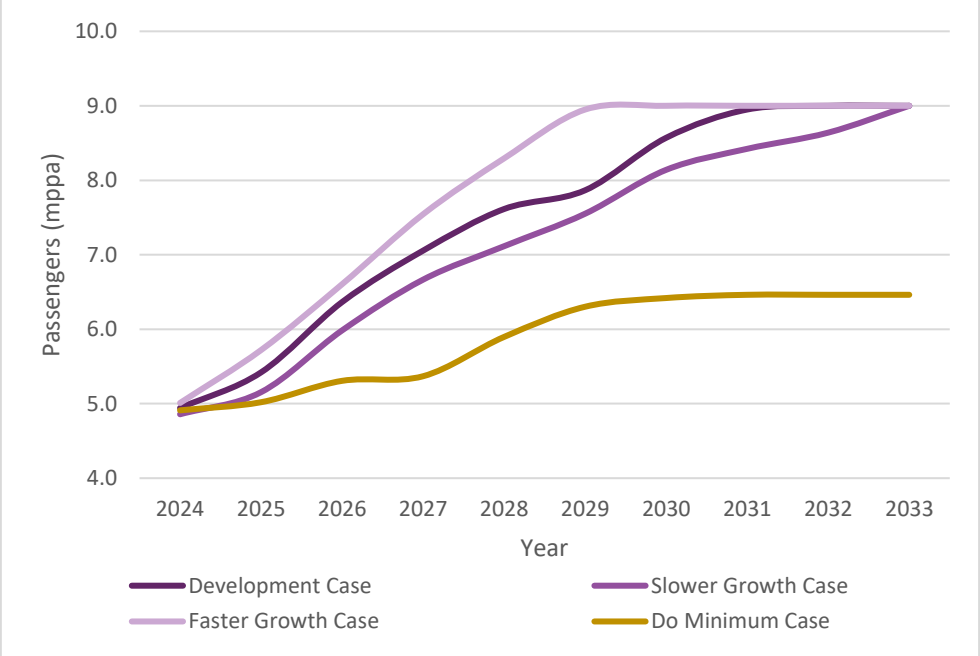
5.48 The Faster Growth Case indicates the airport reaching 9 mppa in 2029, with a CAGR of 5.8%, which is slower than growth rates seen at the airport pre-pandemic but is still considered to be a reasonable worst case for the assessment of impacts as it reflects faster economic growth as the economy recovers from the effects of the pandemic. The Slower Growth Case reflects slower economic growth and the possibility of higher costs of carbon/abatement. In this case, LCY is projected to reach 9 mppa in 2033, with a CAGR of 4.1% per annum.

5.49 In essence, these sensitivity test cases feature the overall same type of growth, but with minor variations depending on the rate of growth of the underlying market. The key differences from the core case are:

- Slower Growth Case: BACF fleet replacement commences more slowly to reflect lower underlying demand growth that would not sustain increases in aircraft size so quickly. The expansion of BACF services is also slower to reflect the weaker underlying market growth and that some new routes may not be sustainable as early as in the Development Case. Growth by other airlines also slips slightly to reflect the weaker underlying market in the early forecast years but also taking into account the expected transition to newer generating aircraft in their fleets, which is independent of the operating conditions at LCY;
- Faster Growth case: BACF fleet replacement and growth is accelerated to meet the demands of a stronger market, including an earlier introduction of larger Embraer 195-E2 aircraft. Growth by some other airlines is also expected to happen sooner to reflect greater confidence in the market and the ability to sustain passenger numbers on a route more easily in the early years of the forecast.

5.50 In each case, the final position is identical in terms the overall passenger forecast, with each reaching 9 mppa as seen in **Figure 5.12**.

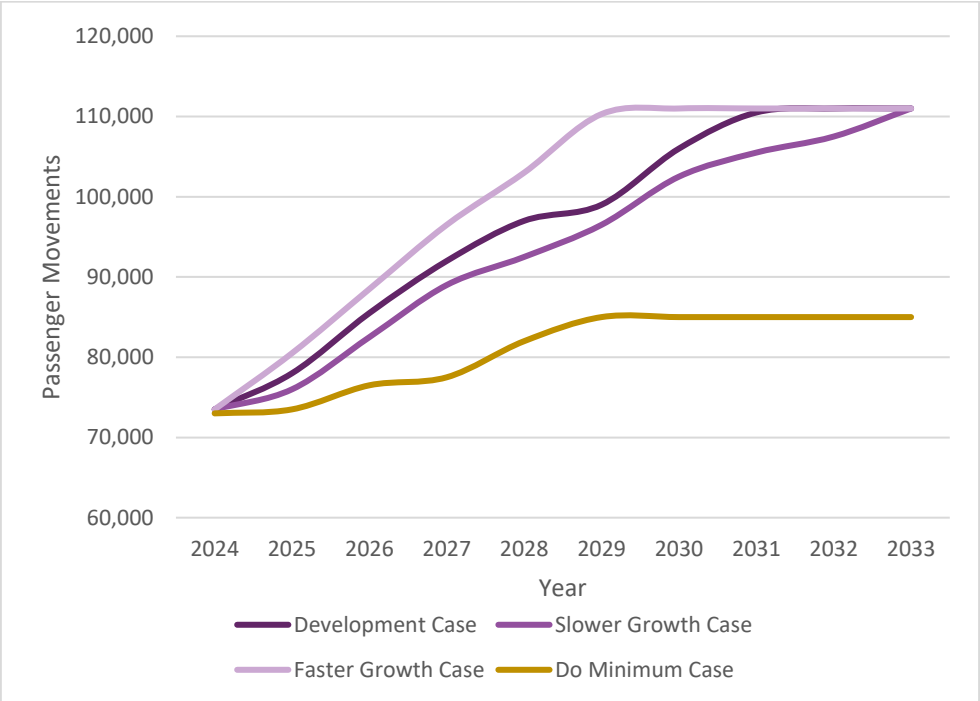
Figure 5.12: Passenger Forecast for the Faster and Slower Growth Cases compared to Development Case



Source: York Aviation

5.51 The Faster Growth Case assumes slightly faster growth in the average number of passengers per movement than the Development Case and conversely for the Slower Growth Case. This is reflected in the aircraft movement forecasts as seen in **Figure 5.13**, which show the pattern of aircraft movement growth largely mirroring that for passenger growth. This reflects both changes in the expected route structure and slight difference in the fleet transition to new generation aircraft as well as load factor differences to reflect the underlying demand assumptions.

Figure 5.13: Passenger Aircraft Movement Forecast for the Faster and Slower Growth Cases compared to Development Case



Source: York Aviation

5.52 As with the Development Case, growth in PATMs up to 111,000 movements will result in the number of Jet Centre movements declining over the medium term as is expected to result in displacement of this activity as in the core Development Case.

5.53 As highlighted, a key result of the variant scenarios is a differing rate of fleet replacement within each, which allows the environmental effects of each case to be assessed. The projected share of passenger movements in each case which would be operated by new generation jets is shown in **Table 5.5** below. This illustrates that, if growth occurs more slowly due, it could be expected that there would be further fleet transition by the end of the forecast period in the Slower Growth Case, with 77% of the overall passenger fleet expected to be new generation jets at 9 mppa. In the Development Case and Faster Growth Case, 75% of the overall passenger fleet expected to be new generation jets at 9 mppa and the proportion could increase further in later years, albeit subject to the ability of the apron to accommodate more larger new generation aircraft.

Table 5.5: Fleet Transition Comparison by Development Case

	Core Development Case		Faster Growth		Slower Growth	
	Total Passenger Movements	% New Generation Jets	Total Passenger Movements	% New Generation Jets	Total Passenger Movements	% New Generation Jets
2024	73,500	6%	73,500	6%	73,500	6%
2025	78,000	19%	80,500	22%	76,000	18%
2026	85,500	46%	88,500	46%	82,500	43%
2027	92,000	69%	96,500	68%	89,000	68%
2028	97,000	75%	103,000	76%	92,500	75%
2029	99,000	75%	111,000	75%	96,500	76%
2030	106,000	75%	-	-	102,500	76%
2031	111,000	75%	-	-	105,500	76%
2032	-	-	-	-	107,500	76%
2033	-	-	-	-	111,000	77%

5.54 The environmental assessment parameters for the sensitivity test scenarios are derived through the same process as described earlier and in **Appendix D** for the core Development Case. The differences occur mainly as a result of the different rate of fleet transition as well as the overall pace of growth in each case.

5.55 In each case, a busy day timetable has been developed for the purposes of assessing the infrastructure requirements but, with an ultimate fleet and network mix that is largely consistent across all three scenarios (albeit with some minor growth in new generation jets compared to old generation jets in the Slower Growth Case), there is little difference in the capacity requirements for each scenario. In each scenario, the final number of busy day and hourly movements remains consistent across all three cases as this would be the most likely profile of activity related to 111,000 annual movements.

5.56 Where there has been further transition to new generation aircraft in the Slower Growth Case, this is the equivalent of only 6 movements per busy day and will have minimal impact on the overall shape of demand for both terminal planning and surface access assessments, representing around 10 additional arriving or departing passengers in the peak hour, which would be well within any tolerance of error for an hourly forecast over the period to 2033.

Conclusions on Forecasts

5.57 We have forecast that LCY would reach 9 mppa by 2031 if the proposed amendments are approved in the Development Case. These forecasts are consistent with the core assumptions underpinning the Government's Jet Zero trajectory, which allow for LCY to grow in line with its Masterplan published in 2020 up to a maximum of 11 mppa and 151,000 annual movements. The forecasts in this Need Case assume that should carbon costs be higher and/or economic growth slower, growth in demand to 9 mppa at LCY would be slower, with 9 mppa expected to be reached in c.2033 in the Slower Growth Case. Should economic growth be higher and/or carbon costs lower, then the airport could reach 9 mppa earlier in 2029 in the Faster Growth Case.

5.58 The forecasts rely on Saturday opening hours being extended to 18:30, and with the extra 1 hour allowed for arriving aircraft in summer. This would allow the airport to directly accommodate c.500,000 additional passengers over the year within the additional opening period on a Saturday and the ability to operate for more of the week would help to incentivise earlier fleet modernisation by the airlines, particularly those based at the airport like BACF. If the current hours are retained, growth would be materially slower and the consented 111,000 annual aircraft movements might not be reached until the late 2030s, with 9 mppa achieved at an even later date.

5.59 Fundamentally, allowing growth at LCY would be meeting a need for air travel, based on underlying air passenger demand, over the period to 2031 and beyond when available capacity at the other airports serving London will be limited.

6. Economic Case

Context

6.1 The economic case for the development is founded in the contribution that its growth can make to the local economy around the airport and more broadly to delivering enhanced connectivity to support the London economy as a whole. In particular, the benefits of the development have the potential to make a material contribution to levelling up in Newham and surrounding areas and economic recovery more generally.

Delivering Local Benefit

6.2 As we have set out in **Section 4**, the airport is identified as a key strategic asset and employment hub for the local area. Hence, delivering employment and local benefit is a key priority. This also relates to the specific role the airport plays within the Royal Dock and Beckton priority area.

6.3 The position of Newham as a priority area for levelling up further highlights the important role that LCY can play in delivering employment growth and supporting local GVA.

6.4 Further information is provided about the local economic context within **ES Chapter 7**.

Why Aviation Connectivity Matters

6.5 As is made clear in **Section 2**, aviation connectivity is seen as vital by Government and underpins the approach to aviation policy set out in MBU and FttF. This is a primary reason why policy continues to support the growth of aviation and increases in airport capacity where these are justified.

6.6 Specifically, the London Plan and the local plans for the boroughs surrounding the airport highlight the importance of connectivity in delivering broader economic objectives. The presence of the airport contributes greatly to both the international connectivity of East London and also to the connectivity to the rest of the UK. In this context, LCY plays an important role in supplementing the international connectivity provided across the whole of London and particularly to domestic and nearer destinations that have been squeezed out of Heathrow as it has reached and will reach again its capacity constraints. The role of LCY in this regard and in supporting critical business travel to and from Central and East London is highlighted in the market analysis in **Section 3**.

6.7 Connectivity must also be considered as a dynamic element in underpinning growth, i.e. the level of connectivity available to businesses in a region has to keep pace with that available to competitor regions. This is important in the context of the need for the airport to be able to grow its connectivity in the future to ensure that the areas served by the airport can maintain their competitive position and continue to be attractive to businesses, investors and tourists alike. Hence, permitting growth in the passenger throughput allowed at LCY is essential to ensuring that the relative connectivity of London and East London keeps pace with its competitor regions.

6.8 The ways in which air connectivity provided by airports impacts on economic performance in the wider economy (often known as catalytic impacts) include:

- Foreign Direct Investment - a wide range of research has established the existence of a linkage between air transport and the attraction or retention of inward FDI. Whether the investment is inward or outward, strong connectivity is needed between the head office and the branch locations to ensure that operations are efficiently managed. Hence, the benefits of improved

connectivity made possible by the proposed amendments will ultimately flow through to the attractiveness of the area around an airport for business investment more generally and the ability of local businesses to grow and invest within and beyond the local area.

- Trade - the importance of air travel and air connectivity in increasing levels of trade is again well established. In particular, trade in services, upon which the London economy is greatly reliant, is also heavily dependent on air passenger connectivity. Air connectivity is exceptionally effective at reducing the perceived distance between markets and facilitating transactions and so is important in facilitating trade in both goods and services. Whilst this is bi-directional, encouraging imports as well as exports, ultimately enabling bi-directional international trade facilitates economic growth through enabling countries or regions within countries to develop comparative advantage. As a consequence, better connected regions will be further up the productivity curve and better able to avail themselves of trading opportunities.
- Labour market effects - an area that is increasingly being identified as one of the channels of impact through which air connectivity operates is its effect on the labour market through its ability to influence individuals' decisions around where and how much labour to supply. Air connectivity is important in being able to attract talented individuals to live and work in the country on a permanent basis as air connectivity is needed to support the quality of life of this group through the ability to visit family and friends in their countries of origin and air connectivity is also essential in supporting the lifestyle choice of an increasing number of high value added individuals who use air services to commute for short periods or even weekly while living overseas. These individuals often provide specialist or high value services that are part of what enables London's competitive advantage. These factors are important in ensuring that London, and East London in particular, are able to attract and retain the skilled workers required to support broader economic development. In this context, enabling greater flexibility to operate on Saturdays and to support a greater range of leisure destinations would allow LCY to make a greater contribution to supporting positive labour market effects.
- Agglomeration - agglomeration effects are productivity benefits that can be achieved by firms located close to each other, perhaps through knowledge spill overs between firms, improved access to suppliers or to larger labour markets. They relate to the concentration of economic activity in an area. In other words, the more firms located within an area the greater the likely agglomeration effects. Air connectivity can make a direct contribution through the way in which air services can increase effective density across large areas by reducing travel times and increasing the ease with which agglomeration effects may occur across national borders. This is essentially the boost in productivity within firms as air services make the world smaller, facilitating innovation and cooperation and widening markets for both goods and labour. Air connectivity also has an indirect impact relating to the potential impact of air services in terms of influencing FDI decisions, which in turn result in clustering of firms in locations around key airports, again resulting in an increase in effective density and greater agglomeration.
- Tourism - air services make it easier and faster for potential visitors travelling either for business or leisure purposes. Hence, the availability of air services influences the decisions that visitors make. London needs to maintain its connectivity to tourism markets, including European points and the more distant UK regions where air service connectivity remains important and for which LCY is a substantial connectivity provider. The importance of outbound tourism in supporting economic prosperity is also important, linking to the labour market points above. In this context, access to air travel is a key component in making cities

and regions 'liveable' places for people. Hence, access to an airport with a good range of services is an increasingly important factor in attracting people to live and work in an area, particularly in the context of what is an increasingly global workforce. Ultimately, this will support population growth and additional economic activity in an area, provide prosperity and create the conditions that are needed for economic growth. Outbound tourism provides both a very real socio-economic welfare benefit to individuals and also helps to support long run economic prosperity in the economy in terms of GDP and employment, as an essential part of making cities and regions attractive places to live and work.

6.9 Hence, we consider the economic case for growth at the airport in terms of the contribution it can make to the local economy, including areas in need of levelling up such as Newham and in terms of the contribution that a growing LCY can make to the economy of London as a whole.

The Local Study Area

6.10 The Local Study Area for the purpose of considering the economic impact of the airport is the same as the 'Local Area' defined in the airport's current Section 106 Agreement signed with the relevant local authorities in relation to the CADP1 planning consent. This Local Area is that against which the airport currently has specific targets in relation to local employment. The Local Study Area is illustrated in **Figure 6.1**. As set out in **Section 2**, this Local Area comprises the London boroughs of Barking and Dagenham, Bexley, Greenwich, Hackney, Havering, Lewisham, Newham, Redbridge, Southwark, Tower Hamlets, Waltham Forest and Epping Forest in Essex.

Figure 6.1: Local Study Area for Economic Assessment

Assessing the Economic Impact of Growth at London City Airport

6.11 The economic benefits of the airport have been assessed within a commonly used and well accepted framework for analysis that is considered best practice. This framework splits the economic impacts of an airport into a series of effects, which, in broad terms, can be classified as either relating to the operation of an airport as an economic activity providing air transport services and the functions that support the provision of those services (operational impacts), or wider economic impacts that accrue to the users of air transport services (passengers or freight) from the connectivity offered by an airport enabling them improved access to the regions around the airport (often called catalytic impacts). These wider economic impacts can manifest themselves through channels such as increased trade, more inward investment, agglomeration effects, labour market benefits or increased tourism making an area a more attractive place in which to live, work and establish a business. Both the direct benefits from the operation of the airport and the connectivity it provides flow through to the broader economy through supply chain (indirect) and induced effects.

6.12 The different economic impacts considered in this assessment are set out in **Table 6.1**.

Table 6.1: Economic Impact Analysis Framework

Category of Effect	Effect	Definition
Operational Impacts	Direct	Employment and GDP[96] are wholly or largely related to the operation of the airport and generated at the airport or in the immediate vicinity. Airports are hugely diverse employment markets, with a wide range of activities undertaken on-site and in the immediate surrounding area and, consequently, these effects can include a wide range of companies. Examples of types of companies included in this effect include the airport operator, airlines, handling agents, control authorities, concessions, freight agents, flight caterers, hotels, car parking, aircraft servicing and fuel storage.
	Indirect	Employment and GDP generated in the chain of suppliers of goods and services to the direct activities. In order to deliver the services described in the direct effect, organisations need to buy goods and services of their own. These purchases in turn support economic activity in the surrounding economy. This activity can be in a diverse range of sectors.
	Induced	Employment and GDP generated by the spending of incomes earned in the direct and indirect activities. This expenditure can, of course, be across any sector of the economy offering goods or services to consumers.
Wider Impacts	Business Productivity	Employment and GDP supported by the role that the airport plays in enabling business travel and air freight, which in turn supports increased trade, increased inward investment, greater competition and better access to supply chains and knowledge sources. This is ultimately reflected in higher productivity in the surrounding economy. The sectors involved in these impacts are hard to identify but effects would tend to be concentrated in those with a strong international focus in terms of trade or investment.
	Inbound Tourism	Employment and GDP supported by the airport's role in helping to bring new and additional visitors to the region. Expenditure by these visitors boosts economic activity and supports jobs and prosperity. The initial injection is into the sectors that make up the tourism industry, notably hospitality and catering, leisure activities and transport. However, indirect and induced effects stemming from this injection will spread the impact across the economy.

Source: York Aviation

[96] Gross Domestic Product

6.13 The assessment has also presented a high-level socio-economic cost benefit analysis to consider the broad impact of the development on socio-economic welfare. While this assessment cannot be combined with the GDP and employment impacts identified, it does provide an alternative perspective on the economic benefits of the development.

6.14 In addition to considering the ongoing socio-economic impacts of the airport as it handles more passengers in future, the assessment also considers the transient socio-economic impacts generated by the construction of the infrastructure required to support growth.

6.15 The approach to the assessment of the socio-economic impact of the airport is further explained in **Appendix F**. We now discuss the impacts of the airport with and without development under three headings: Operational Economic Impacts, Wider Economic Impacts and Socio-economic Welfare Effects.

The Operational Economic Impacts of London City Airport

6.16 We deal first with the operational impacts of the airport, which are already an important driver of the Newham and the wider East London economy. The airport provides significant employment and prosperity via its on-site activities and more broadly through supply chain purchases (indirect) and income expenditure (induced) effects. Growth to 9 mppa offers a significant opportunity to further grow the airport's operational economic impact, in support of the policy and strategy goals described above.

Operational Economic Impact in 2019

6.17 In 2019, there were 2,310 people employed on-site at the airport or 2,060 full-time equivalent (FTE) jobs. This direct on-site employment contributed over £170 million in Gross Value Added (GVA) to the local economy. Although there has been some reduction in employment during the pandemic, the number of people employed at the airport is expected to recover to pre-pandemic levels as demand recovers.

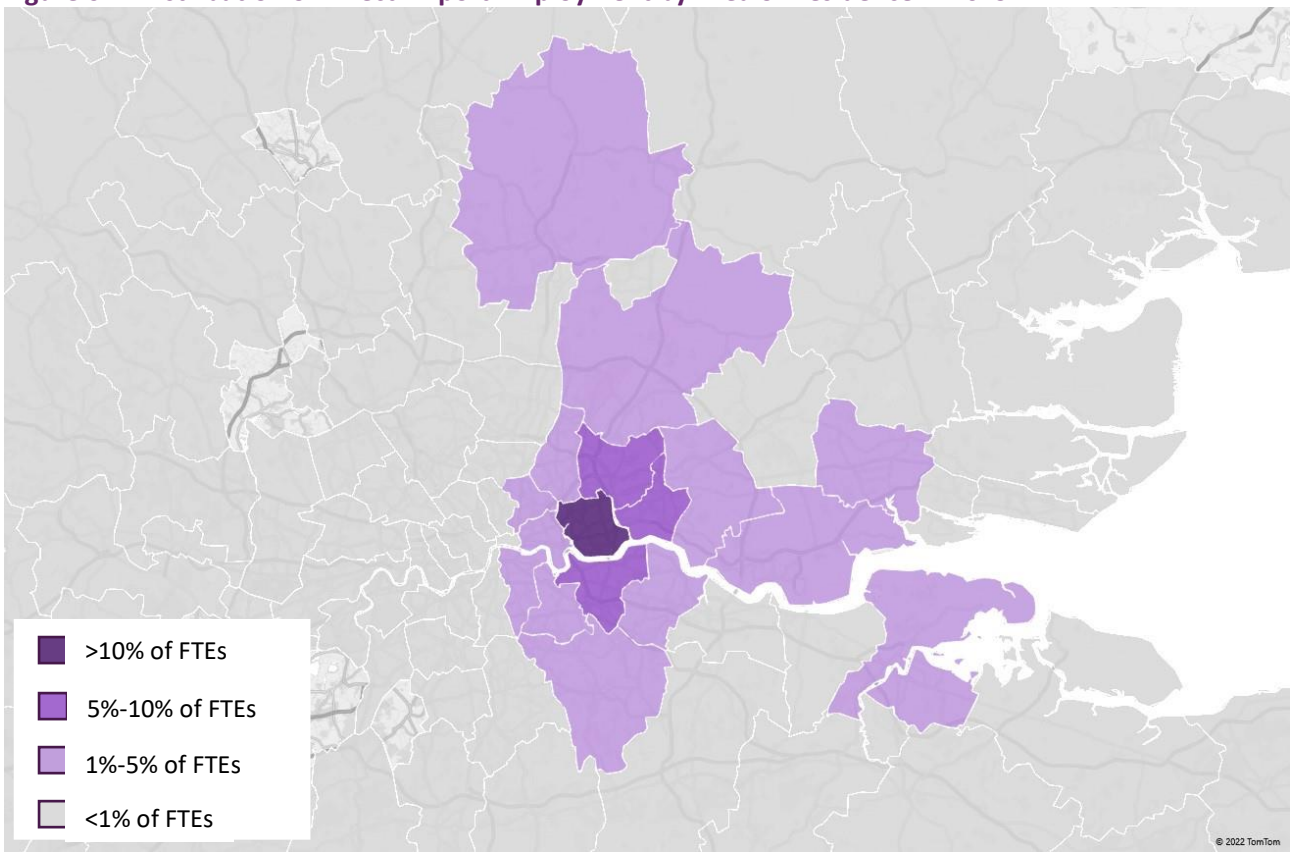
6.18 **Figure 6.1** shows the distribution of direct employment across London based on the residence of workers at the airport.

6.19 The operation of the airport also supported additional economic activity in the surrounding areas through its supply chain (indirect effect) and secondary rounds of spending (induced effect), which supported a further 850 total jobs (730 FTE[97] jobs) in the local study area or 1,370 total jobs (1,190 FTE jobs) across London. In turn, these jobs contributed an additional £74 million and £130 million of GVA to the Local Study Area or London economy respectively.

6.20 These operational impacts in 2019 are set out in **Table 6.2**. It shows that, in 2019, LCY supported a total of 3,160 total jobs (2,790 FTE jobs) and £246 million in GVA in the Local Study Area and 3,680 total jobs (3,250 FTE jobs) and £302 million in GVA across London as a whole. This is a substantial contribution to employment and prosperity in Newham and across the wider East London area.

[97] FTE – full time equivalent

Figure 6.2: Distribution of Direct Airport Employment by Area of Residence in 2019



Source: London City Airport

Table 6.2: Summary of Operational Economic Impacts in 2019 (at 2022 prices)

Measure	Effect	Local Study Area	London
GVA (£ million)	Direct	£172	£172
	Indirect & Induced	£74	£130
	Total	**£246**	**£302**
Total Jobs	Direct	2,310	2,310
	Indirect & Induced	850	1,370
	Total	**3,160**	**3,680**
FTE Employment	Direct	2,060	2,060
	Indirect & Induced	730	1,190
	Total	**2,790**	**3,250**

Source: York Aviation

Future Operational Impacts

6.21 Allowing growth at LCY up to 9 mppa will offer significant operational economic benefits. It will enable the airport to substantially expand its role as an employer in Newham and across the Local Study Area in particular. This will enable the airport to support the efforts of stakeholders to generate jobs, address deprivation and improve prosperity. The ability of the airport to contribute to realising these goals will be significantly limited if the airport is not allowed to grow above 6.5 mppa as the scale of contribution in terms of jobs and GVA would be less and, to the extent that the airport grows above the levels of traffic seen in 2019, this growth would be slower in terms of delivering any economic benefits. Overall, constraint to the existing passenger cap of 6.5 mppa would limit the airport's future economic contribution as a source of employment, not least as productivity gains in the future erode the need for labour with growth constrained, removing employment opportunities from the labour market and making the task of addressing deprivation in the areas around the airport harder.

6.22 The economic impact assessment has examined the future growth in operational economic benefits in relation to two principal future scenarios, as outlined in **Section 5**, the Development Case scenario and the Do Minimum Case. The latter reflects the future baseline if the airport remains limited to 6.5 mppa. The difference between the two cases represents the operational economic benefits associated with the development. The assessment has also considered the extent to which operational economic impacts grow relative to the airport's contribution in 2019, demonstrating the benefits of fulfilling the need to grow, and the operational economic benefits relative to those originally identified in the CADP1 Application.

6.23 In addition to examining the Development Case scenario, the assessment also considered two sensitivity tests in relation to the future growth of the airport with development, the Faster and Slower Growth Cases set out in **Section 5**.

Local Study Area Impacts

6.24 **Table 6.3** sets out the forecast operational economic benefits to the Local Study Area. It shows the impacts for the Development Case, the Do Minimum Case, the difference between the two in 2031, and the growth in both over 2019. It also includes a comparison to the equivalent economic impacts assessed for CADP1[98]. All GVA figures are in 2022 prices.

[98] Total jobs were not estimated in the CADP1 application.

Table 6.3: Operational Economic Impacts in the Local Study Area

Annual Impact		2019	Do Minimum Case 6.5 mppa in 2031		Development Case 9 mppa in 2031		Development Case vs. Do Minimum	CADP1 6.5 mppa in 2025	Development Case minus CADP1
			Impact	Growth vs. 2019	Impact	Growth vs. 2019	Difference	Impact	Difference
GVA (£m)	Direct	£172	£212	+£40	£316	+£144	+£104	£214	+£102
	Indirect & Induced	£74	£95	+£21	£135	+£61	+£40	£63	+£72
	Total	£246	£307	+£61	£451	+£205	+£144	£277	+£174
Total Jobs	Direct	2,310	2,420	110	3,650	+1,340	+1,230	n/a	n/a
	Indirect & Induced	850	970	120	1,380	+530	+410	n/a	n/a
	Total	3,160	3,390	230	5,030	+1,870	+1,640	n/a	n/a
FTE Jobs	Direct	2,060	2,160	+100	3,230	+1,170	+1,070	3,070	+160
	Indirect & Induced	730	830	+100	1,190	+460	+360	920	+270
	Total	2,790	2,990	+200	4,420	+1,630	+1,430	3,990	+430

Source: York Aviation

6.25 In the Do Minimum Case, direct GVA grows to around £212 million in 2031 and direct employment is forecast to grow to around 2,420 total jobs (2,160 FTE jobs) in the Local Study Area. This represents an increase of £40 million in GVA and 110 total jobs (100 FTE jobs) compared to 2019 as the airport grows to 6.5 mppa. When indirect and induced effects are included as well, the total impact of the Do Minimum Case increases to £307 million in GVA, 3,390 total jobs (2,990 FTE jobs), an increase of £61 million in GVA and 230 total jobs (200 FTE jobs).

6.26 In broad terms, the GVA impact of the airport attaining a throughput of 6.5 mppa is of a similar scale to that assessed at the time of the CADP1 Application but the level of employment supported is now expected to be lower than assessed as part of the CADP1 Application due in part to the impact of the pandemic on working practices and productivity as well as the fact that, in the Do Minimum Case, the full development of the CADP1 passenger terminal infrastructure is expected to be delayed beyond 2031 (as discussed in the next section) meaning that jobs connected with the expanded terminal facilities, including additional retail and catering facilities, are delayed until the full infrastructure is developed out.

6.27 The Development Case sees direct GVA grows to around £316 million in 2031 and direct employment is forecast to grow to around 4,420 total jobs (3,230 FTE jobs) in the Local Study Area. This represents an increase of £144 million in GVA and 1,340 total jobs (1,170 FTE jobs) compared to 2019. When indirect and induced effects are included as well, the total impact of the Development Case scenario increases to £451 million in GVA, 5,030 total jobs (4,420 FTE jobs), an increase of £205 million in GVA and 1,870 total jobs (1,630 FTE jobs) compared to 2019.

6.28 In 2031, the impact of the proposed amendments in the Local Study Area, the Development Case minus the Do Minimum Case, is expected to be an uplift of £104 million and 1,230 total jobs (1,070 FTE jobs) from direct impacts, and £144 million and 1,640 total jobs (1,430 FTE jobs) when indirect and induced impacts are included as well. With growth to 9 mppa, the expected operational impacts of the development substantially exceed those assessed for the original CADP1 Application as a result of the higher passenger throughput with the proposed amendments. Some further commentary on the comparison to the original CADP1 assessments is contained in **Appendix G**.

London Impacts

6.29 **Table 6.4** sets out the forecast operational economic benefits to the London economy. Again, it shows the impacts for the Development Case scenario, the Do Minimum Case, the difference between the two in 2031, and the growth in both over 2019. A comparison to CADP1 is not included here as these impacts were not assessed at a London level for the CADP1 Application.

Table 6.4: Operational Economic Impacts in London

Annual Impact		2019	Do Minimum Case 6.5 mppa in 2031		Development Case 9 mppa in 2031		Development Case vs. Do Minimum
			Impact	Growth vs. 2019	Impact	Growth vs. 2019	Difference
GVA (£m)	Direct	£172	£212	£40	£316	£144	£104
	Indirect & Induced	£130	£163	£33	£235	£105	£71
	Total	£302	£376	£74	£551	£249	£175
Total Jobs	Direct	2,310	2,420	110	3,650	1,340	1,230
	Indirect & Induced	1,370	1,530	160	2,200	830	670
	Total	3,680	3,950	270	5,860	2,180	1,910
FTE Jobs	Direct	2,060	2,160	100	3,230	1,170	1,070
	Indirect & Induced	1,190	1,330	140	1,920	730	590
	Total	3,250	3,490	240	5,150	1,900	1,660

Source: York Aviation

6.30 In the Do Minimum Case, direct GVA grows to around £212 million in 2031 and direct employment is forecast to grow to around 2,420 total jobs (2,160 FTE jobs) across London. This represents an increase of £40 million in GVA and 110 total jobs (100 FTE jobs) compared to 2019. When indirect and induced effects are included as well, the total impact of the Do Minimum scenario increases to £376 million in GVA, 3,950 total jobs (3,490 FTE jobs), an increase of £74 million in GVA and 270 total jobs (240 FTE jobs).

6.31 In comparison, the Development Case sees direct GVA grow to around £316 million in 2031 and direct employment is forecast to grow to around 3,650 total jobs (3,230 FTE jobs) across London. This represents an increase of £144 million in GVA and 1,340 total jobs (1,170 FTE jobs) compared to 2019. When indirect and induced effects are included as well, the total impact of the Development Case scenario increases to £551 million in GVA, 5,860 total jobs (5,150 FTE jobs), an increase of £249 million in GVA and 1,900 FTE jobs compared to 2019.

6.32 In 2031, the impact of the development in London, the Development Case scenario minus the Do Minimum Scenario, is expected to be £104 million and 1,230 total jobs (1,070 FTE jobs) from direct impacts, and £175 million and 1,910 total jobs (1,660 FTE jobs) when indirect and induced impacts are included as well. These represent material benefits, particularly given that the majority of the impacts will be delivered in the local area as discussed above.

Faster and Slower Growth Cases

6.33 In addition to examining the main Development Case scenario, the assessment has also considered the impacts of the Faster and Slower Growth cases. This analysis demonstrated that the effect of different rates of growth to 9 mppa have a very limited effect on the operational socio-economic impacts of the proposed amendments and the benefits remain broadly of the same magnitude even if growth is faster or slower than our core assessment case. This analysis is set out in **Appendix H**.

The Wider Economic Impacts of London City Airport

6.34 The assessment of wider economic impacts considers the GVA and employment impacts that accrue to the Local Study Area and London as a result of the connectivity offered by LCY.

6.35 LCY is a vital part of an airport eco-system that makes London one of the best connected cities in the world. This international connectivity is central to London's position as one of the top two world cities; a leading financial and business centre and world renowned tourism destination. The airport plays a vital niche role, providing business connectivity to the City and East London, and offering leisure capacity to the growth areas in the East. Growth of the airport in line with the Development Case would allow it to continue to grow and enhance the role that it provides in the London airport system, so increasing connectivity for business travellers to important European centres and global hubs and enabling improved access to central and the East of London for visitors as well as enhancing its local role in supporting the social advantages of outbound travel.

6.36 For passengers travelling on business, the connectivity offered by the airport means that they are able to interact more effectively with global markets. This makes trade easier, opening up export markets and allowing access to overseas goods, supply chains and knowledge. It also enables investment flows. In terms of inward investment, connectivity makes an area more attractive as it is easier and more efficient for overseas companies to manage and grow their interests in the area. Conversely, it enables 'local' companies to invest overseas with greater confidence knowing that they will be able to manage and grow their overseas operations. The result is a more open, competitive and productive local economy.

6.37 For inbound travellers, the airport offers fast access to London for business and leisure visits. This injects expenditure to the economy, supporting the inbound tourism sector and its supporting functions.

6.38 There are also social benefits from facilitating convenient outbound travel, even for leisure purposes, as it satisfies a local need and reduces surface access journeys to alternative airports.

Wider Economic Impact in 2019

6.39 **Table 6.5** shows the estimated wider economic impacts associated with the airport in 2019. In the Local Study Area, the connectivity provided by the airport is estimated to support around £139 million in GVA by boosting business productivity, which supports an estimated 650 total jobs (540 FTE jobs). The airport also brought a significant number of tourists to the Local Study Area, supporting £131 million in GVA and supporting 1,300 total jobs (1,020 FTE jobs). In total, in 2019, the airport was estimated to support £270 million in GVA and 1,950 total jobs (1,560 FTE jobs) in the Local Study Area through wider economic impacts.

Table 6.5: Summary of Wider Economic Impacts in 2019

Measure	Effect	Local Study Area	London
GVA (£ million)	Business Productivity	£139	£299
	Inbound Tourism	£131	£332
	Total	£270	£631
Total Jobs	Business Productivity	650	1,350
	Inbound Tourism	1,300	3,300
	Total	1,950	4,650
FTE Employment	Business Productivity	540	1,150
	Inbound Tourism	1,020	2,610
	Total	1,560	3,760

Source: York Aviation

6.40 Across London, business productivity effects support around £299 million in GVA and 1,350 total jobs (1,150 FTE jobs). At the same time inbound tourism into London coming through the airport supported around £332 million in GVA and 3,300 total jobs (2,610 FTE jobs). In total, therefore, across London, LCY supports around £531 million in GVA and 4,650 total jobs (3,760 FTE jobs) through productivity and tourism effects.

Future Wider Economic Impacts

6.41 Connectivity is central to a global economy such as London. Growth of LCY to 9 mppa will enable the airport to expand its connectivity and that of London, increasing business productivity and bringing more visitors. If the airport is not able to grow beyond 6.5 mppa, this additional connectivity will not be delivered making London a less attractive place to do business, to trade with and to visit.

6.42 As with operational impacts, the economic impact assessment has examined the future growth in wider economic benefits in relation to two future scenarios, as outlined in **Section 5**, the Development Case and the Do Minimum Case. The latter reflects the future baseline of the airport remains limited to 6.5 mppa. The difference between the two cases represents the wider economic benefits associated with the development. The assessment also considered the extent to which wider economic impacts grow relative to the airport's contribution in 2019, demonstrating the benefits of fulfilling the need to grow. In relation to wider impacts, the assessment does not directly compare back to the analysis undertaken for CADP1. Since that time, the modelling approach has moved towards assessing the effect of the airport on GVA and employment to provide consistency with the assessment of operational impacts. It is, therefore, difficult to make effective comparison back to the assessments of wider impact made at the time of the CADP1 Application.

Local Study Area Impacts

6.43 **Table 6.6** shows the projected future wider economic impacts in the Local Study Area in 2031 for Do Minimum Case and the Development Case and provides a reference back to 2019.

6.44 By 2031, the Do Minimum Case sees the airport supporting £195 million in GVA and 760 total jobs (630 FTE) jobs in the Local Study Area through its wider connectivity effects at 6.5 mppa. This is £56 million more in GVA than 2019 and 110 total jobs (90 FTE jobs) more. At the same time, inbound tourism is forecast to support £159 million in GVA and 1,390 total jobs (1,110 FTE jobs). This is an increase of £29 million in GVA and 90 total jobs (90 FTE jobs) compared to 2019. In total, in the Local Study Area, the airport is expected to support £354 million and 2,150 total jobs (1,740 FTE jobs) by 2031 in the Do Minimum Case, an increase of £84 million in GVA and 200 total jobs (180 FTE jobs) compared to 2019.

6.45 In the Development Case in 2031, the airport is forecast to generate £240 million in GVA and 950 total jobs (790 FTE jobs) relating to increased business productivity stemming from the improved connectivity it will be able to offer with growth to 9 mppa under the proposed amendments. This is a growth of £101 million in GVA and 300 total jobs (250 FTE jobs) compared to 2019. Inbound tourism impacts are expected to grow to £218 million in GVA and 1,900 total jobs (1,520 FTE jobs) by 2031, this is £87 million in GVA and 600 total jobs (500 FTE jobs) more than 2019. In total, the Development Case is forecast to support £458 million in GVA and 2,850 total jobs (2,310 FTE jobs) through the airport's wider economic impacts by 2031. This is an increase of £188 million in GVA and 900 total jobs (750 FTE jobs) compared to 2019.

6.46 In 2031, the wider economic impact of the development in the Local Study Area, the Development Case minus the Do Minimum Case, is expected to be an additional £45 million in GVA and 190 total jobs (160 FTE jobs) from business productivity impacts, and £59 million in GVA and 510 total jobs (410 FTE jobs) from inbound tourism. In total, the wider economic impact is expected to be around £103 million in GVA and 700 total jobs (570 FTE jobs). These impacts would make a substantial contribution to the local need for levelling up of the economy.

Table 6.6: Wider Economic Impacts in the Local Study Area

Annual Impact		2019	Do Minimum Case 6.5 mppa in 2031		Development Case 9 mppa in 2031		Development Case minus Do Minimum
			Impact	Growth vs. 2019	Impact	Growth vs. 2019	Difference
GVA (£m)	Business Productivity	£139	£195	+£56	£240	+£101	+£45
	Inbound Tourism	£131	£159	+£29	£218	+£87	+£59
	Total	£270	£354	+£84	£458	+£188	+£103
Total Jobs	Business Productivity	650	760	+110	950	+300	+190
	Inbound Tourism	1,300	1,390	+90	1,900	+600	+510
	Total	1,950	2,150	+200	2,850	+900	+700
FTE Jobs	Business Productivity	540	630	+90	790	+250	+160
	Inbound Tourism	1,020	1,110	+90	1,520	+500	+410
	Total	1,560	1,740	+180	2,310	+750	+570

Source: York Aviation

London Impacts

6.47 **Table 6.7** shows the forecast future wider economic impacts in London in 2031 for Do Minimum Case and the Development Case and provides a reference back to 2019.

6.48 By 2031, the Do Minimum Case sees the airport supporting £430 million in GVA and 1,670 total jobs (1,420 FTE jobs) across London through its impact on business productivity. This is £131 million more in GVA than 2019 and 320 total jobs (270 FTE jobs) more than in 2019. At the same time, inbound tourism is forecast to support £400 million in GVA and 3,480 total jobs (2,780 FTE jobs). This is an increase of £68 million in GVA and 180 total jobs (170 FTE jobs) compared to 2019. In total, across London, the airport is expected to support £830 million in GVA and 5,150 total jobs (4,200 FTE jobs) by 2031 in the Do Minimum Case, an increase of £199 million in GVA and 500 total jobs (440 FTE jobs) compared to 2019 due to its wider connectivity effects.

Table 6.7: Wider Economic Impacts in London

Annual Impact		2019	Do Minimum Case 6.5 mppa in 2031		Development Case 9 mppa in 2031		Development Case minus Do Minimum
			Impact	Growth vs. 2019	Impact	Growth vs. 2019	Difference
GVA (£m)	Business Productivity	£299	£430	+£131	£526	+£227	+£96
	Inbound Tourism	£332	£400	+£68	£559	+£227	+£159
	Total	£631	£830	+£199	£1,084	+£453	+£255
Total Jobs	Business Productivity	1,350	1,670	+320	2,050	+700	+380
	Inbound Tourism	3,300	3,480	+180	4,900	+1,600	+1,420
	Total	4,650	5,150	+500	6,950	+2,300	+1,800
FTE Jobs	Business Productivity	1,150	1,420	+270	1,740	+590	+320
	Inbound Tourism	2,610	2,780	+170	3,890	+1,280	+1,110
	Total	3,760	4,200	+440	5,620	+1,860	+1,430

Source: York Aviation

6.49 In the Development Case in 2031, the airport is forecast to generate £526 million in GVA and 2,050 total jobs (1,740 FTE jobs) relating to increased business productivity stemming from improved connectivity. This is a growth of £227 million in GVA and 700 total jobs (590 FTE jobs) compared to 2019. Inbound tourism impacts are expected to grow to £559 million in GVA and 4,900 total jobs (3,890 FTE jobs) by 2031, this is £227 million in GVA and 1,600 total jobs (1,280 FTE jobs) more than 2019. In total, the Development Case is forecast to support £1,084 million in GVA and 6,950 total jobs (5,620 FTE jobs) in wider economic impacts by 2031. This is an increase of £453 million in GVA and 2,300 total jobs (1,860 FTE jobs) compared to 2019 indicating substantial wider economic benefits to be delivered across London through the increased connectivity that the airport would be able to provide at 9 mppa.

6.50 In 2031, the wider economic impact of the development in London, the Development Case scenario minus the Do Minimum Scenario, is expected to be £96 million in GVA and 380 total jobs (320 FTE jobs) from business productivity impacts, and £159 million and 1,800 total jobs (1,110 FTE jobs) from inbound tourism. In total, the additional wider economic impact of the airport is expected to be of the order of £255 million in GVA and 1,800 total jobs (1,430 FTE jobs).

Socio-Economic Welfare Assessment

6.51 In addition to the assessment of the impact of the development on key economic indicators, namely GVA and employment, the assessment has also considered the socio-economic welfare impacts via a high-level socio-economic cost benefit analysis.

6.52 The purpose of the cost benefit analysis is to consider the broader effects on socio-economic welfare associated with the development and it places the emphasis on whether the expansion of the airport will result in a more efficient allocation of resources across the economy. It examines whether the key actors (passengers, producers, and the Government) in the market will be better or worse off as a result of LCY's growth in line with the Development Case as opposed to the Do Minimum Case. This approach is the same in concept as the economic elements of the DfT's WebTAG appraisal approach. It should, however, be emphasised that it is not a WebTAG appraisal and is not intended to be one. The purpose of this analysis is to provide a proportionate assessment of the impacts of the development from a socio-economic welfare perspective. Furthermore, it is worth noting that WebTAG is not intended for assessing the impact of private sector investments and is not a commonly used standard in assessing airport socio-economic effects in relation to planning decisions.

6.53 The analysis considers a number of different impacts on socio-economic welfare:

- Passenger Surface Access Time Savings – the monetised value of time saved by LCY passengers compared to the next most popular alternative option;
- Passenger Surface Access Cost Savings – the surface access cost advantage from using LCY compared to the next most popular alternate;
- Passenger Air Fare Savings – the air fare cost of using LCY compared to the next most popular alternate;
- Airport Company Benefits – the additional operating profits associated with stimulated passengers at LCY;
- Air Passenger Duty (APD) – the additional APD associated with stimulated passengers at LCY;
- Construction Costs – the costs of the works to complete the proposed development compared to the Do Minimum Case;
- Carbon Costs – the value of industry investment required to reduce additional carbon emissions to zero.

6.54 The method for calculation of each of these impacts is set out in **Appendix I**.

6.55 The Net Present Value (NPV) of the proposed amendments is calculated over a 60 year appraisal period. The NPV is shown including and excluding carbon costs. This is for a number of reasons. The cost of carbon is already accounted for within the demand forecasts, as described above, and, consequently, these costs are already allowed for within the passenger demand forecasts and assumed to be internalised within the aviation industry with the costs passed onto passengers within the air fare so impacting the rate of growth within the forecast scenarios. Hence, to include them again within the socio-economic cost benefit analysis is to double count their effect. Inclusion within the socio-economic cost benefit is also problematic because it does not allow for the potential use of aircraft capacity elsewhere, either in the UK or overseas. It is, therefore, very difficult to know to what extent the carbon emissions are truly net additional and, hence, the extent of carbon costs associated with them. Furthermore, Government has made quite clear through the Jet Zero Strategy that the cost of carbon is a national and global issue that should be dealt with at that level. It is not a relevant consideration at a local level. These issues suggest that the relevant NPV is that which excludes carbon costs. However, the NPV including carbon costs is included to demonstrate that, even if these are included, the proposed amendments still offer a net positive contribution to socio-economic welfare.

6.56 Excluding carbon costs, the proposed amendments offer a broader socio-economic welfare benefit with an NPV of £371 million. Even if carbon costs were to be included, this would be reduced to around £204 million, which still demonstrates that the substantial socio-economic welfare benefits that would be derived from the development but for the reasons explained above, the inclusion of carbon costs is effectively double counting such costs as these are already accounted for within the demand forecasts.

Table 6.8: Results of the Socio-Economic Cost Benefit Analysis

	Present Values (£m)
Passenger Surface Access Time Savings	£1,767
Passenger Surface Access Cost Savings	£216
Passenger Air Fare Savings	-£1,674
Airport Company Benefits	£119
Air Passenger Duty	£12
Construction Costs	-£70
Carbon Costs	-£167
NPV excluding carbon costs	**£371**
NPV including carbon costs	**£204**

Source: York Aviation

Construction Impacts

6.57 **Table 6.9** shows the GVA and person years of employment supported by the construction of infrastructure at the airport over the period 2024 to 2030. Within the Local Study Area, the construction programme is expected to support around £220 million in GVA and 1,940 person years of employment. This rises to £257 million in GVA and 2,310 person years of employment across London as a whole. This represents a substantial if transient opportunity to support employment and prosperity during the building programme.

Table 6.9: Construction Impacts between 2025 and 2031

	Local Study Area		London	
	GVA (£m)	Person Years of Employment	GVA (£m)	Person Years of Employment
Direct	£134	1,060	£134	1,060
Indirect & Induced	£86	880	£123	1,250
Total	£220	1,940	£257	2,310

Source: York Aviation

6.58 Should the proposed amendments not be approved, the construction of the remaining CADP1 works would be substantially delayed as explained in the next section. To the extent that there is ongoing productivity improvement in the construction industry, this would result in slightly lower construction employment but would not materially impact on the GVA benefit from the construction activity.

Conclusions on Economic Impact

6.59 Growth to 9 mppa will deliver substantial benefits to the economy of London and the areas around the airport in particular, as represented by the Local Study Area:

- Across the Local Study Area, growth to 9 mppa will deliver 1,870 new jobs (1,630 FTE jobs), of which 1,340 total are direct jobs at the airport (1,170 FTE jobs), which will be available to local people supporting the levelling up agenda in Newham and neighbouring boroughs;
- Across London, it will deliver 2,180 additional jobs (1,900 FTE jobs) (over 2019), of which 1,340 total are direct jobs at the airport (1,170 FTE jobs);
- Support 1,250 person years of employment across London through the construction phase, adding £257m to GVA;
- Provide a boost to business productivity, supporting the growth of and investment in key sectors in the local economy equivalent to £398 million a year by 2031 (£99 million more than in 2019);
- Support tourist expenditure in London of £558 million a year by 2031, (£227 million more than 2019);
- The proposed amendments will have a net positive impact on socio-economic welfare of £371 million over the next 60 years;
- Provide a boost to the Local Study Area economy of £220 million in GVA and 1,940 person years of employment as a result of the construction programme between 2025 and 2031;
- Support the Global Britain and economic recovery agendas.

These benefits will not be delivered without the greater operational flexibility provided by the proposed amendments and if the airport is constrained to only handling 6.5 mppa.

6.60 Enabling these benefits is particularly important in the context of the need for growth and regeneration in East London, in particular to support levelling up initiatives in Newham and neighbouring boroughs. Furthermore, allowing LCY to grow would support broader initiatives to grow the UK economy and that of London in particular, in support of *'Build Back Better'*.

7. Capacity Requirements

7.1 This section sets out the capacity that will be required to handle the growth projected for LCY should approval be granted for the proposed amendments, setting out how the requirements will be met through the incremental build out of the remainder of the CADP1 infrastructure, including stand provision to accommodate the expected greater number of larger Code C aircraft on the recently completed CADP1 airfield.

Busy Hour Profile

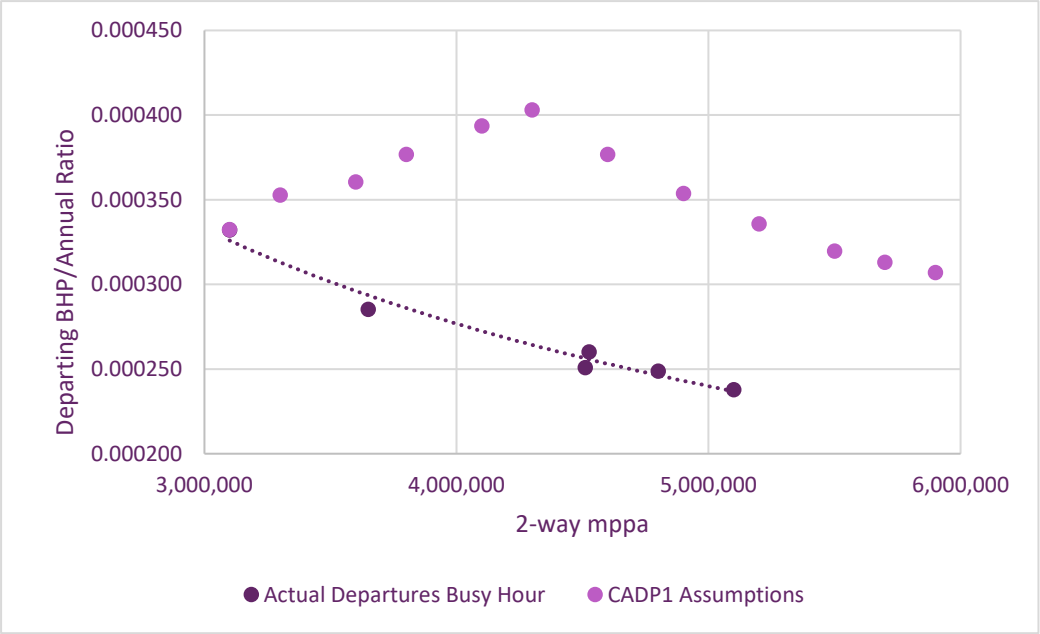
7.2 As can be seen in **Figures 5.9** and **5.10**, the change in the profile of activity at the airport means that the peaks of demand have not risen, as the airport has grown to handle 5.1 mppa, as much as anticipated in the CADP1 Application. When the initial capacity planning parameters for CADP1 were defined, it was expected that growth at the airport would initially focus on growth in the traditional peak periods of early morning and early evening flights to meet business passenger needs, leading to the expectation of an increasing concentration of activity in peak periods in the early years. It was then expected that, as the airport grew, there would be a gradual increase in flights outside of these peak periods as the CADP1 infrastructure was delivered and overall passenger volumes using the airport grew enabling airlines to increase the frequency of their operations over the day. It was also envisaged that a high proportion of activity would continue to be by aircraft based away from LCY with a focus on serving business travel needs inbound to and outbound from London in the early morning and early evening periods respectively as had been the traditional pattern.

7.3 However, the changing mix of airlines, including a greater proportion of the activity by BACF using aircraft based at the airport as explained in **Section 3**, has led to more activity during the middle part of the day, including the operation of services to more leisure oriented destinations. Hence, the peaks of demand in the morning and early evening have not grown as expected pro-rata to the increase in the overall number of passengers handled at the airport. There are a number of reasons why the expected profile of demand over the day did not materialise:

- There has effectively been some widening of the peak periods into the shoulders rather than flights filling up the available capacity in the traditional peaks of traffic as had been expected;
- BACF became more dominant at the airport, with a greater proportion of outbound flights and the introduction of leisure services with based aircraft resulting in a greater proportion of activity outside of the traditional peak periods;
- A reduction in the number of individual airlines operating, with a greater spread of activity over the day by a smaller number of airlines;
- An increase in leisure flying in the middle part of the day.

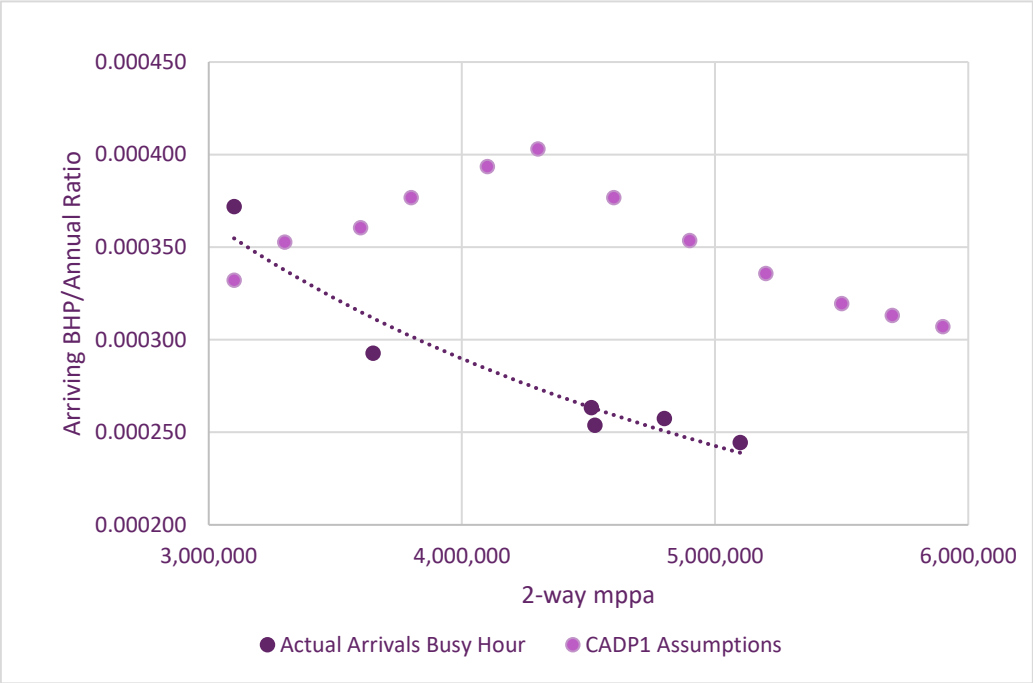
7.4 As a consequence, the number of passengers in the busy hours has not increased as had been expected at the time of the CADP1 Application. The variation in the ratio of busy hour passengers (BHP) to annual passengers is shown in **Figures 7.1** and **7.2** for departures and arrivals respectively comparing the expectations in the CADP1 Application with the actual performance over the period to 2019. This demonstrates that, relative to the expectations when the CADP1 terminal infrastructure was designed, the peak hours for arriving and departing passengers have not grown pro-rata to annual passenger growth as had been anticipated.

Figure 7.1: Departing Busy Hour Passenger to Annual Passenger Ratio



Source: York Aviation analysis of LCY data

Figure 7.2: Arriving Busy Hour Passenger to Annual Passenger Ratio

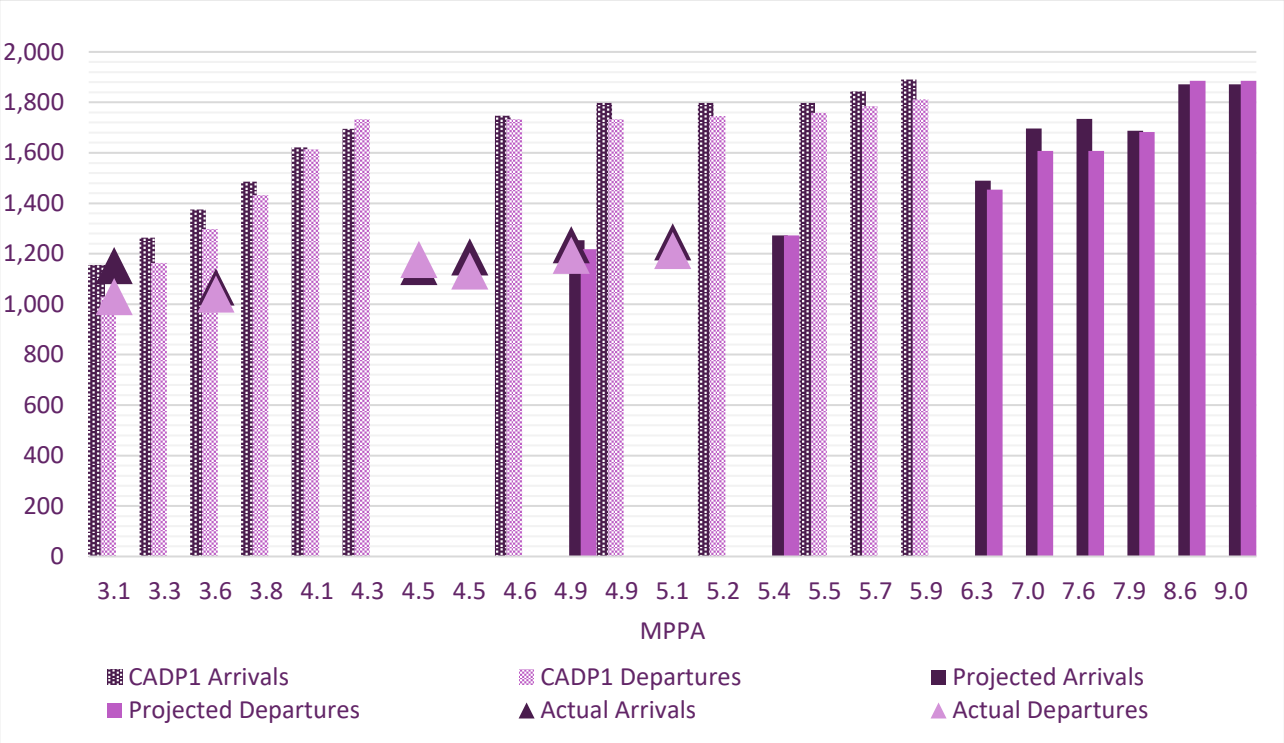


Source: York Aviation analysis of LCY data

7.5 Given the expected pattern of airline operations in future and taking into account the additional period of operation proposed on Saturday afternoons, the pattern seen pre-pandemic of a gradual spreading of the peak across the day is expected to continue as the airport grows to 9 mppa. The relationships, based on the actual busy hours, have been extrapolated forward and provide a sense check to the more detailed assessment of the expected busy hours based on the 'busy day timetables' developed for assessment purposes as described in **Section 5** and **Appendix D**.

7.6 **Figure 7.3** shows the busy hour passenger volumes expected in the CADP1 Application relative to the annual passenger throughput compared to what actually occurred as the airport grew through to 2019 and the updated projections for future busy hours, derived from the 'Busy Day Timetable' used to inform consideration of future airport capacity requirements. This shows that, notwithstanding the growth in annual passenger throughput projected to 9 mppa with the proposed amendments, the future busy hour demands on terminal capacity are expected to be virtually the same as anticipated for CADP1 at 6.5 mppa. This means that the CADP1 infrastructure can accommodate the forecast throughput without needing further expansion. In part, this is because some of the activity is expected to take place on Saturday afternoons and so does not add to peak period demands on the infrastructure.

Figure 7.3: Projected Busy Hour Passengers compared to Actual Arrivals and Departure Busy Hours



Source: York Aviation analysis of LCY data

7.7 On this basis, there is no need for any amendments to the general layout and design of the CADP1 terminal buildings in order to accommodate 9 mppa as part of the S73 Application. Prior to the pause of construction in 2020 due to the pandemic, the deck over KGV Dock was completed and this includes the substructure for the new East Terminal Extension and New East Pier which will be built out commensurate with a return to pre-pandemic passenger demand and growth to 9mppa by 2031. Further details of the proposed construction programme are included in **Chapter 6 of the ES** but it is envisaged that the main construction works could take place between 2025 and 2031 if the proposed amendments are approved, or slightly later if growth is slower in line with the Slower Growth Case. Nonetheless, some minor adjustments to the previously approved apron layout will be required to accommodate a greater number of larger Code C aircraft whilst maintaining the consented total of 25 operational aircraft stands.

7.8 The sections below briefly explain how the proposed passenger terminal and associated infrastructure will enable a higher number of passengers to be processed over the year, and the phasing that is proposed to ensure infrastructure delivery is commensurate with the recovery of passenger demand following the Covid-19 pandemic and future growth to 9 mppa

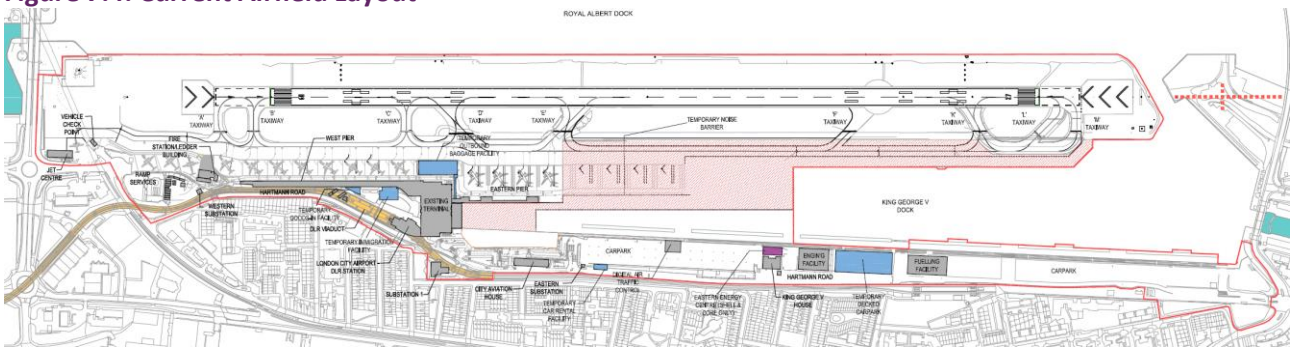
Current Capacity

7.9 As noted in **Section 1**, the airfield works anticipated in the CADP1 Application have substantially been built out, with the new apron area not yet needing to be brought into use due to supressed demand following the pandemic. Temporary facilities were put in place in anticipation of changing passenger operations as the new terminal buildings were built out. However, the pause in construction activity due to the pandemic means that terminal works have not started and temporary facilities remain in situ. The continuing need for these temporary facilities pending completion of the full CADP1 works, along with some additional temporary facilities required as an interim measure, described below, are the subject of a separate concurrent planning application.

Runway and Taxiway System

7.10 There are no proposals to change the runway or taxiway system. The extended parallel taxilane consented under CADP1 has been completed and was brought into operation in 2021. The overall airfield layout it shown in **Figure 7.4**.

Figure 7.4: Current Airfield Layout



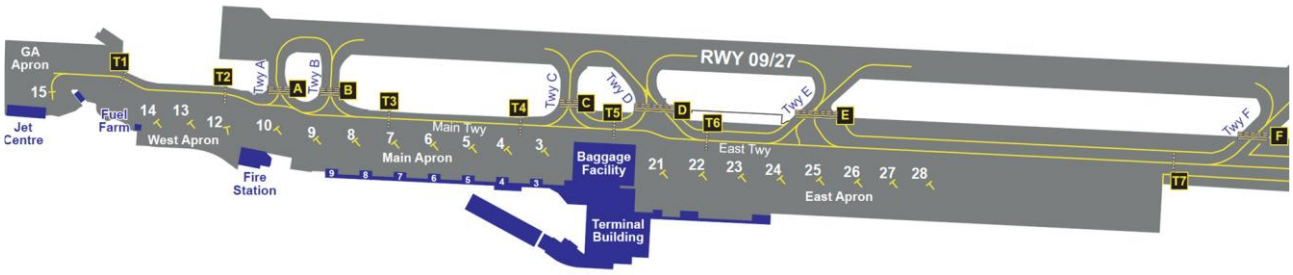
Source: Pascall & Watson Application Drawing 1.0B

7.11 Furthermore, larger Code C aircraft will be able to use the taxilane along the Main Apron, which has now been certified or use by these aircraft. Larger Code C aircraft landing in the predominant runway direction Runway 27 no longer need to turn and backtrack along the runway to use the link shown between Taxiways C and D on **Figure 7.4** to exit the runway. Similarly, aircraft departing from Runway 09 previously had to enter the runway using the same taxiway and backtrack for departure. Both of these backtracking manoeuvres had a negative impact on runway capacity. Hence, it was considered in CADP1 that the number of such larger aircraft movement would need to be limited to ensure that the required 45 scheduled movements per hour could be achieved. The elimination of the need for larger Code C aircraft to backtrack means that a higher proportion of such aircraft can be accommodated without adversely impacting on the ability of the runway to accommodate the permitted 45 aircraft movements per hour. Given that no increase above 111,000 annual aircraft movements is sought and given the extent to which the peak of activity has spread over the day, 45 movements per hour remains sufficient to meet projected aircraft movement demand with the proposed amendments.

Apron

7.12 There are currently 19 operational aircraft stands available for use by commercial passenger aircraft as illustrated in **Figure 7.5**[99]. There is also an area adjacent to the Jet Centre used to accommodate business aviation aircraft movements and which could accommodate a smaller commercial aircraft. There are a further four stands that have been built to the east of stand 28 to complete the CADP1 airfield works but these are not yet in operational use. These additional stands will be integrated into the operation as demand increases. Two stands are not currently available due to the location of the TOBB (Temporary Outbound Baggage Building). The total permitted number of operational aircraft stands for commercial aircraft is 25. Only stands 21 to 28 are currently available for use by larger Code C aircraft, while stands 29-32 can be brought into use as required to increase the number of larger Code C aircraft stands to 12.

Figure 7.5: Current Apron Layout



Source: AIP

7.13 Stands to the west of the main terminal building on the Main Apron have size limitations and cannot accommodate some of the larger Code C aircraft types that are forecast to use the airport in the future.

Passenger Terminal

7.14 The growth in passenger volumes at the airport up to 5.1 mppa in 2019 was accommodated within the existing terminal building in line with expectations under the original CADP1 construction programme. We have assessed the quantity of each facility required at each year from 2024 if the projected demand to 9 mppa, with the proposed amendments, is to be accommodated at an optimum level of service. The 'traffic lights' assessment[100] is set out in **Appendix I** and illustrates how the capacity of the existing terminal can accommodate up to 6.5 mppa, now anticipated to be reached in 2026, but will come under increasing pressure as demand grows above this level, hence requiring the build out of the CADP1 infrastructure over time to cater for up to 9 mppa. This assessment has been derived through a combination of simulation modelling and spreadsheet calculations based on IATA guidelines[101] using the busy day timetables developed as part of the forecasting process, set out in **Section 5**. The results are presented in **Appendix I**, **Figures I.1** and **I.2**.

[99] Ibid.
[100] The 'traffic lights' assessment indicates where facilities come under pressure, with green indicating that a facility has ample capacity, yellow indicating that a facility is reaching its capacity, and red indicating that a facility is exceeding its capacity
[101] International Air Transport Association (IATA), Airport Development Reference Manual (ADRM) version 11.

7.15 As can be seen in **Appendix I**, the vast majority of the facilities for departing and arriving passengers have sufficient capacity to accommodate demand well beyond 6.5 mppa, although some facilities will need enhancement or operational measures to be taken in the short term until the CADP1 works are developed and brought into operation. This includes retention of the existing temporary facilities as well as the provision of some additional temporary facilities including temporary additional gate rooms serving some of the new East Apron stands to ensure that these stands can be effectively used during the construction of the remainder of the CADP1 works. In addition, there may be some increased use of bussing to facilitate the movement of arriving and departing passengers between the existing terminal and the East Apron stands and other remote stands until CADP1 is complete and the temporary facilities removed.

7.16 We now go onto address how these future capacity requirements will be accommodated through completion of the CADP1 works. An indicative construction sequence is provided in **Chapter 6** of the **ES**.

Meeting the Future Need for Capacity

Airfield - Apron

7.17 The airfield infrastructure that would be required to support the airport's operation as it handles up to 9 mppa has largely already been delivered under CADP1; namely, the construction of a taxiway parallel to the runway and the creation of a concrete deck over King George V Dock to provide additional aircraft stands – albeit not all of the stands have yet been integrated into the airport's live operation but they will be brought into use as required.

7.18 As can be seen from **Figures I.1** and **I.2**, there will be a need for more stands for larger Code C aircraft than the 8 currently available. In the first instance, this requirement will be met through bringing into use the 4 additional stands (29-32) on the remainder of the already constructed East Apron area. When the peak requirement for more than 11 larger Code C aircraft is reached at c.7.6 mppa, this may require some minor reconfiguration of existing apron areas, making more efficient use of existing apron areas particularly in the west, to allow more larger Code C aircraft to be accommodated. This could be achieved through a combination of:

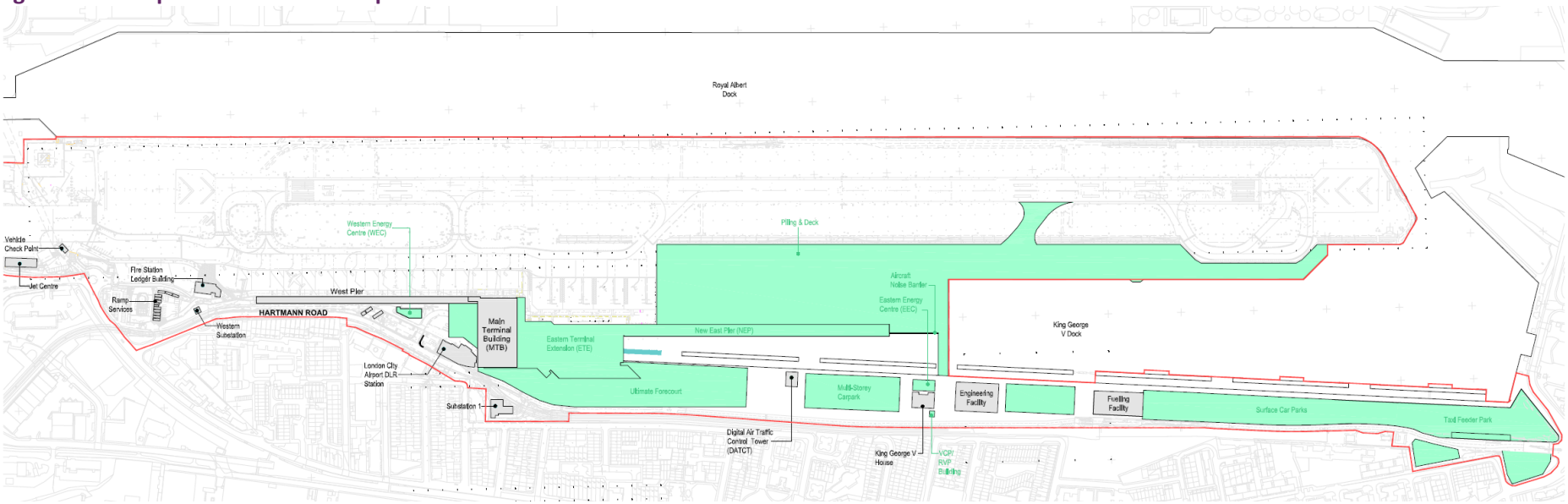
- Reconfiguration of the East Apron to nose-in parking, allowing additional larger Code C aircraft to be accommodated;
- Additional flexibility to park Code C aircraft on the existing Jet Centre Apron; and/or
- Adjustments to the existing stand layout at the western end of the Main Apron.

These reconfiguration works would not require any increase in the permissible number of aircraft stands (25) in the CADP1 permission or additional apron area.

Passenger Terminal

7.19 The design and the layout of the new terminal building that was approved under the CADP1 permission will remain substantially unaltered as explained in the **Design Development Report**. As noted earlier, it is anticipated that the construction could commence from 2025 if the proposed amendments are approved. The way in which the potential sequence of works will meet the capacity requirements to 9 mppa is summarised below, based on the indicative construction sequence as set out in **Chapter 6** of the **ES**. The layout of the airport following completion of the works is illustrated in **Figure 7.6**.

Figure 7.6: Completed CADP1 Development



Source: Pascall & Watson Application Drawing Completed Development

7.20 It is assumed that the building works could commence at the point when the airport has returned to pre-pandemic passenger volumes and, therefore, passenger demand up to that point can be handled as it was in 2019. Furthermore, by this time, it is expected that security screening will have introduced next-generation screening equipment, which will raise the capacity of the facility and this will, in-turn, also release space to re-configure the departure lounge to provide an increase in departure lounge seating and capacity.

7.21 There will be a short-term need for additional gateroom space and increased use of bussing due to the increasing number of larger Code C aircraft in the fleet mix until the delivery of the first phase of works which, subject to the approval of a revised phasing plan, is likely to include the first phase of the approved East Pier, which is expected to be complete by Year 3. The initial phase of the East Pier will relieve pressure on the demand for larger Code C gate rooms and bus gates, and will also relieve some capacity pressures in the departure lounge, but temporary facilities may continue to be required to enable full use to be made of all of the East Apron stands pending completion of the remainder of the East Pier.

7.22 The next stage of construction will see the delivery of the Eastern Terminal Extension, initially with partial fit out, which will largely alleviate capacity constraints related to the departure lounge and will also enable an additional security lane to be delivered, if required, as well as upgrading of retail and catering facilities for departing passengers. This will likely be followed by a reconfiguration of the East Apron that will maximise stand capacity for larger Code C aircraft, which will then be followed by an associated reconfiguration of the existing East Pier serving these stands that will further reduce bussing operations.

7.23 The remainder of the East Pier and full fit out of the East Terminal Extension and the Western Terminal Extension would be delivered in line with demand growth, which will mark the completion of CADP1 when the airport is serving 9 mppa.

Development in the Do Minimum Case

7.24 If the proposed amendments are not approved then there is some uncertainty as to when construction would commence, not least because of the financial impact on the airport of the significantly lower passenger volumes handled during the pandemic and the timescale for the expected recovery to pre-pandemic traffic levels in 2024/5. In the Do Minimum Case and with the prospect of no further growth above 6.5 mppa, this would make the bringing forward of the CADP1 development at an early date financially challenging, leading to the likelihood of deferral, not least as the analysis set out above demonstrates that there is little immediate need for additional facilities as operational measures and temporary facilities can be introduced to overcome the identified capacity shortfalls at least on an interim basis. Although this has been assessed as a construction sensitivity test, it is considered less likely to arise than a more gradual build out of the remaining CADP1 facilities.

7.25 This is because these operational measures would result in some downgrading of the level of service to passengers, which are acceptable as an interim measure pending the construction of the CADP1 works but are unlikely to be desirable as a permanent solution to meeting passenger requirements, in particular the increased requirement for bussing operations to/from aircraft and reductions in the assumed levels of seating provided in the airport's departure lounge. Even in the Do Minimum Case, it is envisaged that there would be a gradual, but slower, change over to the use of larger Code C aircraft by the late 2020s, adding to pressure on bussing requirements and the need for larger gaterooms on a permanent basis. Furthermore, without building the CADP1 terminal infrastructure, there would be limitations on the retail and catering offer to passengers that would also have detrimental implications for the airport's ability to generate increased commercial revenue.

7.26 Hence, it is considered that an alternative and more likely outcome is that the airport would choose to at least partially build out CADP1, including potentially delivering the first section of the East Pier by around 2033 to reduce the need for a high level of bussing operations and relieve pressure on the existing gate rooms, bus gates and the departure lounge. As the airport's financial position improves, the airport could build out the remainder of CADP1 incrementally up to 2037/38 (i.e. 6-7 years later than in the Development Case scenario) in order to ensure that the levels of service to passengers are fully maintained, enhance the passenger experience through providing additional retail and catering facilities, so also further improving the airport's financial position. This forms the core basis for the assessment of the Do Minimum Case.

Conclusions on Capacity Requirements

7.27 Changes in the mix of airlines and types of services using LCY mean that there has been a greater than originally anticipated spreading of passenger traffic using the airport over the day. When allowance is made for the passengers expected to use the airport on Saturday afternoons, if the proposed amendments are approved, then the expected busy hour passenger demand on the terminal is virtually identical to that originally expected when the airport reached 6.5 mppa in the CADP1 Application. Hence, the CADP1 works, as originally consented, are capable of accommodating 9 mppa.

7.28 Given the delays to the construction of the passenger terminal extension works due to the consequences of the pandemic in terms of the lower passenger throughput and the impact on the financial position of the airport, there will be a need to retain the existing temporary facilities for a longer period, provide additional temporary gaterooms and adopt a number of operational measures to ensure that demand can be accommodated pending delivery of the approved CADP1 terminal infrastructure. It is envisaged that the main construction works could commence in 2025 and be completed to meet demand by 2031, albeit the build out could be slightly later depending on actual growth in passenger volumes, as demonstrated in the slower and faster growth cases.

7.29 In the event of the proposed amendments not being approved, it is envisaged that the interim operational measures would be retained for a longer period given that the number of passengers using the airport would be capped at 6.5 mppa and it would take longer for the airport's finances to recover sufficient to allow the construction of the CADP1 infrastructure over the same timeframe. In this scenario, it is envisaged that the CADP1 works could be delayed into the late 2030s (c.2037/8).

8. Conclusions on Need

8.1 In this document, we have set out the need for the proposed amendments to the CADP1 conditions through this S73 Application. Our conclusions on need are summarised here.

Policy

8.2 There is policy support for this proposal in the Government's *Beyond the Horizon The future of UK aviation Making best use of existing runways* published in 2018. This remains policy as is confirmed in the Government's recent *Jet Zero Strategy*, in which the Government makes clear that the target to attain net zero carbon by 2050 is not a barrier to aviation growth and that it remains policy for airports to seek to make best use of their runways, subject to consideration of more direct local impacts such as in relation to noise, traffic and economic benefits. This S73 Application is framed to enable LCY to do just that by enabling it to serve more of its local demand, using the already consented infrastructure and within existing aircraft movement limits. The application is entirely consistent with aviation policy.

8.3 It is also clear that policy supports the growth of aviation because of its economic contribution, both as a direct generator of employment and economic benefit but also because of the key role of aviation connectivity in supporting economic development more widely. This is highlighted in Build Back Better and in the Levelling Up agendas. To this end, the role of LCY in supporting the global economy in London and in supporting growth and regeneration in East London is particularly important, not least given Newham's priority for levelling up.

Traffic Performance

8.4 Prior to the pandemic, LCY exhibited a robust growth performance consistent with the expectations as set out at the time of the CADP1 Application. However, changes in the mix of airlines and types of aircraft using the airport means that the anticipated passenger growth through to 2019 was achieved using fewer aircraft movements than originally envisaged and this trend is expected to continue, meaning that the consented 111,000 annual aircraft movements are now able to accommodate more passengers, the full use of which would allow the airport to better meet growing demand within its catchment area over the period beyond 2025.

8.5 There have been two principal changes in the market since the CADP1 application was approved and in the way in which the airlines serve the market that provide a context for the S73 Application:

- A greater reliance on aircraft based overnight at the airport, dedicated to flying to and from LCY as their primary base of operation, creating opportunities for middle of the day flying to a range of leisure destinations and a spreading of peaks of demand over the day; and
- Growth in the demand base local to the airport, particularly growth in demand for leisure services and the airline response to this growing market, resulting in changes to the profile of passengers using the airport to a more even split of business and leisure passengers.

8.6 These changes in the nature of operations at the airport mean that not only can more passengers be handled on the same number of aircraft movements but the changes in the profile of demand means that more passengers can be handled with the same infrastructure.

8.7 It is evident that the airport plays an important role in serving the local demand for air travel in the local boroughs due to its convenient location and ease of access. This includes business travellers, inbound visitors and, increasingly, local residents. It commands a high share of the local market on the routes that it serves, highlighting the importance of it being able to grow and increase the range of destinations served to better meet local demand by expanding its route network, including leisure services to meet the needs of the growing local population.

The Need for Extended Opening Hours and Greater Flexibility

8.8 Delivering growth to meet the needs of local passengers requires the conditions to be created for the airlines to both modernise and grow their fleets of aircraft based at LCY. This requires extended operating hours on a Saturday to reduce the current inefficiency in terms of aircraft utilisation of having to park aircraft for 24 hours over a weekend or to position the aircraft away from LCY to operate from other airports without restricted operating hours. Modernisation of the aircraft fleets is key to delivering real noise benefits, which would see noise levels of individual aircraft reduce on average compared to current levels, even with growth. Without a change to the operating hours, not only would growth be significantly slower than required to keep pace with local demand but the modernisation of the fleets would take longer to achieve, so delaying the noise benefits.

8.9 These proposed amendments will allow the airlines to grow their route network, increasing frequencies of service to existing destinations and services to new destinations. Specifically, longer operating hours on Saturdays would create more opportunities for local residents to use their local airport for leisure as well as business purposes, with a greater range of holiday destinations available at weekends, to places such as the Eastern Mediterranean, including the Greek Islands, or the Canary Islands, which currently cannot be served on Saturdays as the airport shuts too early for the return flight to operate. Importantly, the changes will also allow better connections to hubs, such as Amsterdam, to provide onward connections to global points facilitated by increased early morning and Saturday afternoon operations.

8.10 Greater flexibility for the airlines to operate on Saturday afternoons would secure the economic benefits from growth in activity at LCY at a much earlier date, creating valuable job opportunities for local people. Additional shift patterns would enhance the work opportunities, particularly for those seeking part time employment or non-standard working patterns to fit their lifestyles.

8.11 If greater operational flexibility is not provided through extended opening on Saturday afternoons, as well as the greater flexibility to increase the number of movements in the early morning period from 6 to 9, the airport might only reach around 8.8 mppa by 2039, with much slower delivery of economic benefits as the more rapid take-up of market opportunities by the airlines would not be enabled if current restrictions on the utilisation of aircraft are retained.

Forecasts

8.12 If the proposed amendments are approved, we have forecast that LCY would reach 9 mppa by 2031 in the Development Case. These forecasts are consistent with the core assumptions underpinning the Government's Jet Zero trajectory, which allow for LCY to grow in line with its Masterplan published in 2020 up to a maximum of 11 mppa and 151,000 annual movements. The forecasts in this Need Case assume that should carbon costs be higher and/or economic growth slower, growth in demand to 9 mppa at LCY would be slower, with 9 mppa expected to be reached in c.2033 in the Slower Growth Case. Should economic growth be higher and/or carbon costs lower, then the airport could reach 9 mppa earlier in 2029 in the Faster Growth Case.

8.13 The forecasts rely on Saturday opening hours being extended to 18:30, and with the extra 1 hour allowance for arriving aircraft in summer, limited to 12 movements. This would allow the airport to directly accommodate c.500,000 additional passengers over the year resulting from the additional opening period on a Saturday and the ability to operate for more of the week would help to incentivise earlier fleet modernisation by the airlines, particularly those based at the airport like BACF. If the current hours are retained, growth would be materially slower and the consented 111,000 annual aircraft movements might not be reached until the late 2030s, with 9 mppa achieved at an even later date.

8.14 Fundamentally allowing growth at LCY would be meeting a need for air travel, based on underlying air passenger demand, over the period to 2031 and beyond when available capacity at the other airports serving London will be limited.

Economic Impact

8.15 As well as meeting the passenger demand to travel, growth to 9 mppa will deliver substantial benefits to the economy of London and the areas around the airport in particular, as represented by the Local Study Area:

- Across the Local Study Area, growth to 9 mppa will deliver 1,870 new jobs (1,630 FTE jobs), of which 1,340 total are direct jobs at the airport (1,170 FTE jobs), which will be available to local people supporting the levelling up agenda in Newham and neighbouring boroughs;
- Across London, it will deliver 2,180 additional jobs (1,900 FTE jobs) (over 2019), of which 1,340 total are direct jobs at the airport (1,170 FTE jobs);
- Support 1,250 person years of employment across London through the construction phase, adding £257m to GVA;
- Provide a boost to business productivity, supporting the growth of and investment in key sectors in the local economy equivalent to £398 million a year by 2031 (£99 million more than in 2019);
- Support tourist expenditure in London of £558 million a year by 2031, (£227 million more than 2019);
- The proposed amendments will have a net positive impact on socio-economic welfare of £371 million over the next 60 years;
- Provide a boost to the Local Study Area economy of £220 million in GVA and 1,940 person years of employment as a result of the construction programme between 2025 and 2031;
- Support the Global Britain and economic recovery agendas.

These benefits will not be delivered without the greater operational flexibility provided by the proposed amendments and if the airport is constrained to only handling 6.5 mppa.

8.16 Enabling these benefits is particularly important in the context of the need for growth and regeneration in East London, in particular to support levelling up initiatives in Newham and neighbouring boroughs. Furthermore, allowing LCY to grow would support broader initiatives to grow the UK economy and that of London in particular, in support of *'Build Back Better'*.

Capacity Requirements

8.17 Changes in the mix of airlines and types of services using LCY mean that there has been a greater than originally anticipated spreading of passenger traffic using the airport over the day. When allowance is made for the passengers expected to use the airport on Saturday afternoons, if the proposed amendments are approved, then the expected busy hour passenger demand on the terminal at 9 mppa is virtually identical to that originally expected when the airport reached 6.5 mppa in the CADP1 Application. Hence, the CADP1 works, as originally consented, are capable of accommodating 9 mppa without further expansion.

8.18 Given the delays to the construction of the passenger terminal extension works, due to the effects of the pandemic in terms of the lower passenger throughput and the impact on the financial position of the airport, there will be a need to retain the existing temporary facilities for a longer period, provide additional temporary gaterooms and adopt a number of operational measures to ensure that demand can be accommodated pending delivery of the approved CADP1 terminal infrastructure. It is envisaged that the main construction works could commence in 2025 and be completed to meet demand by 2031, albeit the build out could be slightly later depending on actual growth in passenger volumes, as demonstrated in the slower and faster growth cases.

8.19 In the event of the proposed amendments not being approved, it is envisaged that the interim operational measures would be retained for a longer period given that the number of passengers using the airport would be capped at 6.5 mppa and it would take longer for the airport's finances to recover sufficient to allow the construction of the CADP1 infrastructure over the same timeframe. In this scenario, it is envisaged that the CADP1 works could be delayed into the late 2030s (c.2037/8).

Conclusion

8.20 In overall terms, there is a strong and compelling need for proposed amendments, which would enable the airport to comply with Government policy by making best use of its consented runway capacity. The projected growth to 9 mppa can be accommodated within the currently consented CADP1 infrastructure.

Appendix A: Relevant Local Economic Policies

1. We now set out other relevant policy priorities for other key districts within the Local Study Area.

London Borough of Newham

2. The Newham Local Plan was adopted on the 10th December 2018[102]. First and foremost, the plan recognises the airport as:

   "major employer and catalyst for investment that supports London's international role"[103]

   This role and the ability of the airport to continue to act as a catalyst for investment are intrinsically linked to growth.

3. Policy J1 'Business and Jobs Growth' recognises the need to support London's international profile and emerging sectors strengths, including the following as a strategic principle:

   "Realise the benefits of the Borough's connectivity, international profile and existing and emerging sectoral strengths to secure a supply of land, infrastructure, premises and successful places capable of attracting investment in growth sectors and supporting the existing business base, facilitating the continued diversification of the Borough's economy and supporting Convergence aims"

4. This policy goes on to identify the airport as an 'Employment Hub'[104] with a strength/focus in *"visitor economy, business and logistics.*"

5. Part G of Policy S3 'Royal Docks' states that the airport:

   "London City Airport will continue to perform an important role in the area's international business and visitor connectivity and as the focus to an employment hub with measures implemented to support the optimisation of existing capacity and further mitigation of its environmental impacts, including improvements to public transport."

6. Policy INF1 'Strategic Transport' supports "investment contributes to the wider objective of Convergence, allowing the Arc of Opportunity to become an attractive location for investment as one of the best-connected parts of Greater London"[105]. In this context there is support for the optimisation of airport capacity (Policy INF1 (Air xviii)).

7. In November 2020, Newham published a Covid-19 Recovery Strategy[106] that set out how the Borough will rebuild itself in the wake of the pandemic. One of the key pillars sets out that "*there is a need to continue to sell and bring new investment into Newham, but doing so in a way which aligns with Newham's social and environmental objectives."*[107]

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[102] Newham Local Plan 2018, Newham London, 2018.
[103] Ibid, para. 1.23.
[104] Ibid, Table 6.
[105] Ibid, para. 6.2.
[106] Towards a Better Newham, Covid-19 Recovery Strategy, Newham London, November 2020.
[107] Ibid, page 16.

London Borough of Tower Hamlets

8. The Tower Hamlets Growth and Economic Development Plan (2018-2023)[108] sets out a priority for creating the conditions for business growth, stating that the Borough will *'support our existing businesses in the Borough to thrive and to stay in Tower Hamlets as they grow. We will also identify ways in which we can attract a diverse business base."*[109]

London Borough of Greenwich

9. Greenwich's Corporate Plan (2018 -2022)[110] sets out the Borough's road map to delivering its pledges for its residents over the four-year period up to 2022. The Plan includes an objective for *'Economic Prosperity for All'*[111], which describes the Borough's ambitions to develop an economic landscape where every individual and business has the ability to prosper. The Borough sets out how it intends to achieve its objectives, which includes supporting more people into work and improving transport infrastructure and services.

London Borough of Hackney

10. In November 2019, Hackney Council adopted an Inclusive Economic Strategy. The Strategy explains that *"Hackney is an open, outward looking Borough with strong connections around the world. We know that for many small local businesses their future success depends on a global economy, which is why we have worked with them to build international partnerships…"* [112]. In setting out an objective to champion local businesses, the Council recognises the importance of international business relationships by pledging to *"continue to work with local businesses to build regional, national and international relationships with partners elsewhere to help support our future success in a global economy."*[113]

London Borough of Redbridge

11. The Redbridge Plan[114] is the Borough's Corporate Plan that describes the priorities of the Council through to 2026 following local elections in May 2022. In terms of economic growth aspirations, the plan outlines that it hopes to increase employment and to specifically reduce the number of young people who are not in employment, education or training.

London Borough of Bexley

12. The London Borough of Bexley's prevailing Corporate Plan, Brilliant Bexley[115] outlines the importance of *"a well-connected borough, both within and beyond Bexley is key to securing growth opportunities for all. Our communities flourish and are places where people can both live and work, improving*

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[108] Tower Hamlets Growth and Economic Development Plan 2018-2023, London Borough of Tower Hamlets.
[109] Ibid, page 5.
[110] Corporate Plan 2018-2022, Royal Greenwich.
[111] Ibid, Page 11.
[112] Hackney's Inclusive Economy Strategy 2019-2025, London Borough of Hackney, October 2019, Page 39.
[113] Ibid, page 49.
[114] The Redbridge Plan 2022-2026, London Borough of Redbridge.
[115] Brilliant Bexley – Shaping our Future Together 2017-2025, London Borough of Bexley

transport connections and reducing the need to commute, shortening supply chains and enhancing productivity."[116]

London Borough of Havering

13. The Havering Inclusive Growth Strategy[117] provides an analysis of Havering's economy and identifies interventions that the Council will take to facilitate growth in order to pursue a prosperous local economy. The first priority set out recognises the importance of connectivity in supporting local businesses, which, *"need adequate transport and digital infrastructure and access to skilled labour to effectively function and grow. Improvements in this infrastructure are needed…"*[118]. Havering pledges that *"our inward investment work will make sure that Havering benefits from new investment from overseas companies, UK based companies outside of the Borough and also from local occupiers…"*[119] The Strategy suggests that global connectivity is a key asset, asserting that *"we want to capitalise on our location with fast and accessible transport links into Central London, Essex and the South East, and the world."*[120]

London Borough of Barking and Dagenham

14. Forming part of Barking and Dagenham's Corporate Plan[121], the Borough published a separate Growing Together document that summarises its plans for inclusive growth between 2020 and 2022. A vision is set out for a "*thriving an inclusive local economy"*, which is built around a *"focus on doing everything we can to ensure that local business benefits from economic development and that local residents benefit from job opportunities in the Borough and the surrounding area, particularly those facing market disadvantages and needing extra help."*[122]

London Borough of Southwark

15. Southwark's Economic Strategy[123] sets out the Borough's ambitions for its economy between 2022 and 2030. The strategy acknowledges that "*the Covid-19 crisis has starkly highlighted the inequalities in the Borough and intensified them in many ways."*[124] The Strategy explains that the 'foundational economy', which includes occupations within transport, retail and hospitality, is of *"critical importance to Southwark, supporting household incomes and providing essential services to residents and local businesses. As such, it must be valued and protected."*[125] , before setting out an objective to increase employment in the foundational economy in the period leading up to 2027.

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[116] Ibid, page 5.
[117] Havering Inclusive Growth Strategy 2020-2045 v1.1, London Borough of Havering.
[118] Ibid, Page 8.
[119] Ibid.
[120] Ibid, page 11.
[121] Growing Together, London Borough of Barking and Dagenham, 2020.
[122] Ibid, Page 11.
[123] Southwark Economic Strategy, London Borough of Southwark, 2022.
[124] Ibid, Page 1.
[125] Ibid, Page 24.

Epping Forest District

16. In March 2020, Epping Forest published its Economic Strategy for the period through to 2025 to deliver "*a great place to live, work, study and do business*".[126] The strategy begins by describing the importance of having vision of opportunities and challenges, *"ensuring that our residents and our place continues to be able to compete effectively for jobs, investment and the infrastructure that can future proof our economic performance."*[127] The strategy recognises the relationship between Epping Forest's own economic performance and the performance of surrounding areas, noting *'while our local economy is generally strong and performs well against most indicators of performance, its strength is intrinsically linked to the success and growth of surrounding economies – most notably that of London and the London Stansted Cambridge Corridor.'*[128]

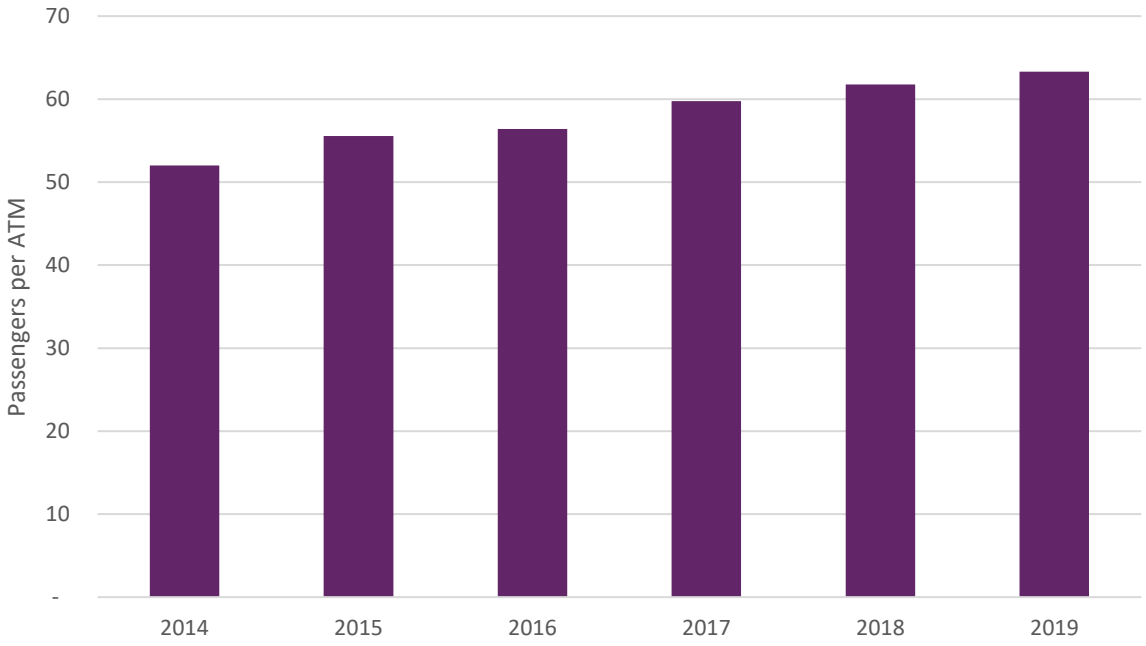
17. Epping Forest has a wide breadth of tourist attractions and has identified growth in tourism as a key workstream for delivering its economic strategy, leveraging its proximity to London.

[126] Nurturing Growth, Epping Forest District Council, March 2020.
[127] Ibid, page 2.
[128] Ibid, page 7.

Appendix B: Additional Analysis of London City Airport's Market Performance

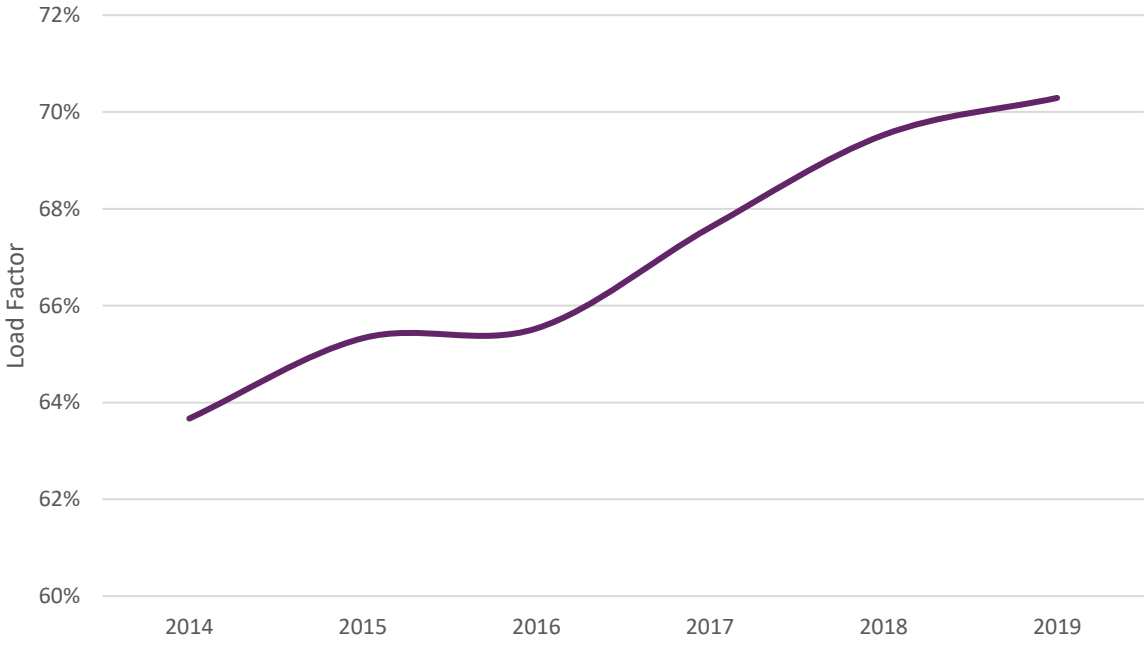
This appendix includes some additional analysis of LCY's market performance to supplement the information set out in **Section 3**.

Figure B.1: Average Passengers per Aircraft Movement (2014 – 2019)



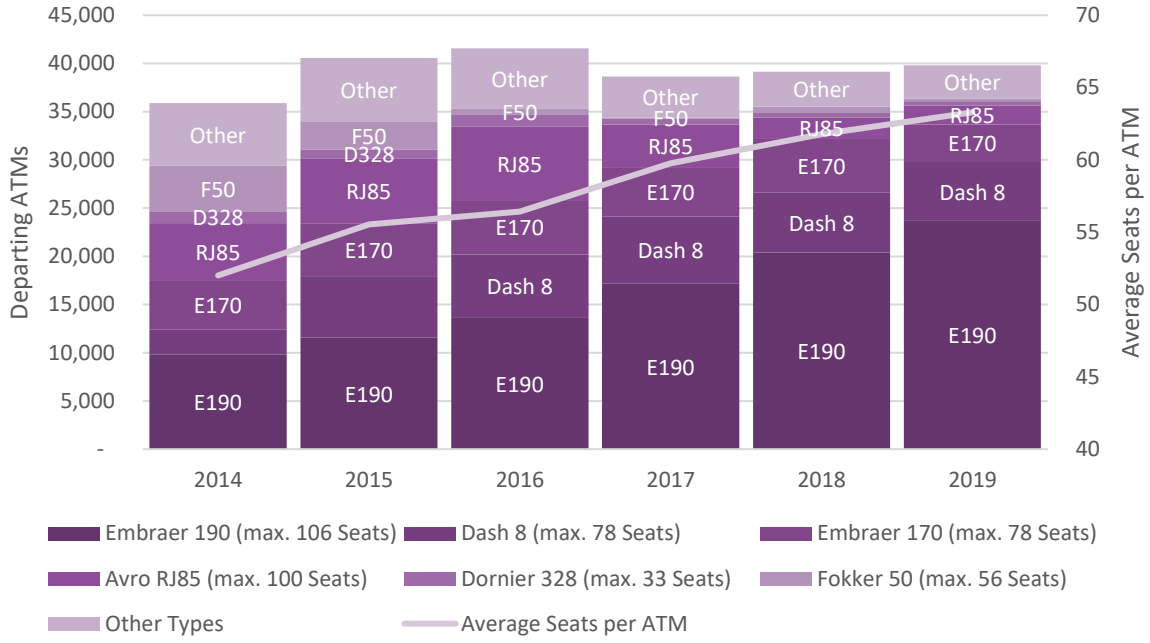
Source: CAA Airport Statistics

Figure B.2: Average Load Factor of Scheduled Passenger Services (2014 – 2019)



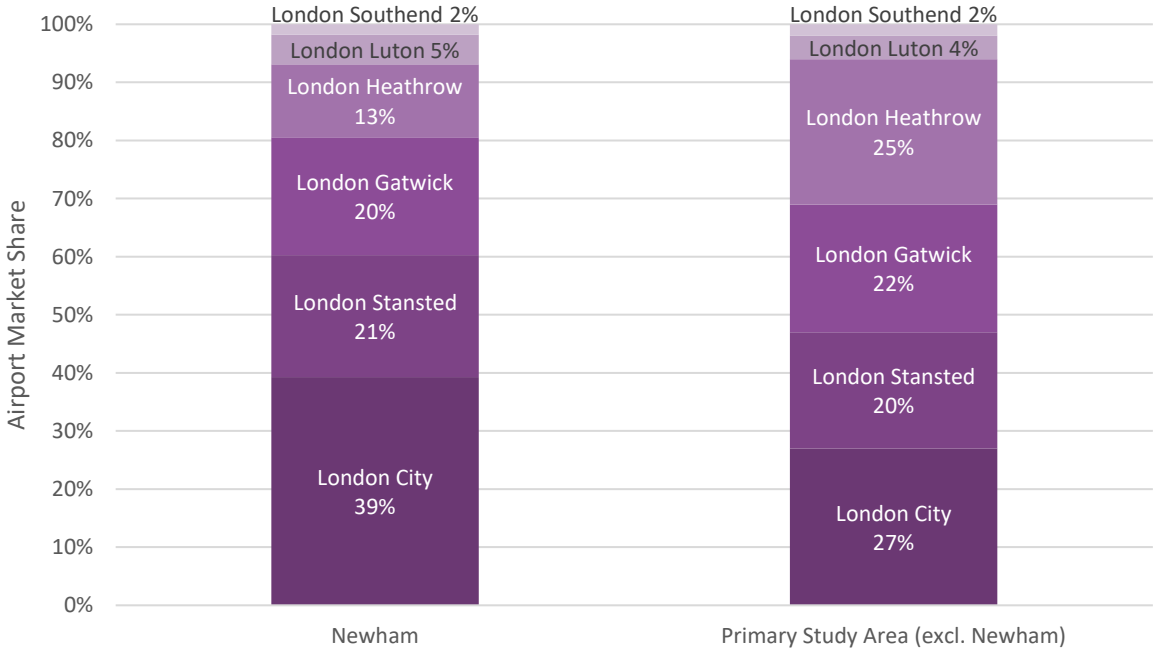
Source: OAG, London City Airport

Figure B.3: Scheduled Fleet Mix and Average Seats per Movement (2014 – 2019)



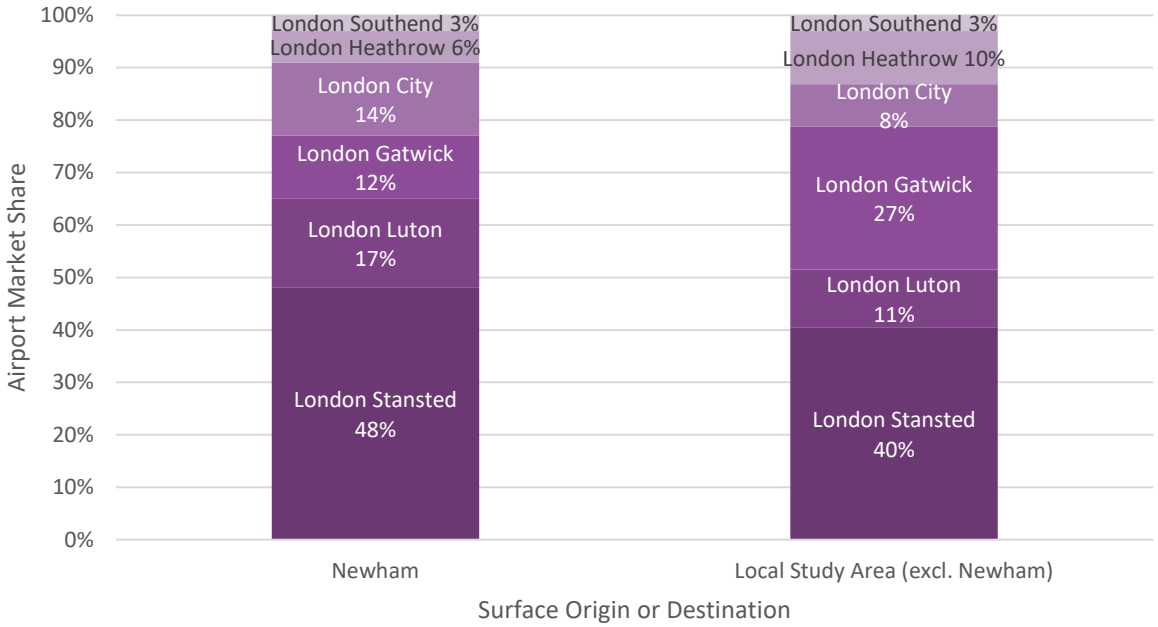
Source: OAG

Figure B.4: London Airports' Market Share of Short Haul Business Passengers (2019)



Source: CAA Passenger Survey data

Figure B.5: London Airports' Share of Short Haul Leisure Passengers (2019)



Source: CAA Passenger Survey data

Appendix C: List of GAWC Cities

Alpha ++	London, New York
Alpha +	Hong Kong, Singapore, Shanghai, Beijing, Dubai, Paris, Tokyo
Alpha	Sydney, Los Angeles, Toronto, Mumbai, Amsterdam, Milan, Frankfurt, Mexico City, Sao Paulo, Chicago, Kuala Lumpur, Madrid, Moscow, Jakarta, Brussels
Alpha -	Warsaw, Seoul, Johannesburg, Zurich, Melbourne, Istanbul, Bangkok, Stockholm, Vienna, Guangzhou, Dublin, Taipei, Buenos Aires, San Francisco, Luxembourg, Montreal, Munich, Delhi, Santiago, Boston, Manila, Shenzhen, Riyadh, Lisbon, Prague, Bangalore
Beta +	Washington DC, Dallas, Bogota, Miami, Rome, Hamburg, Houston, Berlin, Chengdu, Dusseldorf, Tel Aviv, Barcelona, Budapest, Doha, Lima, Copenhagen, Atlanta, Bucharest, Vancouver, Brisbane, Cairo, Beirut, Auckland
Beta	Ho Chi Minh City, Athens, Denver, Tianjin, Abu Dhabi, Perth, Casablanca, Kiev, Montevideo, Oslo, Helsinki, Chennai, Hanoi, Nanjing, Philadelphia, Cape Town, Hangzhou, Nairobi, Seattle, Manama, Karachi, Rio de Janeiro, Chongqing, Panama City
Beta -	Wuhan, Manchester, Geneva, Osaka, Stuttgart, Belgrade, Calgary, Monterey, Kuwait City, Caracas, Changsha, Bratislava, Sofia, San Jose (CR), Zagreb, Dhaka, Xiamen, Tampa, Zhengzhou, Tunis, Almaty, Shenyang, Lyon, Minneapolis, Nicosia, San Diego, Amman, Xi'An, Guatemala City, Dalian, St Petersburg, Lagos, Quito, Jinan, San Salvador, Kampala, George Town (Cayman), Muscat/Ruwi, Detroit, Edinburgh, Jeddah, Hyderabad (India), Lahore, Austin
Gamma +	San Jose, Kolkata, Charlotte, Saint Louis, Pune, Antwerp, Rotterdam, Adelaide, Porto, Baku, Guadalajara, Ljubljana, Qingdao, Algiers, Suzhou, Belfast, Glasgow, Medellin, Cologne, Phnom Penh, Islamabad, Phoenix, Riga, Tbilisi, Kunming, Ahmedabad, Dar Es Salaam, Hefei, Orlando, Baltimore
Gamma	Durban, Vilnius, Gothenburg, San Juan, Nantes, Ankara, Santo Domingo, Wroclaw, Ottawa, Dakar, Malmo, Bristol, Tirana, Colombo, Turin, Valencia (Spain), Guayaquil, Taizhong/Taichung, Managua, La Paz, Nashville, Tegucihalpa, Haikou, Wellington
Gamma -	Port Louis, Accra, Asuncion, Bilbao, Maputo, Douala, Nassau, Harare, Poznan, Luanda, Cleveland, Fuzhou, Nagoya, Kansas City, Katowice, Malaga, Queretaro, Harbin, Milwaukee, Penang, Salt Lake City, Columbus (Ohio), Kaohsiung, Limassol, Sacramento, Belo Horizonte, Lausanne, Taiyuan, Edmonton
High Sufficiency	Birmingham (UK), Krakow, Abuja, Tijuana, Port of Spain, Abidjan, Curitiba, Ningbo, Hartford, Yangon/Rangoon, Seville, Puebla, Raleigh, Indianapolis, Brasilia, Johor Bahru, The Hague, Yerevan, Strasbourg, Macau, San Antonio, Leeds, Lusaka, Ulan Bator, Damman, Cincinnati, Porto Alegre
Sufficiency	Tallinn, Aberdeen, Astana, Bologna, Marseille, Cebu, Leipzig, Utrecht, Merida, Newcastle (UK), Ciudad Juarez, Surabaya, Nurnberg, Cali, Florence, Naples, Canberra, Pittsburgh, Izmir, Sarajevo, Portland (Oregon), Las Vegas, Liverpool, Hanover, Urumqi, Aguascalientes, Minsk, Christchurch, Jacksonville, Richmond, Skopje, Campinas, Tashkent, Toulouse, Alexandria, Zhuhai, San Luis Potosi, Chisinau, Guiyang, Cordoba, Leon, Cochin/Kochi, Valparaiso/Vina del Mar, Oklahoma City, Des Moines, Nanning, Changchun, Nanchang, Bishek, San Pedro Sula, Southampton, Montpellier, Tulsa, Podgorica, Valencia (Ven), Lodz, Buffalo, Graz, Genoa, Louisville, Winnipeg, Rochester, Windhoek, Vientiane, Fukuoka, Halifax, Linz, Shijiazhuang, Hamilton, Gabarone, Port Elizabeth, Birmingham (Alabama), Nottingham, Pretoria, Recife, Wuxi, Kigali, Santa Cruz, Mexicali, Lille, Bordeaux, Bursa, Dresden, Libreville, Port Harcourt, Nice, Hsinchu City, New Orleans, Arhus, Quebec, Liege, Bergen, Basel, Labuan, Jerusalem, Hohhot, Bandar Seri Begawan, Lanzhou, Bremen, Saskatoon, Kingston (Jamaica), Rosario, Grenoble, Haifa, Baghdad, Barranquilla, Cardiff, Mannheim, Chihuahua, Memphis, Palo Alto, Omaha, Bern, Tainan, Honolulu, Dushanbe, Kabul, Sheffield, Kinshasa, Harrisburg, Salvador, Kazan, Reykjavik, Dortmund, Goiania, Port Moresby, Hobart, Sapporo, Kyoto, Brazzaville, Novosibirsk, Blantyre, Essen, Kobe, Malacca/Melaka, Lome, Palermo, Pusan/Busan, Yokohama, Sendai, Trieste, Sanaa, Suva

Source: Globalisation and World Cities Network – The World According to GaWC 2020.

Appendix D: Forecasting Methodology

1. In this section, we outline the methodology used to develop the passenger and aircraft movement forecasts.

2. The passenger and movement forecasts for the S73 Application have been produced on a semi-bottom-up basis, consistent with those for the CADP1 Application, using a largely similar methodology. It is considered that this methodology is appropriate and robust given that the specific characteristics of the airport's operation need to be taken into account, including

   - the size of aircraft that can use the airport given its runway length;
   - the hourly and annual aircraft movement limits; and
   - the number of aircraft stands.

   These constraints are not proposed to be altered as a consequence of S73 Application.

3. Whilst the forecasts start from an overall projection of growth in the underlying UK air travel market, the specific forecasts take into account the expected response of airlines at LCY, the potential for the introduction of new routes and the ability of the airport to accommodate this growth. The impact of extended opening time on Saturday afternoons has been taken into account in developing the forecasts.

4. The forecasts have, therefore, been derived through the following steps:

   - LCY's core catchment area is defined;
   - Projecting forward the future demand for air travel within LCY's catchment area;
   - Identifying a basket of potential routes having regard to the airport's capabilities, taking into account how this demand is served currently (as at 2019);
   - Determining appropriate market capture rates, having regard to the capacity expected to be available at the other London airports, and applying these to the underlying future demand to determine the market potential for each new route, or growth on existing routes, based on daily departure frequencies on a typical busy day;
   - New routes are added to the network over time, based on assumptions around daily frequencies and aircraft types to develop a realistic route network. The inclusion of a service, or increases in frequency on existing routes adds additional passengers to the airport's throughput; and
   - Assumptions about load factor are applied to check that the routes are viable and to ensure that, where expected demand exceeds available capacity, the forecasts only include a realistic number of passengers.

   Each step is considered in more detail below.

5. Forecasts derived using this methodology apply from 2024 onwards, when the effect of any residual Covid-19 related travel restrictions is assumed to no longer apply and market recovery is anticipated such that growth is expected thereafter to conform to normal economic drivers of demand.

6. The forecasting model is based on a typical busy day and applies existing ratios between the busy day and annual capacity to calculate the annual throughput. Therefore, this approach covers growth on a basis consistent with the current operating pattern over the weekends as it relies upon existing relationships between the pattern of operation over a typical busy week and the year as a whole. Therefore, the additional movements which could be derived from extended opening on a Saturday are added on top of the core forecast, based on assumptions about aircraft size, additional frequencies and likely load factors. This is also explained further below.

Catchment Area

7. The catchment area for assessment is derived based on that observed in 2019, using CAA survey data, and the forecasting model examines in detail demand in the 15 districts/boroughs which contributed more than 2% of LCY's passengers in 2019 (all of which equalled more than 100,000 passengers). The remaining districts are aggregated and accounted for only 37% of LCY's demand in 2019. The 15 core districts in the forecast are shown in **Table D.1**. It should be noted that this is not necessarily consistent with the Local Study Area which is relevant to the economic analysis later in this report as the purpose of the two is different.

Table D:1: Assumed Core Districts for Passenger Forecasting

City of Westminster	Greenwich	Lambeth
City of London	Islington	Redbridge
Tower Hamlets	Southwark	Bromley
Newham	Kensington and Chelsea	Wandsworth
Camden	Hackney	Lewisham

Source: York Aviation

8. For those districts considered in detail, the market was examined route by route enabling a more detailed understanding of LCY's market share (or market capture) relative to the competitive offer at other airports. In the wider catchment area, a standard rate of assumed market capture was assumed across the whole basket of demand.

9. Determining a more detailed catchment area also allows the application of differential growth rates across some boroughs to the East where population is expected to increase more quickly than London as a whole. We consider this further below.

10. Within the catchment area, the underlying demand is further split into four core market segments:

- UK Business passengers
- UK Leisure passengers
- Foreign Business passengers; and
- Foreign Leisure passengers.

This again allows greater consideration of how LCY performs in each of these market segments, as well as allowing the correct growth rates to be applied to each market segment going forward.

Determining the Growth Rates

11. Our approach to defining the extent to which passenger demand will grow in future is based on that of the DfT, drawing on the updated methodology and assumptions presented as part of the Jet Zero

modelling[129]. We adopt the DfT's underlying elasticities to GDP, carbon and other factors and apply updated projections for the drivers of demand.

12. As with the DfT's model, our growth rate model determines future growth rates in the market based on a forward view of two main drivers, economic growth, usually UK or overseas GDP (or a combination of the two), and modelled air fares, which are dependent on a number of core building blocks, notably:

- fuel price and fuel consumption;
- Air Passenger Duty (APD);
- cost of carbon (the model assumes that the cost of carbon will ultimately be paid by passengers);
- average sector length in different market segments; and
- average aircraft size and load factor in different market segments.

13. How changes in economic growth and air fares translate through to growth in air transport markets is based on the elasticities (the degree to which a demand or supply is sensitive to changes in price or income) identified within the DfT's forecasting model. They are estimated using time-series regression techniques taking into account changes in the air travel market over a long period of time, including several recessions and other 'shock' events. This analysis and the elasticities have been updated in 2022 to support the Jet Zero modelling[130]. The elasticities are set out in **Table D.2** below.

[129] Jet Zero Modelling Framework, Department for Transport, March 2022; and Jet Zero Illustrative Scenarios and Sensitivities, Department for Transport, July 2022. This builds on and updates the forecasting assumptions and relationships set out in UK Aviation Forecasts 2017.
[130] Econometric Models to Estimate Demand Elasticities for the National Air Passenger Demand Model, Department for Transport, March 2022.

Table D.2: Department for Transport Income and Fare Elasticities

	Income Elasticity	Air Fare Elasticity
Domestic Business	1.1	-0.2
Domestic Leisure	1	-1
UK Business Southern Europe	0.6	-0.2
UK Business Rest of Europe	1.1	0
UK Business OECD Countries	0.1	0
UK Business Rest of the World	0.4	-0.6
UK Leisure Southern Europe	1	-1.1
UK Leisure Rest of Europe	1	-1.1
UK Leisure OECD Countries	1.3	-1.1
UK Leisure Rest of the World	2	-0.9
Foreign Business Southern Europe	1.1	-0.1
Foreign Business Rest of Europe	0.7	-0.3
Foreign Business OECD Countries	0.9	0
Foreign Business Rest of the World	1.2	-0.3
Foreign Leisure Southern Europe	2.6	-1.1
Foreign Leisure Rest of Europe	1.9	-1.1
Foreign Leisure OECD Countries	1.1	-1.1
Foreign Leisure Rest of the World	2.1	-0.9
International to International Interliners	0.9	-0.9
Overall	1.2	-0.9

Source: Department for Transport

14. The income elasticities are subject to the market maturity assumptions set out within the UK Aviation Forecasts 2017[131], i.e. the extent to which demand growth responds to growth in income declines over time. Price elasticities remain constant throughout the forecast period in the model used here, as they do in the DfT's model.

15. Although the model uses DfT's elasticities, these have been applied within a Monte Carlo simulation approach to consider the potential impact of varying assumptions about future economic growth, fuel prices or carbon costs, taking into account uncertainty and risk, to define the potential range of the future growth rate of growth of air travel demand within the catchment area served by the airport. Monte Carlo simulation is a mathematical technique based on probabilities of occurrence of the various input assumptions. The simulation runs the potential different combinations of inputs, weighted by their probabilities, many times to determine a broad range of growth rates for each year for the forecast.

16. The model uses future forecasts of key air transport demand drivers from a number of key sources:

- Economic Growth – a range of economic growth scenarios for the UK and other world regions has been developed based on economic forecasts from the Office for Budgetary Responsibility (OBR)[132] and the OECD[133]. In each case, the most recent short and long-term forecasts

[131] UK Aviation Forecasts 2017, Department for Transport, 2017.
[132] Economic and Fiscal Outlook, Office for Budgetary Responsibility, March 2022.
[133] OECD Dataset: Economic Outlook No 109, Long-term baseline projections, October 2021.

available in Spring 2022 have been used. These projections, thus, take into account the potential range of economic recovery outcomes following the Covid-19 pandemic and factor in expected BREXIT effects;

- In each case, 'central' scenarios from each organisation are assumed to have a higher probability of occurrence. High and low forecasts are assumed to have less likelihood of occurrence, with the weighting balanced between high and low.
- Carbon Prices – the forecasts assume that passengers will ultimately, via some mechanism, have to pay for the carbon emissions associated with their travel. Effectively, this could be paying for offsetting or removals of carbon or the higher costs associated with alternative low or zero carbon technologies (known as abatement costs). In other words, the cost of carbon is internalised within the forecasts. Here, assumptions around the future cost of carbon have been taken from the Jet Zero Further Consultation document[134];
- Air Passenger Duty – air passenger is not assumed to change in real terms over the period, other than in relation to the announced reforms to domestic APD already announced;
- Fuel Prices – fuel prices have a significant influence on air fares. The potential future price of oil has been taken from the latest guidance from BEIS[135].

17. The assumptions and probabilities assigned to different scenario are set out below **Tables D.3** to **D.5**.

[134] Jet Zero: further technical consultation, Department for Transport, March 2022.
[135] Fossil Fuel Price Assumptions 2019, Department for Business, Energy & Industrial Strategy 2020.

Table D.3: Forecast UK GDP Growth Assumptions

Scenario Name	Central	High	Low
Source	OBR 50th Percentile	OBR 70th Percentile	OBR 30th Percentile
Probability	60%	20%	20%
2020	-9.4%	-9.4%	-9.4%
2021	7.5%	7.5%	7.5%
2022	3.8%	4.7%	2.9%
2023	1.8%	3.1%	0.5%
2024	2.1%	3.6%	0.7%
2025	1.8%	3.1%	0.4%
2026	1.7%	3.0%	0.4%
2027	1.5%	1.8%	1.2%
2028	1.5%	1.8%	1.2%
2029	1.5%	1.8%	1.2%
2030	1.5%	1.8%	1.2%
2031 to 2040	1.5%	1.8%	1.2%

Source: OBR

Table D.4: Overseas GDP Growth Assumptions

World Area	Southern Europe			Rest of Europe			OECD			Rest of World		
Scenario Name	Central	High	Low	Central	High	Low	Central	High	Low	Central	High	Low
Probability	60%	20%	20%	60%	20%	20%	60%	20%	20%	60%	20%	20%
2020	-5.8%	-5.8%	-5.8%	-4.4%	-4.4%	-4.4%	-3.9%	-3.9%	-3.9%	-1.3%	-1.3%	-1.3%
2021	5.2%	5.2%	5.2%	3.9%	3.9%	3.9%	5.7%	6.9%	4.6%	7.4%	7.4%	7.4%
2022	4.5%	5.4%	3.6%	3.9%	4.7%	3.1%	3.3%	3.9%	2.6%	6.1%	7.3%	4.8%
2023	3.4%	4.1%	2.7%	2.2%	2.6%	1.8%	2.2%	2.6%	1.7%	5.7%	6.8%	4.6%
2024	2.9%	3.5%	2.4%	1.6%	1.9%	1.3%	1.8%	2.2%	1.5%	5.2%	6.2%	4.1%
2025	2.7%	3.3%	2.2%	1.4%	1.6%	1.1%	1.7%	2.0%	1.4%	4.8%	5.8%	3.8%
2026	2.5%	3.1%	2.0%	1.3%	1.5%	1.0%	1.6%	2.0%	1.3%	4.5%	5.4%	3.6%
2027	2.4%	2.8%	1.9%	1.2%	1.5%	1.0%	1.6%	1.9%	1.3%	4.3%	5.1%	3.4%
2028	2.2%	2.7%	1.8%	1.2%	1.4%	1.0%	1.6%	1.9%	1.3%	4.1%	4.9%	3.3%
2029	2.1%	2.6%	1.7%	1.2%	1.4%	0.9%	1.6%	1.9%	1.3%	3.9%	4.7%	3.1%
2030	2.0%	2.5%	1.6%	1.1%	1.4%	0.9%	1.5%	1.8%	1.2%	3.7%	4.5%	3.0%
2031 to 2040	2.0% - 1.5%	2.4% - 1.8%	1.6% - 1.2%	1.1% - 0.9%	1.3% - 1.1%	0.9% - 0.8%	1.5% - 1.3%	1.8% - 1.5%	1.2% - 1.0%	3.6% - 2.4%	4.3% - 2.9%	2.9% - 1.9%

Source: OECD and York Aviation

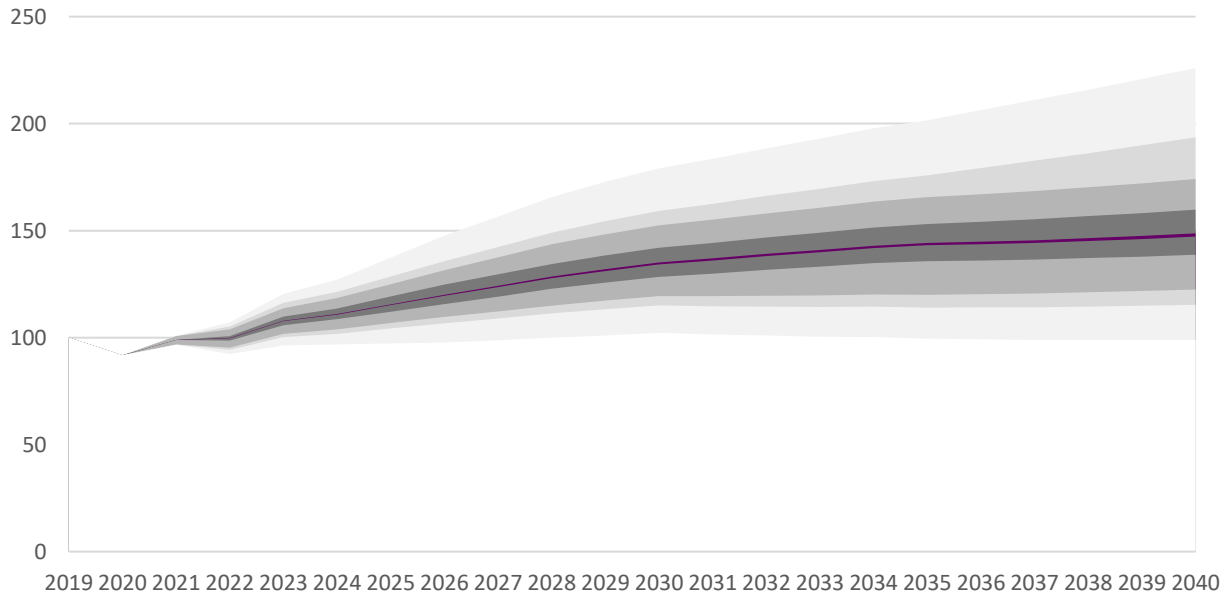
Table D.5: Other Demand Assumptions

Input	ETS Allowance Prices			CORSIA Unit Price			Oil Price		
Scenario	Central	High	Low	Central	High	Low	Central	High	Low
Probability	60%	20%	20%	60%	20%	20%	60%	20%	20%
2020	£21	£21	£21	£3	£3	£3	$57	$94	$37
2021	£48	£48	£48	£3	£3	£3	$59	$96	$39
2022	£59	£71	£50	£3	£3	£3	$99	$99	$99
2023	£71	£95	£53	£3	£3	£3	$94	$101	$87
2024	£82	£118	£55	£4	£4	£4	$90	$103	$77
2025	£94	£141	£57	£4	£4	£4	$86	$106	$68
2026	£105	£164	£60	£4	£4	£4	$82	$108	$60
2027	£116	£187	£63	£5	£5	£5	$79	$110	$53
2028	£128	£211	£65	£5	£5	£5	$75	$113	$47
2029	£139	£234	£68	£6	£6	£6	$77	$116	$48
2030	£150	£257	£71	£6	£6	£6	$79	$118	$49
2031 - 2040	£162 - £264	£280 - £489	£73 - £83	£7 - £132	£34 - £287	£7 - £15	$81 - $90	$120 - $130	$50 - $55

Source: Department for Transport and Department for Business, Energy & Industrial Strategy

18. The output from the Monte Carlo analysis is, therefore, a range of possible growth rates for air passenger demand across the UK ranging from high growth to low growth, reflecting different myriad combinations of the growth assumptions above. The fan chart below (**Figure D.1**) shows the range of growth rates produced from the analysis. The 50th percentile was selected for the Core Case forecasts. Two sensitivity tests were also undertaken, which are discussed further below. These used the 80th and 20th percentile growth rate.

Figure D.1: Monte Carlo Demand Growth Range (Index: 2019 = 100)



Source: York Aviation

19. The growth rates applied to the underlying market based on the 50th percentile, as used for the core Development Case forecast, are shown in **Table D.6** below by market segment.

Table D.6: Applied Growth Rates for Core Case by Market Segment

	Domestic		Europe (Ex. Southern Europe)				Southern Europe*			
	Bus.	Leis.	FB	FL	UKB	UKL	FB	FL	UKB	UKL
2020	-9.6%	-7.3%	-4.1%	-10.1%	-4.7%	-6.8%	-9.8%	-16.1%	-4.1%	-6.8%
2021	7.7%	4.9%	4.2%	9.3%	4.1%	6.4%	7.9%	12.8%	3.7%	4.9%
2022	3.5%	-0.4%	2.6%	3.0%	4.1%	0.0%	3.9%	4.5%	2.2%	-1.6%
2023	3.8%	14.7%	3.1%	14.0%	2.3%	12.3%	2.1%	10.3%	2.0%	6.1%
2024	2.3%	1.8%	1.7%	3.7%	1.7%	2.6%	2.2%	5.2%	1.6%	1.5%
2025	2.1%	2.9%	1.7%	4.7%	1.4%	3.8%	1.9%	6.1%	1.6%	2.9%
2026	2.0%	2.8%	1.6%	4.5%	1.3%	3.7%	1.8%	5.7%	1.5%	2.8%
2027	1.8%	2.7%	1.6%	4.3%	1.2%	3.5%	1.6%	5.2%	1.4%	2.5%
2028	1.8%	2.5%	1.5%	4.1%	1.2%	3.3%	1.6%	4.8%	1.3%	2.4%
2029	1.7%	2.1%	1.5%	3.5%	1.2%	2.8%	1.6%	4.1%	1.2%	1.8%
2030	1.6%	1.8%	1.4%	3.1%	1.1%	2.4%	1.5%	3.5%	1.2%	1.4%
2031	1.4%	0.6%	1.0%	1.8%	1.1%	1.2%	1.4%	2.4%	1.0%	0.5%
2032	1.4%	0.8%	1.1%	2.0%	1.1%	1.4%	1.4%	2.5%	1.0%	0.6%
2033	1.4%	0.6%	1.0%	1.8%	1.0%	1.2%	1.4%	2.2%	1.0%	0.5%
2034	1.4%	0.9%	1.0%	1.9%	1.0%	1.4%	1.4%	2.3%	0.9%	0.6%
2035	1.4%	1.0%	0.6%	0.3%	1.0%	-0.2%	1.4%	2.2%	0.9%	0.7%

Notes:
FB = Foreign Business Passengers
FL = Foreign Leisure Passengers
UKB = UK Business Passengers
UKL = UK Leisure Passengers
*** Southern Europe includes points in Spain, Italy, Greece and other Mediterranean Countries as defined by DfT**

Source: York Aviation

20. As identified earlier in this section, we have applied additional uplift to the growth rates for two key districts, Newham and Tower Hamlets, based on the Greater London Authority's (GLA) projections of population growth, which is expected to be faster in the east of London compared to London as a whole. The additional uplift is applied only to UK leisure passengers reflecting the growing population and demand for leisure travel in the two boroughs in close to the airport. This may be a conservative assumption as it could be argued that more business journeys may also start within the boroughs where these start from home. The population uplift figures are shown in **Table D.7** below and these are used to adjust the expected growth rates in the boroughs to reflect the faster expected growth.

Table D.7: Population Growth Uplift (Above London Average)

	Newham	Tower Hamlets
2021	0.1%	-0.1%
2022	0.7%	0.6%
2023	0.5%	0.6%
2024	0.4%	0.7%
2025	0.4%	0.7%
2026	0.3%	0.6%
2027	0.3%	0.6%
2028	0.3%	0.6%
2029	0.3%	0.5%
2030	0.3%	0.5%
2031	0.2%	0.5%
2032	0.2%	0.5%
2033	0.2%	0.4%
2034	0.2%	0.4%
2035	0.2%	0.4%

Source: GLA 2020-based Demographic Projections, Released September 2021

Route Network

21. A wide range of destinations has been considered within the forecast model but not all of these are included in the final forecast. The inclusion of a route is only possible if:

- There is sufficient stand capacity to handle a new route at times it would be expected to operate;
- There remains headroom in the overall 111,000 movement limit for the airport; and
- The demand is sufficient to make a service viable based on typical load factors and operating patterns.

22. The range of destinations included in the forecasting model are shown in **Table D.8** below. Due to the potential for direct long haul routes using new aircraft, these were included in the forecast model, although none were included in the final forecast as they did not reach viability thresholds and/or a potential operator was not readily apparent.

23. Although our forecasts have been worked up route by route, the list of destinations is not definitive for the future but indicative of the overall pattern of services that would be expected to develop at LCY having regard to the available infrastructure and to illustrate that there is sufficient underlying demand at sensible market capture rates (considered below) to commercially sustain a reasonable route network.

24. In addition to these destinations, the forecasts also include an allowance for purely leisure orientated destinations which are not projected on a route-by-route basis. Presently, such destinations include points such as Malaga, Palma, Ibiza and Mykonos among others. Such routes are projected on a purely bottom-up basis, making an allowance for likely future frequencies and aircraft types on these routes, and then calculating the passenger impacts of these services based on assumed load factors. As leisure markets are more interchangeable than business orientated city destinations, predicting the exact

destinations is less critical in this element of the forecast as it is reasonable to assume that passengers will switch their destinations based on route availability offered at any point in the future.

Table D.8: Destinations included in the Forecasting Model

Aberdeen	Bucharest	Geneva	Madrid	Prague
Abu Dhabi	Budapest	Glasgow	Manchester	Riga
Aalborg	Cologne/Bonn	Gothenburg	Marseille	Rome (FCO)
Amsterdam	Copenhagen	Guernsey	Milan	Rotterdam
Antwerp	Cork	Hamburg	Moscow	Shannon
Athens	Doha	Hanover	Moscow	Stockholm
Barcelona	Dubai	Helsinki	Munich	Strasbourg
Basle	Dublin	Inverness	Nantes	Stuttgart
Belfast (BHD)	Dundee	Isle of Man	New York	Tallinn
Bergen	Dusseldorf	Istanbul	Newcastle	Venice
Berlin	Edinburgh	Jersey	Nice	Vienna
Billund	Eindhoven	Kristiansand	Oslo	Vilnius
Bremen	Exeter	Lisbon	Paris (CDG)	Warsaw
Brive	Florence	Luxembourg	Paris (ORY)	Zurich
Brussels	Frankfurt	Lyon	Porto	

Source: York Aviation

Market Capture

25. As with many airports, the proportion of passengers captured by LCY from within its catchment area (the market capture rate) is influenced by the service frequency. Routes with higher frequencies tend to capture more of the market as more passengers can be accommodated at times and on days which suit their travel needs.

26. For the forecasts, the future expected market capture rates from each district or borough are calculated at the route level, based on either the current performance of the existing route or an average market capture rate based on anticipated operating frequencies (for new routes and for existing routes which are expected to increase in frequency over time). The average capture is calculated based on the following frequency categories:

- Once-Daily;
- Twice-Daily;
- Medium Frequency (3-8 departures per day);
- High Frequency (9-16 departures per day); and
- Super-High (17 or more departures per day).

27. The average market capture for each of these categories has been calculated using existing routes which fall into each category (but excluding any non-competed routes, such as Antwerp, which would distort the market capture assumptions). In determining the market capture rates within the model, several rules are applied:

- Where there is no change in service frequency expected over time, existing routes will continue to capture the same level of demand;

- Where existing routes grow in frequency and move into the next category, they draw demand based on the higher of either their current capture, or the average for that category;
- New routes are assumed to capture from the market based on the average associated with their frequency category. Over time, their market capture increases as with existing routes (see below); and
- All market capture rates are limited to 100% of the market from any district but this is seldom reached across the basket of routes and frequencies.

28. Frequencies for new services are determined based on a combination of likely operating patterns for the type of route (i.e. business orientated city destinations require at least a morning and evening weekday flight, potentially increasing to multiple frequencies to major destinations) and what the potential market size may be (i.e. we test potential new routes at different frequencies until we get a sustainable balance between the frequency/capacity and potential market size for LCY). Additional frequencies on existing routes are added once the potential demand exceeds the capacity available already, but only once a new frequency could be sustained by the growth in demand.

29. As the overall market recovers to 2019 levels (around 2024, at the start of this forecast), it is likely that Heathrow, Gatwick and Luton airports will be essentially full again. In particular, LCY competes heavily with London Heathrow and, with the latter expected to be essentially full again until a new runway can be delivered, it is reasonable to expect an increase in market share for LCY over time. This is applied through an annual uplift in market capture rates of 1% per annum. As an example, a route which captures 40% from a given district would be subject to a 1% increase on that figure the following year, so would capture 40.4% of the market the following year.

30. Whilst the approach starts with assumptions about the size of the underlying market and the airport's expected market share, in many cases and over time, the potential market capture exceeds the capacity available given aircraft sizes, frequencies and likely load factors which can be operated at the airport. Hence, the unconstrained assessment of the route-by-route demand for the airport is often higher than could be carried at sensible load factors and frequencies given the size of aircraft which can be operated to the airport. As outlined above, in these circumstances the route forecast is constrained.

Fleet Mix

31. The annual fleet mix is determined based on the aircraft selected to operate existing and new routes within the model. To some degree, this requires assumptions to be made about individual airlines and the routes they may offer over time. Whilst reasonable assumptions are made, taking into account known airline plans and informed by discussions with airport management, the assumptions regarding the airlines that may operate particular routes can only be indicative. However, in this case, specific assumptions have been made regarding the potential impact of extended opening hours on Saturdays in considering the impact on airline plans, including fleet replacement.

32. Overall, the forecast aircraft types are considered to be indicative of the types which may be operated on given routes to provide an overall expectation as to the balance of the fleet mix between current generation jets, new generation jets and turboprops). Some broad assumptions have been made:

- BACF is assumed to switch from Embraer 190 to Embraer 190-E2 and Embraer 195-E2 aircraft over time. The speed and scale of this fleet transition is dependent on extended Saturday

opening hours creating the conditions where early and substantial fleet replacement is viable for the airline. On this basis, it has been assumed that, if the extended hours are permitted, the carrier would start its fleet replacement in 2025 and transition across completely to new generation aircraft by 2028. In the fallback case, with the existing hours retained, it is assumed that BACF would seek to maximise the returns from its current assets and delay expensive fleet replacement until absolutely necessary. In this case, we have assumed an introduction of aircraft from mid-2027, a slower rate of fleet replacement and that, by 2031 the airline would still be operating a small number of these older generation aircraft;

- For other airlines, fleet replacement has been based on known airline fleet replacement announcements but, recognising that these timescales may accelerate or slip depending on when orders are placed and the potential for routes to be operated by different carriers over time. Therefore, we have adopted conservative assumptions regarding the rate of fleet transition by other airlines to ensure that a 'reasonable worst case' is adopted for environmental assessment purposes.

Load Factors

33. A maximum average load factor for each route is applied within the model and acts as an upper limit on load factors. This is consistent with the CADP1 approach although, based on recent trends, the average load factor is now higher than used previously. This does not imply that every route, or indeed the airport as a whole, will operate at this average load factor, purely that it limits routes to the lower of either the market potential for that route (the market capture rate applied to the underlying demand) or, where demand is very high and unlikely to all be served by the airlines at LCY, the annual capacity multiplied by the load factor limit.

34. In 2019, the average load factor at LCY was 71% across all routes, up from 65.4% in 2014. Core city/business orientated routes had average load factors of 70% (range 50-79%) in 2019, with the smaller number of leisure-oriented routes average 78% load factor.

35. Hence, for forecasting purposes, we have adopted 77% as the upper limit target load factor on all core routes, which is significantly higher than the 72% adopted for the Higher Passenger Sensitivity Test (6.5 mppa) at the time of the CADP1 Application. This is the equivalent of the load factors seen on routes such as Belfast and Berlin and higher than routes such as Edinburgh (76%), Glasgow (75%), Dublin (72%), Zurich (70%) and Frankfurt (67%).

36. For leisure routes, the ceiling load factor is set at 85%. This directly feeds through to the forecast as the basket of leisure routes is a pure bottom-up forecast, taking account of assumed load factors and capacity, as described further below.

37. The above load factor assumptions are used for all routes operating within the normal operating hours.

38. In terms of Saturday afternoons, if the proposed amendments to the operating hours are granted, it is assumed that significant use of the slots would be made by leisure type services, albeit with some city and hub services as well. On this basis, a composite load factor assumption of 80% has been adopted for Saturday afternoon operations.

39. A busy day timetable has been developed to test the infrastructure requirements and to inform surface access modelling. For this purpose, it has been assumed that load factors would be 85% across all

services on the busy day in order to ensure that this represents a 'worst case' for testing surface access and infrastructure requirements. For the CADP1 Application, it was assumed that an 85% load factor would apply in peak periods only but it should be noted that, in 2019, the 30th busy departure hour (typical design hour) had an average of 79% load factor whilst the 30th busy arrival hour had an average of 81%. Hence, in adopting an assumed load factor of 85% at over the whole day represents a 'worst case'.

Leisure and Saturday Additions

40. As indicated above, the pure leisure routes and additional weekend flying associated with longer opening hours are calculated on an entirely bottom-up basis, applying an assumed load factor to an assumed annual capacity

41. For the leisure routes, this is done by adding some leisure flights into the busy day forecast based on available time windows for based aircraft, allowing for the expected operating pattern to core business destinations. The annual impact of such flying is then calculated based on existing ratio of such busy day leisure flights to annual movements of this type, reflecting the seasonal nature of leisure demand.

42. For the additional Saturday movements associated with the proposed extended opening hours, we have added in the following:

- An allowance for additional movements by BACF aircraft which operate to/from LCY presently on a Saturday, but could perform more movements at the airport with extended hours;
- An allowance for all other BACF aircraft which do not presently operate to LCY on a Saturday[136]. It is assumed in future that all BACF aircraft will operate a full schedule of services at LCY and that any operations from other UK airports will be restricted to Saturday night and Sunday mornings in future; and
- An allowance for other existing and potential new airlines for whom at least some services on a Saturday afternoon may also be appealing, such as for hub airlines that could provide a better array of connections with the Saturday services, as well as airlines that are highly reliant on LCY as an access airport to London, such as Luxair.

In all cases, flying in the extended opening period is only included for new generation, quieter aircraft. Therefore, any uplift is excluded for the current generation aircraft operated by the carrier and only included as aircraft are replaced.

43. In total, it is assumed that BACF aircraft would be able to operate an average of 4 movements at LCY per day (average of 2x arrivals and 2x departures) on a Saturday. This is lower than the current weekday average of just over 5 per day, but reflects the shorter hours available as well as the expectation that Saturday flying would include a higher proportion of longer sectors to leisure destinations (though not exclusively, the additional hours would also allow better services to some key city destinations). It is assumed this pattern continues for the full 52 weeks per year, although

[136] Several of the BACF fleet operate from other airports at weekends having departed LCY during the current operating hours, sometimes on operated routes and sometimes simply positioning out empty to undertake such flights.

destinations may change throughout the year, for example with more ski and longer distance sun destinations in the winter and closer sun destinations in the summer.

Sensitivity Cases

44. In addition to the Development Case forecast scenario, we have also considered two variants which illustrate Slower and Faster Growth Cases to reflect the potential uncertainties in projecting future demand and to provide a range of time over which the airport could achieve the expected growth to 9 million passengers a year, accepting that underlying market conditions may differ over time. This range allows the full environmental impacts to be better understood.

45. The growth rates continue to be derived from our growth rate model, taking into account potential variations in the rate of economic growth, the cost of carbon and other factors as set out above. The Slower and Faster Growth Cases are based on the 20th and 80th percentiles of the Monte Carlo analysis respectively. The growth rates applied in each case are shown in **Tables D.9** and **D.10** below. Based on these slower or faster growth scenarios, the uptake of new routes is slowed or accelerated to reflect expected airline reactions to the underlying market conditions.

Table D.9: Applied Growth Rates for Slower Growth Case by Market Segment

	Domestic		Europe (Ex. Southern Europe)				Southern Europe*			
	Bus.	Leis.	FB	FL	UKB	UKL	FB	FL	UKB	UKL
2020	-4.1%	-10.1%	-4.7%	-6.8%	-4.7%	-6.8%	-9.8%	-16.1%	-4.1%	-6.8%
2021	4.0%	6.8%	4.1%	4.0%	4.1%	6.4%	7.8%	10.0%	3.5%	2.1%
2022	2.3%	0.8%	3.3%	-2.1%	4.1%	0.0%	3.7%	1.9%	2.0%	-4.0%
2023	2.8%	12.6%	1.8%	10.9%	2.3%	12.3%	2.0%	8.8%	1.8%	4.6%
2024	1.5%	2.7%	1.3%	1.3%	1.7%	2.6%	2.2%	4.0%	1.4%	0.3%
2025	1.5%	3.5%	1.1%	2.5%	1.4%	3.8%	1.8%	4.7%	1.3%	1.6%
2026	1.4%	3.2%	1.0%	2.4%	1.3%	3.7%	1.7%	4.3%	1.2%	1.5%
2027	1.4%	3.0%	1.0%	2.2%	1.2%	3.5%	1.5%	4.0%	1.2%	1.3%
2028	1.4%	2.9%	1.0%	2.1%	1.2%	3.3%	1.5%	3.6%	1.2%	1.2%
2029	1.4%	2.7%	0.9%	2.1%	1.2%	2.8%	1.5%	3.3%	1.1%	1.1%
2030	1.3%	2.4%	0.9%	1.7%	1.1%	2.4%	1.5%	2.8%	1.1%	0.6%
2031	0.9%	1.1%	0.9%	0.4%	1.1%	1.2%	1.4%	1.8%	0.9%	-0.3%
2032	1.0%	1.1%	0.8%	0.6%	1.1%	1.4%	1.4%	1.8%	0.9%	-0.1%
2033	0.9%	1.1%	0.8%	0.5%	1.0%	1.2%	1.4%	1.6%	0.9%	-0.2%
2034	0.9%	1.2%	0.8%	0.7%	1.0%	1.4%	1.4%	1.7%	0.9%	0.0%
2035	0.5%	-0.4%	0.8%	-0.8%	1.0%	-0.2%	1.4%	1.7%	0.8%	0.2%

Notes:
FB = Foreign Business Passengers
FL = Foreign Leisure Passengers
UKB = UK Business Passengers
UKL = UK Leisure Passengers
*** Southern Europe includes points in Spain, Italy, Greece and other Mediterranean Countries as defined by DfT**

Table D.10: Applied Growth Rates for Core Case by Market Segment – Faster Growth Case

	Domestic		Europe (Ex. Southern Europe)				Southern Europe*			
	Bus.	Leis.	FB	FL	UKB	UKL	FB	FL	UKB	UKL
2020	-9.6%	-7.3%	-4.1%	-10.1%	-4.7%	-6.8%	-9.8%	-16.1%	-4.1%	-6.8%
2021	8.0%	6.7%	4.5%	11.3%	4.1%	8.4%	7.9%	15.1%	3.8%	7.2%
2022	4.1%	1.1%	2.9%	5.0%	4.9%	1.9%	4.6%	6.7%	2.5%	0.5%
2023	4.7%	16.2%	3.4%	15.5%	2.8%	13.6%	3.3%	12.0%	2.3%	7.4%
2024	3.5%	3.2%	2.0%	4.9%	2.0%	3.9%	3.7%	6.4%	1.9%	2.9%
2025	3.3%	4.5%	2.0%	6.0%	1.7%	5.1%	3.2%	7.6%	1.8%	4.1%
2026	3.1%	4.1%	1.9%	5.6%	1.5%	5.0%	3.1%	7.2%	1.7%	4.0%
2027	2.0%	3.8%	1.7%	5.2%	1.5%	4.4%	1.9%	6.1%	1.5%	3.5%
2028	2.0%	3.4%	1.7%	5.0%	1.4%	4.3%	1.8%	5.8%	1.4%	3.5%
2029	1.9%	2.5%	1.6%	4.0%	1.4%	3.3%	1.8%	4.6%	1.3%	2.3%
2030	1.8%	2.2%	1.5%	3.5%	1.3%	2.9%	1.8%	4.0%	1.3%	1.9%
2031	1.6%	1.0%	1.2%	2.4%	1.3%	1.6%	1.7%	3.0%	1.1%	0.9%
2032	1.6%	1.1%	1.2%	2.4%	1.3%	1.7%	1.7%	3.0%	1.1%	1.0%
2033	1.5%	1.1%	1.1%	2.3%	1.2%	1.7%	1.7%	2.8%	1.0%	0.9%
2034	1.5%	1.2%	1.1%	2.3%	1.2%	1.8%	1.6%	2.7%	1.0%	1.0%
2035	1.5%	1.3%	0.7%	0.7%	1.2%	0.2%	1.6%	2.7%	1.0%	1.1%

Notes: as above

Busy Day Timetable and Environmental Outputs

46. The profile of demand over a day has been produced based on a typical busy day which has been developed to test:

- What a peak day would equate to in relation to the number of aircraft movements and to allow consideration of how this calculates forward to a full year movement projection and a 92-day movement projection (for noise);
- What a peak hour would equate to for the purposes of terminal capacity planning based on a typical pattern of aircraft operations;
- What the peak demand for airfield infrastructure may be, including aircraft stands and runway peaks; and
- What peak demand would equate to on the surface access network based on typical patterns of aircraft operations and testing the impacts in both the morning and afternoon peak periods on the transport network.

In practice, these may not all occur on the same day, but our approach to developing a busy day allows us to reasonably test each aspect of the above mainly by ensuring we have a high number of movements to which we can apply a reasonable peak hour load factor throughout the day, rather than just in the morning or evening peaks individually.

47. It must also be noted that the profile of movements across the day can vary by day of the week at LCY and, therefore, the busy day that we have developed reflects the greatest impacts on the terminal, stand and surface access periods, but may not reflect some aspects of capacity which are subject to the proposed amendments, such as the lifting of the movement limit within the 06:30-07:00 period of the day. This arises because the 2019 busy day that forms the starting point for our future busy day

had only four movements scheduled in the 06:30-07:00 period, whereas other days of the year had 6 movements (i.e. up to the current limit). Within our future developed busy day, we have 9 movements scheduled in this period, but have estimated that peak scheduled demand in this period for other days of the week would be 11 movements in line with the proposed amendments (but with only 9 expected to physically use the runway as some departures close to 07:00 would not reach the runway until after 07:00 as per the current pattern). However, on days when there may be 11 movements in this period, the number of movements that would impact the peak surface access periods may be lower. Hence, our approach ensures a reasonable worst case assessment of surface access capacity.

48. Our approach to developing the busy day timetable was to use an equivalent day in 2019 as the base and then to adjust this with known changes (i.e. removing airlines which have since suspended operations at LCY, such as Flybe and TAP Portugal, then adding in known new routes, such as the replacement BACF services to Belfast and the start of Loganair services to the Isle of Man). This produces a pseudo-base busy day timetable into which new flights can be added and, where appropriate, aircraft types can also be changed.

49. The addition of flights to the busy day follows the emerging patterns of operations now at LCY which includes:

- New inbound airlines focused on peak period and some complimentary shoulder/off-peak period flights;
- Growth in frequency of existing airlines to fill gaps in their schedules;
- Inclusion of new hub departures over time in the period 06:30-07:00 to reflect typical patterns from the UK which are not currently achievable due to the lack of regular slots in this period;
- Addition of new BACF operations, being a combination of inbound (overnighting elsewhere) and overnighting at LCY based on current patterns. Each new aircraft has a fully worked up schedule which is based on realistic flying times and destinations based on the forecast route network;

50. Once the schedule has been developed, an average load factor of 85% is applied across the day to determine the peak passenger flows throughout the day. In practice, not every hour of a busy day sees such high load factors and, as such, this represents a conservative approach to develop the worst-case environmental assessment. The figure of 85% was also used in the CADP1 Application for peak periods and represents a worst-case figure, as highlighted earlier in this Appendix.

51. The remaining environmental outputs for assessment are based on the busy day to annual ratio which forms part of the overall forecast. As new movements are added to the forecasting model on a single day basis, the annual number of movements is then calculated based on the busy day to annual ratio. The ratio is applied to both the overall movements, as well as movements by each aircraft type individually to allow the annual fleet mix to be determined. As this is based on the recent pattern of operations then this ratio does not take account of the proposed extended hours on a Saturday and, therefore, the anticipated additional aircraft movements on Saturday afternoons. As explained earlier in this appendix, these are added directly to the estimated number of annual aircraft movements and passengers.

52. Once the annual fleet mix is established then a further ratio is applied to this which represents the 92-day period. This is, again, based on the current ratio, but with an allowance for new Saturday movements added in. Despite the increase in leisure flying generally at the airport, this has not led to

any significant change in the 92-day to annual ratio over the last few years and, hence, we continue to assume this ratio is appropriate for assessment.

53. In each case, the annual and 92-day movement totals also have an allowance for the Jet Centre added on top where applicable. The basis of this is outlined in **Section 5**, but the annual movements are then split across a representative fleet based on existing ratios across similar classes of aircraft. Once again, a 92-day to annual ratio for the Jet Centre is used to calculate the movements required for the noise assessments until such time as these movements are crowded out within the 111,000 annual movement total by commercial passenger aircraft. The 92-Day movements projections are shown in **Table D.11** for the core Development Case and **Table D.12** for the Do Minimum case. The faster and slower development cases result in a comparable final year fleet mix to the core scenario, albeit occurring earlier or later depending upon the point at which 9 mppa is reached.

Table D.11: Core Development Case 92-Day Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Passenger Movements								
Dornier 328J	280	280	280	280	280	280	280	280
ATR-42	700	700	700	700	700	700	700	700
ATR-72	560	560	560	560	560	560	560	560
Dash-8-Q400	1,006	1,006	1,006	1,033	1,033	1,033	1,033	1,033
Embraer 190	15,008	13,510	9,253	4,816	3,697	3,697	4,116	4,396
Embraer 190-E2	280	3,012	6,389	11,547	12,899	13,039	12,718	13,377
Embraer 195-E2	0	0	2,785	3,713	4,403	4,403	5,864	6,192
Airbus A220-100	866	866	866	893	1,173	1,619	1,786	1,786
Jet Centre Movements								
Challenger 350	320	320	320	320	320	320	319	0
Citation Sovereign	253	253	253	253	253	253	252	0
Citation XLS	195	195	195	195	195	195	195	0
FA7X	173	173	173	173	173	173	173	0
Phenom 300	131	131	131	131	131	131	130	0
C680	64	64	64	64	64	64	64	0
ERJ Legacy 600	49	49	49	49	49	49	49	0
Global Express BD-700	62	62	62	62	62	62	62	0

Table D.12: Do Minimum 92-Day Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Passenger Movements								
Dornier 328J	280	280	280	280	280	280	280	280
ATR-42	700	700	700	700	700	700	700	700
ATR-72	560	560	560	560	560	560	560	560
Dash-8-Q400	980	980	980	980	980	980	980	980
Embraer 190	15,008	14,588	14,728	14,308	12,810	10,653	8,455	6,216
Embraer 190-E2	280	840	840	1,539	3,598	5,137	6,956	9,196
Embraer 195-E2	0	0	560	560	1,219	2,116	2,495	2,495
Airbus A220-100	840	840	840	840	840	1,260	1,260	1,260
Jet Centre Movements								
Challenger 350	320	320	384	448	512	576	576	576
Citation Sovereign	253	253	303	354	404	455	455	455
Citation XLS	195	195	234	273	312	351	351	351
FA7X	173	173	208	242	277	312	312	312
Phenom 300	131	131	157	183	209	235	235	235
C680	64	64	77	89	102	115	115	115
ERJ Legacy 600	49	49	59	68	78	88	88	88
Global Express BD-700	62	62	75	87	100	112	112	112

54. Within the 92-day assessment, we have also considered the number of movements which will occur in the 06:30-07:00 period as these are technically considered to operate in the night period for the purposes of noise assessments. These have been calculated by reviewing the relationship between the existing number of movements within a busy day and on an annual basis in this period, with an additional allowance for Saturday then added on top as the current level of Saturday operations in this period does not reflect what could be required if the airlines can operate an extended schedule at LCY in future. The 92-day ratio is then applied to these annual figures. It is estimated that the full 9 movements may not be required every day through the 92-day period and the resulting runway movements equate to an average of 8.9 per day[137]. The expected fleet in the first half hour in the Development Case in shown **Table D.13** below for the core noise assessment years, along with the Do Minimum Case in **Table D.14**. This allows for the continuation of some existing movements by current generation aircraft but all additional movements will be required to be next generation. However, as the proposed limit is 9 movements per day then a further sensitivity has been produced for the noise assessment which equates to a full 9 movements per day throughout the 92-day period. This is shown for the Development Case in **Table D.15** for 2031 as the principal assessment year.

[137] The number of movements scheduled within this period may be higher on some days but those which are scheduled towards the end of the period will typically use the runway after 07:00 and are not included within the assessment.

Table D.13: Core Development Case 92-Day Fleet Mix for 06:30-07:00

	Aircraft	2025	2027	2031
Arrivals	Embraer 190	269	0	0
	Embraer 190-E2	0	269	269
	Embraer 195-E2	0	0	0
Departures	Embraer 190	164	42	0
	Embraer 190-E2	72	123	167
	Embraer 195-E2	0	156	267

Table D.14: Do Minimum 92-Day Fleet Mix for 06:30-07:00

	Aircraft	2025	2027	2031
Arrivals	Embraer 190	269	269	269
	Embraer 190-E2	0	0	0
	Embraer 195-E2	0	0	0
Departures	Embraer 190	110	110	105
	Embraer 190-E2	0	0	67
	Embraer 195-E2	0	0	5

Table D.15: Core Development Case 92-Day Fleet Mix for 06:30-07:00

	Aircraft	2031
Arrivals	Embraer 190	0
	Embraer 190-E2	269
	Embraer 195-E2	0
Departures	Embraer 190	0
	Embraer 190-E2	207
	Embraer 195-E2	234

55. An alternative fleet mix has also been developed to make an allowance for the noisiest possible new generation aircraft which may operate at LCY over time, the Airbus A220-300. As this is to test the impacts on weekends only (so measuring the effects on Saturday afternoons in particular), the outputs relate only to total weekend operations over a 92-day noise assessment period. The alternative fleet mix assumes that 20% of the Embraer 190-E2 fleet in the Development Case are converted to A220-300s, this can be seen in **Table D.16** below. If it is assumed that a greater number of airlines would want to operate A220-300s with the development, then these airlines may also seek to use the aircraft without the adjusted permission. Therefore, a similar alternative fleet mix has been prepared for the Do Minimum Case but with a lower proportion (15%) of Embraer 190-E2 converted to A220-300 reflecting the lower growth anticipated in the Do Minimum Case, which would impact on the viability of introducing larger aircraft such as the A220-300 if the passenger cap remains in place and reflecting the absence of additional operations in Saturdays by Embraer 190-E2s in the Do Minimum Case. The Alternative Do Minimum weekend fleet can be seen in **Table D.17**.

Table D.16: Core Development Case 92-Day Weekend Alternative Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Passenger Movements								
Dornier 328J	39	39	39	39	39	39	39	39
ATR-42	98	98	98	98	98	98	98	98
ATR-72	79	79	79	79	79	79	79	79
Dash-8-Q400	164	164	164	191	191	191	191	191
Embraer 190	2,110	1,899	1,301	677	520	520	579	618
Embraer 190-E2	39	445	974	1,761	1,976	1,992	1,956	2,030
Embraer 195-E2	0	0	521	727	851	851	1,109	1,231
Airbus A220-100	145	145	145	171	210	296	342	342
Airbus A220-300	0	111	243	440	494	498	489	508
Jet Centre Movements								
Challenger 350	39	39	39	39	39	39	39	0
Citation Sovereign	31	31	31	31	31	31	31	0
Citation XLS	24	24	24	24	24	24	24	0
FA7X	21	21	21	21	21	21	21	0
Phenom 300	16	16	16	16	16	16	16	0
C680	0	0	0	0	0	0	0	0
ERJ Legacy 600	0	0	0	0	0	0	0	0
Global Express BD-700	0	0	0	0	0	0	0	0

Table D.17: Do Minimum 92-Day Weekend Alternative Fleet Mix

	2024	2025	2026	2027	2028	2029	2030	2031
Passenger Movements								
Dornier 328J	39	39	39	39	39	39	39	39
ATR-42	98	98	98	98	98	98	98	98
ATR-72	79	79	79	79	79	79	79	79
Dash-8-Q400	138	138	138	138	138	138	138	138
Embraer 190	2,110	2,051	2,070	2,011	1,801	1,497	1,188	874
Embraer 190-E2	39	118	118	216	430	614	831	1,099
Embraer 195-E2	0	0	79	79	171	297	351	351
Airbus A220-100	118	118	118	118	118	177	177	177
Airbus A220-300	0	0	0	0	76	108	147	194
Jet Centre Movements								
Challenger 350	39	39	47	54	62	70	70	70
Citation Sovereign	31	31	37	43	49	55	55	55
Citation XLS	24	24	28	33	38	43	43	43
FA7X	21	21	25	29	34	38	38	38
Phenom 300	16	16	19	22	25	29	29	29
C680	0	0	0	11	12	14	14	14
ERJ Legacy 600	0	0	0	0	0	11	11	11
Global Express BD-700	0	0	0	11	12	14	14	14

56. The overall projections have been sense checked against top down modelling of the wider London air travel market, having regard to the capacity likely to be available at other airports serving London over

the period to the early 2030s as well as the broader expectations of passenger growth across the UK that have informed the development of the specific forecasts for LCY. This modelling has taken into account the consented capacity at Stansted at 43 mppa and we have been cognisant of the current expectations as to when new capacity might be brought forward at Heathrow, Gatwick and Luton if their DCO applications are granted. However, these schemes are not expected to deliver a substantial increases in available capacity over the time period to 2030, with:

- the earliest date for a 3rd runway to be operational at Heathrow assumed to be 2033;
- the earliest date for the north runway to be operational at Gatwick assumed to be 2030;
- new runway capacity at Heathrow and Gatwick assumed not to be brought forward at the same time;
- the capacity of Luton's at Phase 1 of its development limited to 21.5-23 mppa in line with the consultation proposals[138].

57. In overall terms, our specific growth projections are consistent with the expectations of capacity delivery and take up across the rest of the London system.

[138] https://lutonrising.org.uk/consultation/

Appendix E: Busy Day Profile of Demand

Table E.1 shows the rolling 60-minute passenger projections in 2031 for consideration in the surface access assessment. These are presented starting at each half-hourly period of the day to a greater level of granularity. These are directly derived from the busy day timetable.

Table E.1: 2031 Busy Day Rolling 6-Minute Passenger Projection

60-Mins Commencing	Arr Pax	Dep Pax
0600	90	831
0630	1,004	1,457
0700	1,606	1,427
0730	1,710	1,696
0800	1,885	1,822
0830	1,475	1,885
0900	1,155	1,459
0930	1,132	980
1000	945	946
1030	915	940
1100	841	915
1130	983	638
1200	1,032	286
1230	420	537
1300	355	734
1330	668	580
1400	802	870
1430	861	1,051
1500	812	1,131
1530	932	749
1600	993	547
1630	966	1,370
1700	1,455	1,555
1730	1,846	1,545
1800	1,831	1,644
1830	1,757	1,741
1900	1,416	1,866
1930	1,038	1,304
2000	894	839
2030	916	400
2100	894	0
2130	383	0

Table E.2 shows the rolling 60-minute passenger projections in 2031 for consideration in the surface access assessment on Saturdays. These are presented starting at each half-hourly period of the day to a greater level of granularity. These are directly derived from the busy day timetable.

Table E.2: 2031 Saturday Rolling 6-Minute Passenger Projection

60-Mins Commencing	Arr Pax	Dep Pax
0600	90	1,124
0630	653	1,389
0700	1,097	855
0730	1,425	1,209
0800	1,499	1,335
0830	1,082	1,499
0900	672	1,066
0930	377	672
1000	451	394
1030	626	451
1100	977	716
1130	711	977
1200	90	711
1230	405	90
1300	607	292
1330	373	517
1400	261	395
1430	585	351
1500	989	292
1530	983	787
1600	1,000	1,254
1630	1,363	978
1700	1,729	756
1730	877	357

Appendix F: Approach to Socio-Economic Assessment

Introduction

1. This Appendix sets the approach taken to assessing the socio-economic impacts of proposed amendments.

Assessing the Operational Impact of London City Airport

2. The direct, indirect and induced impact of the airport was assessed in terms of the effect on employment and GVA[139]. A range of techniques was used:

   - The direct employment supported by the airport in 2019 was established using data collected for the Annual Performance Report that year, supplemented by some further investigation of specific on-site companies. This provided a baseline position for direct employment for the assessment. The GVA associated with this direct employment was estimated using a mixture of annual financial reports for individual companies (where available and appropriate) and published ONS data on productivity levels in specific relevant sectors where specific company information was not available;
   - Forward projections of direct jobs and GVA were based on an assessment of the activity drivers of different functions on-site at the airport. This considered whether changes in individual functions at the airport would be related to passenger growth, movement growth or spatial footprint growth. Regression analysis of the growth in function employment over time, based on time-series Annual Performance Report data, compared to the historic growth drivers was conducted to produce a series of elasticities, alongside an underlying productivity time trend;
   - Indirect and induced impacts were estimated using a series of multipliers. Different multipliers were calculated for the Local Study Area and for London, and for each study area, for the different functions on-site at the airport. The multipliers were calculated using the Flegg Location Quotient method[140]. This approach uses specialised location quotients, which assess the level of relative concentration of an economic sector, to adjust the matrix of coefficients in the UK input-output tables[141] to reflect the different economic structure at a sub-regional level. The resulting adjusted input-output tables are then further adjusted to reflect the greater need for external trading relationships within areas at a sub-national level and in smaller economies. This approach is commonly used in undertaking economic impact assessments.

3. All forward projections have been based upon the future demand projections set out in **Section 5**.

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[139] GVA provides a monetary value for the amount of goods and services that have been produced in a country, minus the cost of all inputs and raw materials that are directly attributable to that production. It is a major contributory component to GDP.

[140] Estimating regional input coefficients and multipliers: The Use of the FLQ is not a Gamble., Anthony T. Flegg & Timo Tohmo, Department of Accounting, Economics and Finance, Bristol Business School, University of the West of England, Bristol, 2013.

[141] United Kingdom Input-Output Analytical Tables 2018, Office for National Statistics, 2022.

4. The operational economic impacts presented are in gross terms. In other words, they have not been adjusted for displacement either in terms of displacement of passenger growth or factor displacement from other sectors of the economy. In terms of displacement of activity from other airports, this is considered to be negligible in the context of the capacity constraints faced by the other London airports over the period to 2030 and beyond. In any event, the direct, indirect and induced operational impacts from the other airports are highly unlikely to be realised at the Local Study Area considered for this application and any overlap or potential for displacement of such activity at the London level is likely to be highly limited.

5. In relation to factor displacement, this remains an inherently uncertain concept that is of limited relevance outside of the evaluation or appraisal of public sector interventions in the market and, even here, it is worth noting that the latest Green Book Guidance on Place Based Analysis removes the requirement for 100% displacement at more local levels[142] recognising the importance that creation of employment and activity can play at the individual district or regional level, especially in the context of areas in need of levelling up. The most appropriate measure of private sector investment remains its impact on gross GVA and employment, particularly in the context of a specific planning application.

Assessing the Wider Economic Impact of London City Airport

6. The effects on GVA and employment supported by inward investment, trade and competitiveness effects are considered holistically as an overall effect on productivity in the study area economies stemming from the connectivity provided to business travellers by the airport. The approach used examines the patterns of travel for business passengers from the CAA Passenger Survey 2019, as reported in **Section 3**, and OAG data, identifying surface origins, potential alternative airport options, direct and indirect routings, and air fares. The approach, ultimately, assesses the generalised cost of travelling via the airport and the next best alternative to completing the same journey. A price elasticity based on the DfT's aviation forecasts research[143] was then applied to the generalised cost differential to identify the number of passengers that would no longer fly if they were forced to use the alternate to the airport.

7. The results of this analysis were then used to estimate the role that the airport plays in supporting productivity in the Local Study Area and London. These impacts were calculated using a statistical relationship originally developed by Oxford Economics as part of research undertaken for Transport for London around the Airports Commission process[144]. This relationship correlates the level of business air travel and air freight from an area to total factor productivity in the economy. It identified an econometric relationship whereby a 10% increase in combined business air travel and air freight would result in a 0.5% increase in productivity in the economy. The employment associated with this increased GVA was assessed based on the average GVA per job across the London economy[145], allowing for the fact that a large proportion of the GVA gain will not result in additional employment but be reflected in increased individual productivity.

8. The impact on inbound tourism to the Local Area and London has been assessed in terms of the impact on GVA and employment. The impact on GVA has been assessed based on the expenditure injection

[142] The Green Book HM Treasury, 2020, paras. A2.6-A2.8.
[143] Department for Transport (2022). Econometric Models to Estimate Demand Elasticities for the National Air Passenger Demand Model.
[144] Impacts on the UK Economy through the Provision of International Connectivity ,Oxford Economics, 2013.
[145] Office for National Statistics.

from inbound tourists to the relevant study area. The impact has been based on VisitBritain data on overseas tourism expenditure patterns[146], the GB Tourism Survey[147] for domestic tourism expenditure patterns and the CAA Passenger Survey 2019 data for volumes of visitors to the study areas. Employment effects were estimated based on the average GVA per job in tourism and associated sectors in London, based on ONS data.

9. Again, these wider impacts have been presented gross, without adjustment for displacement. This is the appropriate measure to consider as the airport is privately owned and, hence, the growth does not represent an alternative to other measures that the Government might take to boost productivity. The effects of the proposed amendments are, hence, additional.

Socio-Economic Cost Benefit Analysis

10. The purpose of the cost benefit analysis is to consider the broader effects on socio-economic welfare associated with the development and it places the emphasis on whether the expansion of the airport will result in a more efficient allocation of resources across the economy. It examines whether the key actors (passengers, producers, and the Government) in the market will be better or worse off as a result of the airport's growth in line with the proposed amendments as opposed to the Do Minimum Case. This approach is the same in concept as the economic elements of the DfT's WebTAG appraisal approach. It should, however, be emphasised that it is not a WebTAG appraisal and is not intended to be one. The purpose of this analysis is to provide a broad assessment of the impacts of the development from a socio-economic welfare perspective. Furthermore, it is worth noting that WebTAG is not intended for assessing the impact of private sector investments and is not commonly used standard in assessing airport socio-economic effects in relation to planning decisions. The purpose of WebTAG is to access the comparative impact of alternative government interventions not to assess the merits of an individual application.

11. This high level assessment focuses on the following main metrics:

- Journey Time Savings – the impact on passengers' travel times from the proposed amendments has been considered based on the demand forecasts, CAA Passenger Survey data, travel times derived from Google Maps or the TfL Journey Planner, and values of time taken from the Airports Commission. The analysis considers the travel time for a passenger to LCY compared to the travel time for the next most popular alternative airport for the given passenger segment for the route in question. Where the travel time via LCY is shorter, this represents an efficiency gain to passengers and society;
- Passenger Surface Access Cost Savings – similarly to journey time savings, the assessment has considered the change in access cost, either in terms of fuel costs for passenger using cars or public transport fares, for LCY passengers if they are forced to use the next most popular alternate for their journey. Passenger distribution has again been taken from the CAA Passenger Survey, while journey distances have been taken from Google Maps. Fuel costs have been assessed using the approach to estimating fuel costs set out in WebTAG[148]. Public transport costs have estimated using train company websites;

[146] Can be accessed at https://www.visitbritain.org/inbound-trends-uk-nation-region-county.
[147] The GB Tourist 2019 Annual Report, Kantar 2020.
[148] https://www.gov.uk/government/publications/tag-data-book .

- Air Fare Savings – the air fares paid by passengers using the airport with the Development Case were compared to the air fares available from the next most popular alternate in each case. Where the fare at the airport is lower than the alternative, this represents a gain to passengers. Air fares for LCY and its competitors have been estimated based on data from the CAA Passenger Survey;
- Producer Surpluses – this examines the additional profits that will accrue across the London system airports from the additional passengers that can be accommodated as a result of the proposed amendments. The number of additional passengers has been estimated on the basis an analysis of the generalised costs of travel via LCY compared to the next best alternative drawing on data from the CAA Passenger Survey, OAG and Google Maps. Additional profits have been based on the estimated relation between operating profit per passenger, taken from LCY's annual report and accounts, and airport scale;
- Air Passenger Duty – the estimated additional APD revenue accruing to the UK Government from the additional passengers flying as a result of the proposed amendments has been based on the same generalised cost assessment described above and the existing rates of APD, allowing for the upcoming reduction in rates for domestic flights;
- Construction Costs – the construction costs associated with the proposed development represent a cost to society and hence are included within the socio-economic cost benefit analysis. The construction costs to complete the CADP1 works have been provided by LCY. It has also been assumed that the effect of the proposed amendments is to see construction between 2025 and 2031. In the Do Minimum Case, the costs are still incurred but construction start is assumed to be delayed until 2033 at the earliest;
- Carbon Costs – the full range of carbon emissions associated with the proposed Amendments[149], i.e. those relating to additional flights, increased airport operations, growing surface access journeys and the construction programme, have been monetised using the BEIS guidance on carbon valuation[150].

12. The socio-economic cost benefit analysis uses a 60-year appraisal period, in line with common practice for major airport infrastructure projects. Costs and benefits are discounted in line with HM Treasury Green Book guidance on discount rates.

Assessing Construction Impacts

13. The impact of construction on GVA and employment has been calculated on the basis of the construction costs provided by LCY. As in the socio-economic cost benefit analysis, an average of the construction cost range has been used.

14. The direct GVA associated with the construction programme has been calculated based on the ratio between turnover and GVA for the construction sector taken from the Office for National Statistics Annual Business Survey 2019 for London. The direct employment associated with this GVA is calculated based on the average GVA per job for the construction industry in London based on Office for National Statistics data on sectoral GVA for London in 2019 and the Business Register and Employment Survey for 2019 (accessed via NOMIS).

[149] Taken from Chapter 11 of the ES.
[150] Valuation of greenhouse gas emissions: for policy appraisal and evaluation – BEIS (2021).

15. The associated indirect and induced impacts in the Local Study Area and London have been calculated using multipliers for the construction industry based on the Flegg Location Quotient Input Output table approach described above.

Appendix G: Comparison of Socio-Economic Impacts to CADP1

1. This Appendix compares the socio-economic impacts associated with the proposed amendments to those assessed in relation to the CADP1 application. The CADP1 application considered direct, indirect and induced impacts that are comparable with the Development Case. It did not consider wider impacts in the same way and, hence, it is not possible to make the same comparison. The CADP1 application also focussed on the Local Study Area and did not consider the impacts across London.

2. It is clear that, prior to the pandemic, growth at LCY had been delivering the anticipated uplift in GVA due its operation, as the total GVA impact in 2019 was £246m at 5.1 mppa on track to achieve the economic contribution anticipated for CADP1 in 2025 at £277m. However, the slower growth in employment reflects the fact that the CADP1 terminal development had not yet been constructed in 2019, meaning that the increase in employment related to the expanded terminal, e.g. retail and catering, cleaning, facilities management, had not yet been delivered.

3. These assumptions have been carried forward in the Do Minimum Case so the employment projected for 6.5 mppa is lower than originally projected at the time of the CADP1 Application reflecting the fact that the additional terminal facilities are not now expected to be delivered until later in the 2030s in the Do Minimum Case. Allowance has also been made for ongoing productivity improvements to be delivered between 2025 and 2031, resulting in a lower like for like estimate of the number of jobs supported at 6.5 mppa than originally assessed in the CADP1 Application.

4. The Development Case takes into account the position at 2019 in terms of ongoing productivity improvements, in part accelerated by the pandemic, but makes allowance for the employment uplifts consequent upon the delivery of the new terminal infrastructure, still factoring in ongoing expected productivity improvements. On this basis, the additional local economic benefits from allowing the airport to grow to handle 9 mppa would result in the creation of 160 more direct jobs than assumed for CADP1 or 430 additional local jobs when indirect and induced effects are taken into account. The additional GVA generated by the operation of the airport at 9 mppa compared to the CADP1 estimates would be £174m a year taking direct, indirect and induced impacts into account.

5. The comparison between the current assessments and the assessments made at the time of the CADP1 Application are set out in **Table G.1**.

Table G.1: Comparison of Socio-Economic Impacts to CADP1

Annual Impact		Do Minimum Case 6.5 mppa in 2031	Development Case 9 mppa in 2031	CADP1 6.5 mppa in 2025
GVA (£m)	Direct	£212	£316	£214
	Indirect & Induced	£95	£135	£63
	Total	£307	£451	£277
FTE Jobs	Direct	2,160	3,230	3,070
	Indirect & Induced	830	1,190	920
	Total	2,990	4,420	3,990

Source: York Aviation.

Appendix H: Faster and Slower Growth Case Socio-Economic Sensitivity Tests

Introduction

1. This appendix presents the results of the Faster and Slower Growth Case sensitivity tests for the socio-economic impact assessment.

Operational Socio-Economic Impacts

2. **Table H.1** sets out the operational economic impacts associated with Faster and Slower Growth Cases in the Local Study Area in 2031. These are compared to the core Development Case.

3. By 2031, the Faster Growth Case and the Development Case are aligned in terms of traffic forecasts. As a consequence, the operational economic impacts associated with the two scenarios are the same. The Faster Growth scenario would, however, offer this scale of benefits earlier and, until productivity effects are realised, would provide more jobs temporarily.

4. However, the Slower Growth scenario is different. By 2031, passenger throughput would only reach around 8.4 mppa. As a result, the scale of operational economic benefits supported is also lower in that year. It supports around £424 million in GVA in total, around £27 million lower than the Development Case, and around 4,790 total jobs (4,200 FTE jobs), 240 total jobs (220 FTE jobs) fewer than the Development Case. The Slower Growth scenario reaches 9 mppa in 2033. At this point, it supports the equivalent level of benefits to the Development Case in terms of GVA. However, as a result of on-going productivity effects, the number of jobs supported never gets as high as the Development Case in 2031 but the number of jobs would be expected to converge to the same value at 9 mppa over the long term.

Table H.1: Operational Economic Impacts of the Faster and Slower Growth Scenarios in the Local Study Area in 2031

Annual Impact		Development Case	Faster Growth		Slower Growth	
		Impact	Impact	Difference	Impact	Difference
GVA (£m)	Direct	£316	£316	0	£298	-£18
	Indirect & Induced	£135	£135	0	£126	-£9
	Total	£451	£451	0	£424	-£27
Total Jobs	Direct	3,650	3,650	0	3,500	-150
	Indirect & Induced	1,380	1,380	0	1,290	-90
	Total	5,030	5,030	0	4,790	-240
FTE Jobs	Direct	3,230	3,230	0	3,090	-140
	Indirect & Induced	1,190	1,190	0	1,110	-80
	Total	4,420	4,420	0	4,200	-220

Source: York Aviation

5. Both the Faster and Slower Growth Cases continue to provide substantially greater operational impacts in the Local Study Area than the airport in 2019 or in the Do Minimum case. This is shown in **Table H.2**. The Faster Growth Case supports £205 million in GVA and 1,870 total jobs (1,630 FTE jobs) more than 2019, and £144 million and 1,640 total jobs (1,430 FTE jobs) more than the Do Minimum Case.

The Slower Growth Case supports £178 million in GVA and 1,630 total jobs (1,410 FTE jobs) more than 2019, and £117 million and 1,400 total jobs (1,210 FTE jobs) more than the Do Minimum Case.

Table H.2: Operational Impacts of the Faster and Slower Growth Cases Compared to 2019 and Do Minimum in the Local Study Area

Annual Impact		Faster Growth		Slower Growth	
		Difference to 2019	Difference to Do Minimum	Difference to 2019	Difference to Do Minimum
GVA (£m)	Direct	+£144	+£104	+£126	+£86
	Indirect & Induced	+£61	+£40	+£52	+£31
	Total	+£205	+£144	+£178	+£117
	Direct	+1,340	+1,230	+1,190	+1,080
	Indirect & Induced	+530	+410	+440	+320
	Total	+1,870	+1,640	+1,630	+1,400
FTE Jobs	Direct	+1,170	+1,070	+1,030	+930
	Indirect & Induced	+460	+360	+380	+280
	Total	+1,630	+1,430	+1,410	+1,210

Source: York Aviation

6. **Table H.3** provides the same analysis for the broader London study area. As in the Local Study Area, the impacts in 2031 of the Faster Growth Case are the same as the Development Case. The airport is handling 9 mppa in both and, consequently, the impact is the same.

7. Again, the Slower Growth Case show slightly lower impacts than the Development Case in 2031. It supports around £518 million in GVA, £33 million lower than the Development Case, and 5,560 total jobs (4,890 FTE jobs), 300 total jobs (260 FTE jobs) fewer than the Development Case. The gap in GVA is again closed further into the future as the Slower Growth Case also reaches 9 mppa, but employment does not quite reach the Development Case peak in 2031 due to ongoing productivity effects.

Table H.3: Operational Economic Impacts of the Faster and Slower Growth Scenarios in London in 2031

Annual Impact		Development Case	Faster Growth		Slower Growth	
		Impact	Impact	Difference	Impact	Difference
GVA (£m)	Direct	£316	£316	0	£298	-£18
	Indirect & Induced	£235	£235	0	£220	-£15
	Total	£551	£551	0	£518	-£33
Total Jobs	Direct	3,650	3,650	0	3,500	-150
	Indirect & Induced	2,200	2,200	0	2,060	-140
	Total	5,860	5,860	0	5,560	-300
FTE Jobs	Direct	3,230	3,230	0	3,090	-140
	Indirect & Induced	1,920	1,920	0	1,800	-120
	Total	5,150	5,150	0	4,890	-260

Source: York Aviation

8. **Table H.4** shows the operational impacts of the Faster and Slower Growth cases in London compared to the impact in 2019 and compared to the Do Minimum case.

9. Across London, the Faster Growth Case supports £249 million in GVA and 2,700 total jobs (1,900 FTE jobs) more than 2019, and £175 million and 1,910 total jobs (1,660 FTE jobs) more than the Do Minimum case. The Slower Growth case supports £216 million in GVA and 2,400 total jobs (1,640 FTE jobs) more than 2019, and £142 million and 1,610 total jobs (1,400 FTE jobs) more than the Do Minimum case.

Table H.4: Operational Impacts of the Faster and Slower Growth Cases Compared to 2019 and Do Minimum in the Local Study Area

Annual Impact		Faster Growth		Slower Growth	
		Difference to 2019	Difference to Do Minimum	Difference to 2019	Difference to Do Minimum
GVA (£m)	Direct	+£144	+£104	+£126	+£86
	Indirect & Induced	+£105	+£72	+£90	+£57
	Total	+£249	+£175	+£216	+£142
Total Jobs	Direct	+1,340	+1,230	+1,190	+1,080
	Indirect & Induced	+1,350	+670	+1,210	+530
	Total	+2,700	+1,910	+2,400	+1,610
FTE Jobs	Direct	+1,170	+1,070	+1,030	+930
	Indirect & Induced	+730	+590	+610	+470
	Total	+1,900	+1,660	+1,640	+1,400

Source: York Aviation

Wider Socio-Economic Impacts

10. **Table H.5** sets out the wider economic impacts associated with Faster and Slower growth Cases in the Local Study Area in 2031. These are compared to the Development Case.

Table H.5: Wider Economic Impacts of the Faster and Slower Growth Scenarios in the Local Study Area in 2031

Annual Impact		Development Case	Faster Growth		Slower Growth	
		Impact	Impact	Difference	Impact	Difference
GVA (£m)	Business Productivity	£240	£229	-£11	£237	-£2
	Inbound Tourism	£218	£215	-£4	£199	-£19
	Total	£458	£444	-£14	£436	-£22
Total Jobs	Business Productivity	950	890	-60	920	-30
	Inbound Tourism	1,900	1,870	-30	1,730	-170
	Total	2,850	2,760	-90	2,650	-200
FTE Jobs	Business Productivity	790	760	-30	780	-10
	Inbound Tourism	1,520	1,490	-30	1,380	-140
	Total	2,310	2,250	-60	2,160	-150

Source: York Aviation

11. Both the Faster and Slower Growth Cases show lower wider economic benefit effects to the Local Study Area in 2031 than the Development Case. The reasons for this are, however, different:

- In the Faster Growth Case, the airport reaches 9 mppa earlier than the Development Case and the overall passenger throughput is the same. However, the faster growth comes a greater focus on outbound leisure traffic so resulting in lower productivity and tourism impacts for the wider economy. However, the benefits to local residents in being able to fly locally would compensate to a large degree for the lower productivity and tourism gains but are not included within these metrics.
- The Slower Growth Case also generates fewer wider economic impacts in 2031 in the Local Study Area. This is, however, more to do with the fact that the airport has simply not reached the same passenger throughput as the Development Case. The Slower Growth Case does not reach 9 mppa until 2033. In 2031, it supports £22 million less in GVA and 200 fewer total jobs (150 fewer FTE jobs).

12. It should, however, again, be noted that both the Faster and Slower Growth Cases offer still offer significant wider economic benefits to the Local Study Area compared to the 2019 baseline position and the Do Minimum scenario. This is summarised in **Table H.6**. The Faster Growth Case offers £174 million in GVA and 810 more total jobs (690 FTE jobs) than 2019, and £137 million in GVA and 610 more total jobs (500 FTE jobs) than the Do Minimum Case. The Slower Growth Case offers £166 million in GVA and 740 more total jobs (600 FTE jobs) than 2019, and £129 million in GVA and 500 more total jobs (410 FTE jobs) than the Do Minimum Case.

Table H.6: Wider Impacts of the Faster and Slower Growth Cases Compared to 2019 and Do Minimum in the Local Study Area

		Faster Growth		Slower Growth	
Annual Impact		**Difference to 2019**	**Difference to Do Minimum**	**Difference to 2019**	**Difference to Do Minimum**
GVA (£m)	Business Productivity	+£90	+£34	+£98	+£42
	Inbound Tourism	+£84	+£56	+£68	+£40
	Total	+£174	+£90	+£166	+£82
Total Jobs	Business Productivity	+240	+130	+290	+160
	Inbound Tourism	+570	+480	+450	+340
	Total	+810	+610	+740	+500
FTE Jobs	Business Productivity	+220	+120	+240	+140
	Inbound Tourism	+470	+380	+360	+270
	Total	+690	+500	+600	+410

Source: York Aviation

13. **Table H.7** repeats this analysis for London in 2031, comparing the Faster and Slower Growth Cases to the Development Case. These results display the same pattern as those for the Local Study Area, with both the Faster and Slower Growth Cases showing fewer wider economic benefits than the Development Case and for the same reasons.

Table H.7: Wider Economic Impacts of the Faster and Slower Growth Scenarios in London in 2031

Annual Impact		Development Case	Faster Growth		Slower Growth	
		Impact	Impact	Difference	Impact	Difference
GVA (£m)	Business Productivity	£526	£508	-£17	£519	-£6
	Inbound Tourism	£559	£555	-£4	£515	-£44
	Total	£1,085	£1,063	-£21	£1,034	-£50
Total Jobs	Business Productivity	2,050	1,970	-80	2,010	-40
	Inbound Tourism	4,900	4,810	-90	4,490	-410
	Total	6,950	6,780	-170	6,500	-450
FTE Jobs	Business Productivity	1,740	1,680	-60	1,710	-30
	Inbound Tourism	3,890	3,850	-40	3,600	-290
	Total	5,620	5,530	-90	5,310	-310

Source: York Aviation

14. Again, both the Faster and Slower Growth Cases offer still offer significant wider economic benefits to the London compared to the 2019 baseline position and the Do Minimum scenario. This is summarised in **Table H.8**. The Faster Growth Case offers £432 million in GVA and 2,170 total jobs (1,770 FTE jobs) more than 2019, and £234 million in GVA and 1,630 total jobs (1,320 FTE jobs) more than Do Minimum. The Slower Growth Case offers £403 million in GVA and 1,890 total jobs (1,550 FTE jobs) more than 2019, and £309 million in GVA and 1,350 total jobs (1,100 FTE jobs) more than the Do Minimum Case.

Table H.8: Wider Impacts of the Faster and Slower Growth Cases Compared to 2019 and Do Minimum in London

Annual Impact		Faster Growth		Slower Growth	
		Difference to 2019	Difference to Do Minimum	Difference to 2019	Difference to Do Minimum
GVA (£m)	Business Productivity	+£209	+£79	+£220	+£89
	Inbound Tourism	+£223	+£155	+£183	+£115
	Total	+£432	+£234	+£403	+£204
Total Jobs	Business Productivity	+620	+300	+660	+340
	Inbound Tourism	+1,550	+1,330	+1,230	+1,010
	Total	+2,170	+1,630	+1,890	+1,350
FTE Jobs	Business Productivity	+530	+260	+560	+290
	Inbound Tourism	+1,240	+1,060	+990	+810
	Total	+1,770	+1,320	+1,550	+1,100

Source: York Aviation

Appendix I: Capacity Requirements and Phasing Proposals

Figure I.1: Terminal Departures Current Capacity

Forecast Year		2024	2025	2026	2027	2028	2029	2030	2031
MPPA		4.9	5.4	6.3	7.0	7.6	7.9	8.6	9.0
Departing Peak Hour Passengers		1,218	1,272	1,454	1,607	1,607	1,683	1,885	1,885
Peak RWY Rate (Commercial ATMs)		31	31	34	38	39	39	41	41
Facility	Current Capacity (S22)								
Peak Hour Total Stand Requirement	19		14	18	19	19	19	20	20
Peak Hour Larger Code C Stand Requirement	8		3	6	8	10	12	13	13
Maximum Larger Code C Stand Requirement in Busy Day	8		3	8	10	12	13	14	14
Boarding Pass Printer Kiosks	27	9	10	11	12	12	12	13	13
Boarding Pass & Bag Tag Printer Kiosks	16	5	6	7	8	8	8	9	10
Self-Serve Bag Drop Desks	8	3	3	3	4	4	4	5	5
Conventional Check-in Desks	15	14	15	16	17	17	18	19	19
Baggage Sortation & Make-Up	36	27	28	29	30	31	32	35	36
Boarding Card Readers	6	3	3	4	4	4	4	5	5
Manned Boarding Card Podium	1	1	1	1	1	1	1/2	1/2	1/2
Security Channels	4	3	3	3	¾	3/4	4	4/5	4/5
Airside Departure Lounge	800 seats	755	766	877	933	988	1,047	1,105	1,105
Contact/Walkout Gate Rooms	12	8	7	6	6/7	7	7/8	8	8
Bus Gate Rooms #	2	6	7	8	8/9	9	9	9	9
Large Code C Gate Rooms Required*			2/3	2/3	¾	4/5	4/5	5/6	5/6

* Gate room requirements are based on simultaneous departures within a rolling 40-minute period.

Bus gate room requirements are principally driven by larger Code C aircraft that cannot be accommodated on the West Pier.

Source: York Aviation

Figure I.2: Terminal Arrivals Current Capacity

Forecast Year		2024	2025	2026	2027	2028	2029	2030	2031
MPPA		4.9	5.4	6.3	7.0	7.6	7.9	8.6	9.0
Arriving Peak Hour Passengers		1,253	1,272	1,489	1,697	1,734	1,734	1,885	1,885
Peak RWY Rate (Commercial ATMs)		31	31	34	38	39	39	41	41
Facility	Current Capacity (S22)								
Immigration e-Gates	10	6	6	7	8	8	8	9	9
Immigration Manual Desks	6	2	2	2	3	3	3	3	3
Domestic Baggage Reclaim Belts	1	1	1	1	1	1	1	1/2	1/2
Domestic Baggage Reclaim Space Req.	48 m^2	77 m^2	77 m^2	87 m^2	87 m^2	87 m^2	87 m^2	98 m^2	98 m^2
Domestic Baggage Reclaim Pick-off Length	31 m	35 - 45 m	35 - 45 m	40 - 50 m	40 - 50 m	40 - 50 m	40 - 50 m	50 – 60 m	50 – 60 m
Intl. Baggage Reclaim Belts	2	2	2	2/3	3	3	3	3	3
Intl. Baggage Reclaim Space Requirements	170 m^2	184 m^2	184 m^2	198 m^2	213 m^2	227 m^2	227 m^2	241 m^2	255 m^2
Intl. Baggage Reclaim Pick-off Length	68 m	90 - 110 m	90 - 110 m	100 - 120 m	100 - 120 m	110 - 130 m	110 - 130 m	120 - 140 m	125 - 145 m
Landside Arrivals Area	50 m^2	24	24	29	33	33	33	36	36

Source: York Aviation

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