

Draft Master Plan 2020-2035

For consultation





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Chief Executive foreword



Matt Clayson

Thank you for taking the time to read our draft master plan for the airport. This document sets out a framework for how we believe we can best respond to the growing demand for air travel within a constrained London system. It also sets out how we believe this could be achieved in a sustainable and responsible way over the next 15 years. We want to hear your views on this draft master plan and will be consulting on it for a period of 12 weeks from 28 June 2019.

It is my hope that we will be able to convey how excited we are about the next stage of the airport's journey and how it will help deliver further benefits for what I believe is the greatest city in the world – London.

London City Airport is the smallest of the 5 London airports, but we provide vital connectivity for businesses, and increasingly for leisure travellers, right across the capital. Our passenger numbers have grown by over 40% in the last 5 years, with a record year forecast for 2019 at just over 5 million passengers. Based on growth forecasts for London, and East London in particular, we can expect demand to continue over the long-term.

As you will read, our draft master plan is focused on sustainable growth and continuing to be a responsible neighbour, involving the local community at every step of the journey. This 12-week consultation is the start of a conversation where we want to hear your views to create an airport that truly represents and delivers for our communities and our city.

Our draft plans are consistent with Government policy to make best use of our existing infrastructure. We do not plan to build a new runway, to extend the length of our runway or to significantly extend beyond our current site boundary. We will maintain an 8-hour night-time curfew on flights and will only grow within our current noise contour area limit. Over time, we will seek to reduce our contour area below this limit and consequently reduce the number of people that would otherwise be contained within it.

Our draft plans will strengthen connectivity both domestically and internationally and provide more choice for Londoners and visitors alike.

We have carefully considered how to deliver quieter and cleaner operations over the lifetime of this master plan and beyond. Our climate change and air quality responsibilities are central to informing this draft for consultation.

We will become a carbon neutral business by 2020 and fully support and welcome the Government's recent commitments to achieve net zero emissions by 2050. Our ambition is to be at the forefront of this agenda, and we will achieve these 2050 targets by employing the latest technology and innovation and working with our airlines and partners to help them achieve these goals too. This is critical in helping to achieve the sustainability commitments of Government, the Greater London Authority and the London Borough of Newham over the duration of this master plan.

People are at the heart of what we do. We want to help them fulfil their potential and our plans will create 2,500 more jobs locally, ensuring that the benefits of our growth are shared.

I am extremely optimistic about the future of London and the role that our airport can play in supporting the capital and the rest of the UK.

Robert Sinclair
Chief Executive Officer



Executive summary

Introduction

London City Airport is at the heart of East London. We are the capital's most centrally located airport and a critical part of its transport infrastructure. In 2018 we welcomed over 4.8 million passengers and for the first time in our history there was an equal split of 50% leisure and 50% business passengers.

We have many loyal passengers who love using the airport for its speed and convenience and easy access to and from central London. We have an excellent reputation for customer service and technology innovation and are incredibly proud to serve the capital by connecting 45 destinations across the UK, Europe and beyond. In 2019, we were awarded the Best Airport in Europe (2 to 5 million passengers) at the Airport Council International's Airport Service Quality (ASQ) awards as well the title of best airport in the world under 5 million passengers at the 2019 SKYTRAX awards.

The range of airlines operating at the airport now includes some of the world's largest and most renowned carriers such as British Airways, Aer Lingus, Lufthansa, Swiss, KLM, Alitalia, TAP Portugal and LOT Polish Airlines as well as key regional carriers such as Flybe. Reflecting the demand and popularity for air travel in general and London in particular, our passenger numbers have grown over the years, and our passengers now come from and go to the whole of London, not just the City and financial districts.

One thing that has not changed and will not change is the utmost importance we place in our relationship with our local community. We have a proud track record of employing many local residents with over 2,200¹ people currently working at the airport, almost two-thirds of whom live within our local area.² In summer 2019 we reached a significant landmark by becoming the first London airport to be a London Living Wage employer.

A record-breaking 4.8 million passengers in 2018

The airport also supports many local charities and community organisations that represent the inclusive and diverse communities across East London through a number of initiatives, including our new Community Fund, which includes a minimum of £75,000 each year to fund local projects.

With the continued growth of East London, our role as a major contributor to the local economy has also grown. All around us, particularly on our doorstep in the Royal Docks, we are seeing transformative projects taking place such as Crossrail, Royal Wharf and the Asian Business Park. We are a key part of that story and are proud to be part of the fabric of such an inclusive, diverse and energetic community.

¹ Around 2,000 Full Time Equivalent jobs

² Local area refers to 11 East London Boroughs of Newham, Tower Hamlets, Greenwich, Bexley, Lewisham, Southwark, Barking & Dagenham, Havering, Redbridge, Waltham Forest and Hackney, as well as Epping Forest District Council

Mid-20th century

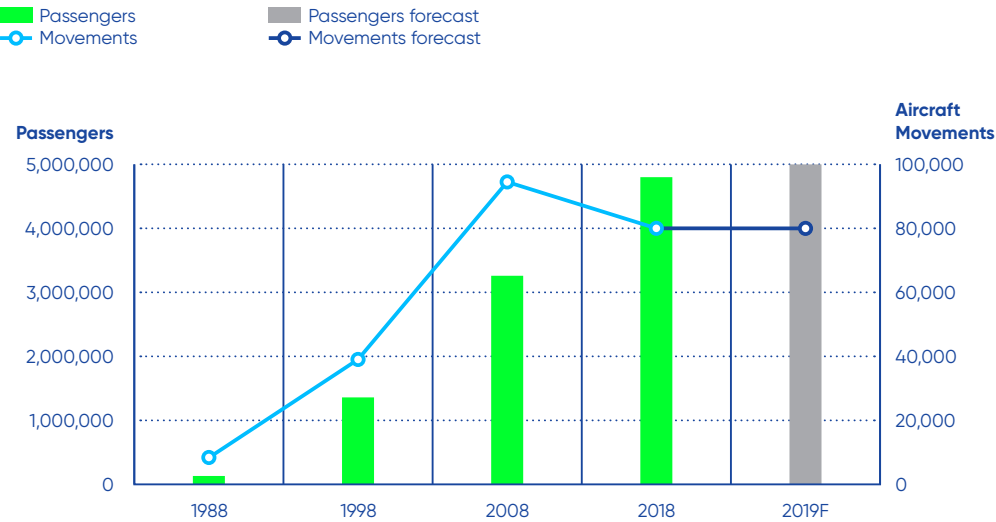


London City Airport in 1987. Credit: Vic Abbott



London City Airport in 2017. Credit: Andrew Holt





Based on CAA data and airport forecast

Evolution of the airport

Since opening our doors in 1987, we have connected the world to Canary Wharf and the City of London. As a key part of its transport infrastructure, we have helped London claim and retain its position as one of the leading finance cities of the world, supporting upwards of £11 billion per year of trade in services.³

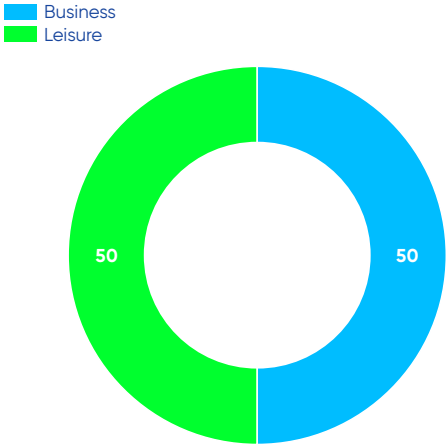
Serving
45 destinations
across the UK,
Europe and USA

Our speedy, efficient and friendly service, with the best onward connections to central London and the wider transport network primarily via the Docklands Light Rail (DLR), will continue to provide a highly valued service. Our customers can be on the DLR within 15 minutes of leaving their airplane, at Canary Wharf within 15 minutes of getting on the DLR and in the City of London within 21 minutes. This excellent connectivity is why 69%⁴ of our passengers chose to use public transport to travel to and from the airport in 2018, the highest proportion of any airport in the UK.

Our vision is to make air travel to and from the centre of London as quick and easy as possible for all our business and leisure passengers. We will continue to invest accordingly as well as work collaboratively with key partners like Transport for London to ensure that we offer an industry leading, end to end passenger experience.



Business travel remains a core part of our service, but as we grow with London, and indeed East London, our catchment area and passenger mix has expanded beyond our traditional markets. In addition to a growing list of destinations and point to point network, in recent years we have seen several major national flag carriers launch multiple daily services between London City and their European hub airports. This means passengers can now fly to virtually anywhere in the world from London City Airport, and it also means more international visitors are using these services to get to the centre of London quickly and easily.



³ Oxford Economics 2016, The role of London City Airport in facilitating business travel and trade

⁴ Public transport usage in 2018 included 64% DLR, 4% black taxis and 1% bus

Setting the scene for this master plan

Our previous master plan was published back in 2006 and covers the period to 2030 when we predicted that the airport would handle 8 million passengers and 171,000 flights each year (143,000 scheduled, 27,600 business jet). Since then the aviation industry, passenger trends and London have changed. It is now time to update our master plan.

The growth in passenger numbers is now higher than anticipated in 2006, but importantly the growth in the number of flights has been less than forecast. This is in part a reflection of a greater proportion of jet aircraft (including quieter, cleaner, new generation types) using the airport, continued strength in demand, industry innovation, introduction of new airlines and fewer business jet movements. This trend is evident from the airport's 6.4% year on year growth in passenger numbers in 2018 which was delivered with broadly the same number of aircraft movements as the previous year, around 80,000.

**Passenger
increase of 42%
over the past 5 years**

There has also been change across the aviation industry, not only in the UK, but across Europe. Connectivity has improved significantly, thanks to enhanced city to city routes and regional connectivity. London too has grown significantly, and this is planned to continue particularly in East London and close to the airport. In December 2018 the Government published its draft Aviation Strategy: 'Aviation 2050: The Future of UK Aviation' and this restated that airports should make the best use of their existing runways subject to environmental issues being addressed.

Meeting current demand

Following the grant of planning permission by the Secretaries of State for Transport, Communities and Local Government in July 2016, we are now delivering new infrastructure and passenger facilities as part of the City Airport Development Programme (CADP) which will transform the airport. This £500 million private investment places significant emphasis on sustainability and will extend the terminal buildings, deliver additional aircraft parking stands for quieter, cleaner, new generation aircraft and provide a parallel taxiway to make better use of our single runway. Once complete, the airport will become a more welcoming high-quality gateway to London with more space and enhanced facilities and services for passengers.

Our passenger numbers have grown by over 40% in the last 5 years and in 2019 we expect to welcome over 5 million business and leisure travellers, the most in our history. Our current planning permission allows us to accommodate up to 6.5 million passengers and 111,000 Air Traffic Movements (ATMs) per year. These limits are fast approaching and are expected to be reached in 2022. If unchanged, the airport would not be able to meet the significant demand from both business and leisure passengers beyond 2022.

The Department for Transport's (DfT) forecasts show that by the mid-2030s the main London airports, except for Stansted, are expected to be full, and that even with a third runway at Heathrow, UK airport capacity challenges will be apparent by 2040.

We believe that London City Airport can do so much more for Londoners in the interim while proposals for larger aviation infrastructure projects in the South East are being progressed.

**Master plan purpose –
framework for future growth**

Thank you for taking the time to read our draft master plan for the airport. This document sets out a framework for how we believe we can best respond to a growing demand for air travel within a constrained London system. It also sets out how we believe this could be achieved in a sustainable and responsible way over the next 15 years.

In order to help shape this framework we are consulting widely in order to gain views from local residents, customers, the business community and other key stakeholders. Once published, the master plan will inform the local community and stakeholders about potential future development and inform local authority development plans.

To meet demand over the period of this master plan, we will need to grow beyond current capacity limits if we are to accommodate the forecast demand of up to 11 million passengers per year who will want to use our airport by 2035. This demand could be met with 151,000 ATMs (146,000 scheduled, 5,000 business jet) – some 20,000 movements per year less than previously forecast in our 2006 master plan.

Central to us meeting this demand, and very much in keeping with Government policy, is to make best use of our existing runway and infrastructure. This draft master plan does not include proposals for a new runway, to extend the length of our existing runway or to significantly expand our existing site boundary. Instead it shows how we can respond to and meet demand by making limited changes to our existing airfield to help pave the way for more of the quieter, cleaner new generation aircraft. These new generation aircraft are up to 17% more fuel efficient than current models and coupled with more seats, this means carbon emissions per passenger mile flown are lower than with existing and previous generation aircraft.

It also shows how we are meeting the challenges set out in the Government's draft 2050 Aviation Strategy by demonstrating our commitment to further enhancing public transport to the airport, embracing innovation, creating jobs, keeping London connected and doing all of this sustainably.

We currently operate within a set of strict and comprehensive noise and environmental controls. These include a noise contour area limit, steep approaches and a noise quota count system – the only one used in the UK to control daytime noise. Our plans will ensure continued operation within these controls, particularly our noise contour area limit which we will also seek to reduce over time. We believe it is also important to maintain an 8-hour night ban on flights as we understand the importance of respite to our local residents and those living under our flight paths.

Given the growth and changes in the market that we have seen and expect to see, we also believe there is merit in exploring potential adjustments to the hours we operate. These include, for instance, allowing more flexibility on the number of flights in the first half hour of permitted operations and for delayed take offs or arrivals in the last half hour of permitted operations. We also believe there is merit in considering adjustments to restrictions at weekends to allow airlines respond to demand for more flexible flight times.



These adjustments would help accelerate airlines' plans to invest in more of the quieter, cleaner and new generation aircraft. They will also ensure continued operation within our existing noise contour area limit and help us to reduce the contour area and number of people that could otherwise fall within it over the forecast period to 2035.

Subject to meeting the forecast demand and adjusting how we operate, we estimate that the social and economic benefits by 2035 would include an increase of 2,500⁵ jobs locally compared to today. When the wider economic benefit to tourism and trade is considered, our overall economic contribution is expected to increase to over £2 billion per year.

Growing sustainably and responsibly

As we adapt to meet demand from both business and leisure passengers to 2035, we have a number of priorities and principles to ensure we grow sustainably and responsibly. These include:

Jobs and community

- to create more job opportunities for our local community by working collaboratively with the London Borough of Newham and our partners to increase local new recruits;
- to create more opportunities across our supply chain for local businesses to thrive.

Make best use of our runway

- to make best use of our existing runway and infrastructure by making modest changes to our site and avoiding any significant extension of our boundary;
- to further improve passenger experience, choice and accessibility for all users of the airport.

Connectivity

- to be an inclusive airport serving business and leisure passengers alike while maintaining our reputation for speedy, efficient and friendly service, with the best onward connections to central London through the DLR;
- to seek to retain and improve our position as the UK's best performing airport for public and sustainable transport use.

Noise

- to maintain our commitment that we will never operate throughout the night and that no aircraft that are noisier than those currently allowed to fly will do so in the future;
- to grow within our current noise contour area limit and seek to reduce the area and number of people that would otherwise fall within the contour;
- to make further improvements to our Sound Insulation scheme, which already has the current joint lowest daytime threshold in the UK.

Carbon emissions

- to continue putting sustainability at the heart of our operations and to work with partners to achieve and exceed industry standards on carbon emissions;
- to achieve carbon neutrality by 2020;
- to achieve net zero carbon emissions by 2050, consistent with the emerging commitments from governments and industry around the world.

Air quality

- to play our part in managing London's air quality and encourage our partners to do the same;
- to embrace and encourage access to the airport by more sustainable transport modes.

⁵ Full Time Equivalent

How to respond

This draft master plan is subject to public consultation for a period of 12 weeks from 28 June to 20 September 2019. Your views are important and will be taken into account before we finalise and publish the master plan towards the end of 2019.

There are five consultation events taking place in Newham, Tower Hamlets, Greenwich and the City of London. Please join us to view the proposals in more detail, meet members of the expert project team face to face, ask questions, and provide formal feedback. The dates and locations are:

- Broadwater Village Hall, West Thamesmead, Greenwich (Tuesday 9th July – 3.30pm until 7.30pm)
- Canning Town Library, Newham (Wednesday 10th July – 4.30pm until 7.30pm)
- The City Centre, 80 Basinghall Street, City of London (Tuesday 10th September – 12.00 until 7.30pm)
- Southern Grove Community Centre, Tower Hamlets (Thursday 12th September – 3.30pm until 7.30pm)
- Royal Docks Learning and Activity Centre, Newham (Saturday 14th September – 10.00am until 4.00pm)

Consultation respondents can also share their thoughts via:

- 🌐 www.londoncityairport.com/consultation
- ✉ consultation@londoncityairport.com
- ✉ Freepost LCY Master Plan Consultation

We want to hear from you

We would welcome your feedback on the following questions:

1

The draft master plan proposals outlined in section 4 prioritise making best use of our existing runway in accordance with Government policy. Do you agree that we have sought to do this in the most appropriate way?

- Strongly agree
- Agree
- Neither agree or disagree
- Disagree
- Strongly disagree
- Don't know

Do you have any suggestions about how the existing infrastructure could be better utilised or what additional facilities should be provided?

2

Do you agree that growth over the master plan period should only be accommodated within the existing aircraft noise contour limit and that the airport should seek to reduce the area of the contour over time by adapting infrastructure to accommodate more of the quieter, cleaner new generation aircraft?

- Strongly agree
- Agree
- Neither agree or disagree
- Disagree
- Strongly disagree
- Don't know

3

Do you support our aspirations in section 4 to further increase employment at the airport, especially for local residents, and invest more in local business and community initiatives?

- Strongly support
- Support
- Neither support or oppose
- Oppose
- Strongly oppose
- Don't know

Do you have any other suggestions on how we could support more local jobs?

4

Subject to addressing environmental issues, would you support the principle of more flexibility on the number of flights during the first and last half hours of operations during weekdays if it was important to meet passenger demand, improve connections and help accelerate investment in more of the quieter, cleaner, new generation aircraft? This would not affect our commitment to an 8-hour night time curfew on all flights.

- Strongly support
- Support
- Neither support or oppose
- Oppose
- Strongly oppose
- Don't know

**5**

Subject to addressing environmental issues, would you support the principle of more flexible flight times at the weekend if it was important to meet passenger demand, improve connections and help accelerate investment in more of the quieter, cleaner, new generation aircraft?

- ☐ Strongly support
- ☐ Support
- ☐ Neither support or oppose
- ☐ Oppose
- ☐ Strongly oppose
- ☐ Don't know

6

Do you support the measures in sections 4 and 5 to manage and mitigate environmental issues over the duration of the master plan (e.g. noise, air quality, emissions, transport)?

- ☐ Strongly support
- ☐ Support
- ☐ Neither support or oppose
- ☐ Oppose
- ☐ Strongly oppose
- ☐ Don't know

Do you have any suggestions on how we could improve these plans?

7

Overall, do you support the plans and measures to increase passenger and staff travel to and from the airport by public transport and sustainable means?

- ☐ Strongly support
- ☐ Support
- ☐ Neither support or oppose
- ☐ Oppose
- ☐ Strongly oppose
- ☐ Don't know

Do you have any suggestions on how we could improve local transport infrastructure and encourage more travel by public transport and sustainable means?

8

Overall, do you support the plans outlined in the draft master plan?

- ☐ Yes, I support the plans
- ☐ Yes, but I've got certain concerns
- ☐ No, I don't support the plans
- ☐ I don't have a view
- ☐ I don't know

Do you have any suggestions on how we could improve these plans?

9

Do you have any further comments on draft master plan?

1 Introduction

This section provides a brief summary of the growth of London City Airport since opening 1987. It goes on to give an overview of the existing airport site and operations as well as some of the local employment benefits and community initiatives. It also provides a brief update on the current £500 million investment programme to further improve our terminal and passenger facilities.

1.1 Our story so far

1.2 The airport site

1.3 Getting to and from the airport

1.4 Employment

1.5 Our community

1.6 Current airport operations and controls

1.7 Ongoing investment

1.1

Our story so far

A thriving airport in the heart of London



Andrew Holt

London City Airport is located in London's Royal Docks approximately 6 miles east of the City of London, 2 miles east of Canary Wharf and 0.5 miles away from the ExCeL Exhibition and Conference Centre. The surrounding area includes a mix of residential, industrial and commercial uses. There is also a significant amount of planned development and regeneration around the Royal Docks and the surrounding area.

We opened in 1987 with a plan to connect the businesses in the City of London and the then, newly established Canary Wharf, with domestic and European markets. Since then the airport has grown progressively alongside East London and in 2018 handled 4.8 million passengers and around 80,000 flights, with services to 45 domestic and European destinations as well as the dedicated BA Business Class service to New York JFK via Shannon Airport, in Ireland.

As East London has grown, our catchment area has evolved beyond our traditional business passenger market. With a diverse selection of mainstream flag carrier airlines, who offer global hub connectivity as well as point-to-point services, we now have a more diverse passenger base with an equal split between passengers traveling for business and for leisure.

In 2016, a consortium made up of AIMCo, OMERS, Ontario Teachers' Pension Plan and Wren House Infrastructure Management purchased the airport. Collectively they have a portfolio of infrastructure investments across the United Kingdom and in the aviation industry internationally.⁶ The airport's owners are ethical, long-term investors not only in the airport, but also in the UK and its future.

We take great pride in offering an outstanding passenger experience. Our award winning, fast, efficient, train to plane proposition has played a key role in growing passenger numbers year on year. In 2019, we were awarded the Best Airport in Europe (2 to 5 million passengers) at the Airport Council International's Airport Service Quality (ASQ) awards as well the title of best airport in the world under 5 million passengers at the 2019 SKYTRAX awards.

⁶ Portfolio of airports in the UK and Europe include Birmingham Airport, Bristol Airport, Copenhagen Airport and Brussels Airport. Other UK investments include Thames Water, BBC Television Centre Development, Scotia Gas and Associated British Ports.

1.2

The airport site

An international airport in London's Royal Docks

Figure 1.1: London City Airport aerial image



The airport site illustrated in Figure 1.1 extends to approximately 60 hectares. It was constructed on the site of a disused shipping dock and the runway is situated on the strip of land between King George the Fifth (KGV) Dock and the Royal Albert Dock.

The existing runway has a declared Take-Off Run Available (TORA) length of 1,199 metres. It is used by aircraft taking off and landing in either an easterly (Runway 09) direction or westerly (Runway 27) direction depending on the wind direction. The total paved area extends to 1,508 metres.

The existing aircraft stands are located between the runway and terminal building and are serviced by the existing West and East Piers which adjoin the Terminal building. The airport currently has 18 operational stands for use by scheduled aircraft. Eleven of these date from the original airport in the 1980s and the most recent were built over King George V Dock in 2008. The four newer stands located on the East Apron can accommodate the largest aircraft currently operating at the airport, including the Airbus A318 and Airbus A220-100.

The existing terminal building has been reconfigured on several occasions and will be completely transformed as part of the City Airport Development Programme (CADP) which is described in section 1.7.

Our corporate aviation facility (known as the "Jet Centre") at the western end of the airfield (location 1 on Figure 1.2) handled almost 5,000 aircraft movements in 2018 and is used by smaller company/private owned or leased aircraft. It accounts for a small proportion of the total number of aircraft movements on an annual basis.

The airport also owns much of the land to the south of King George V Dock. In addition to the existing terminal forecourt areas, it is currently used for offices, engineering facilities and car parking.

We recently completed the construction of a digital air traffic control tower which is currently undergoing testing prior to becoming fully operational in 2020 (location 4 on Figure 1.2). It will be a global first, on this scale, using state-of-the-art HD cameras and sensors to provide a live feed with a 360° panoramic view of the airfield, along with sensory and operational data, which will be sent via super-fast secure fibre connections to a new National Air Traffic Services (NATS) control room in Swanwick, Hampshire.

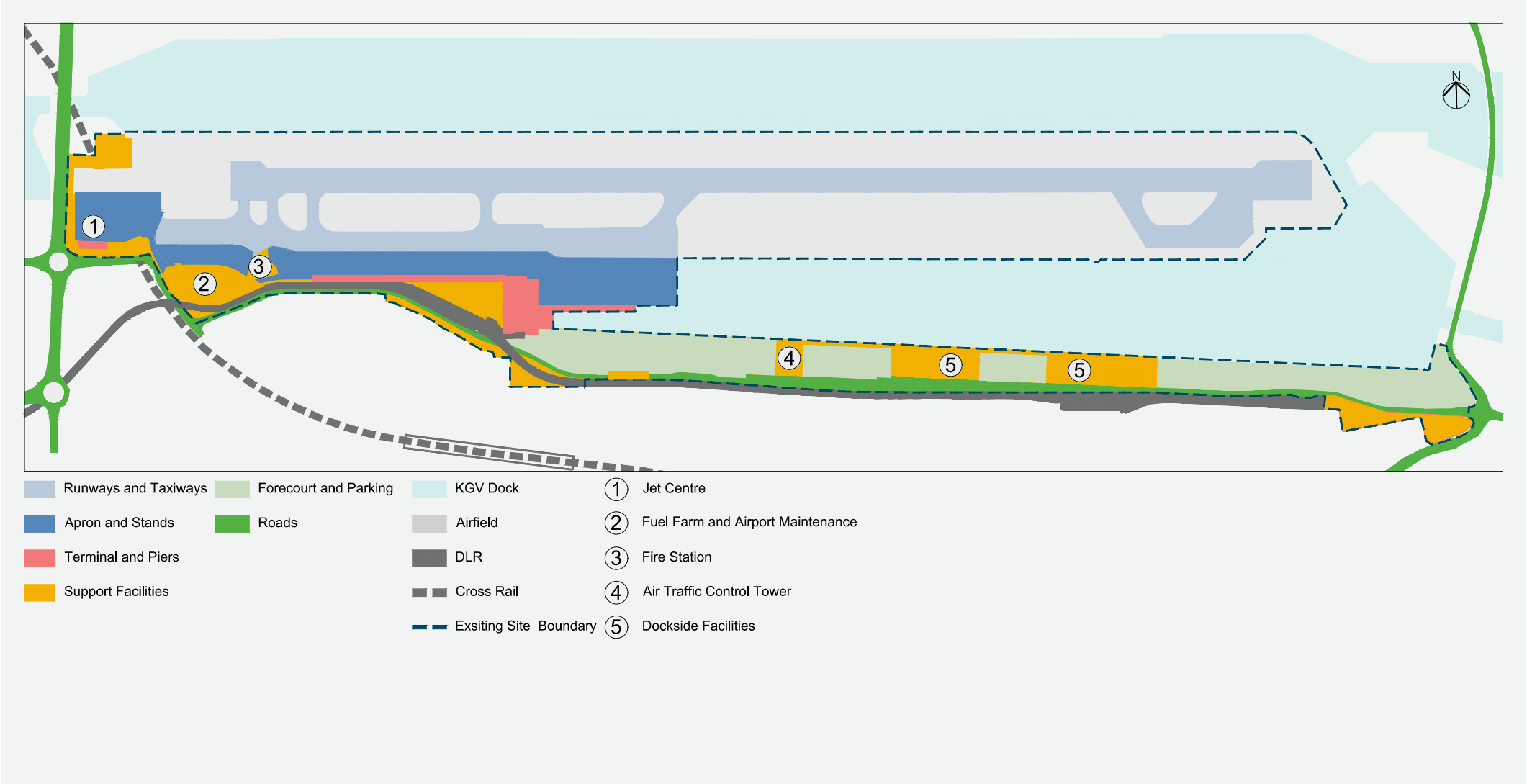
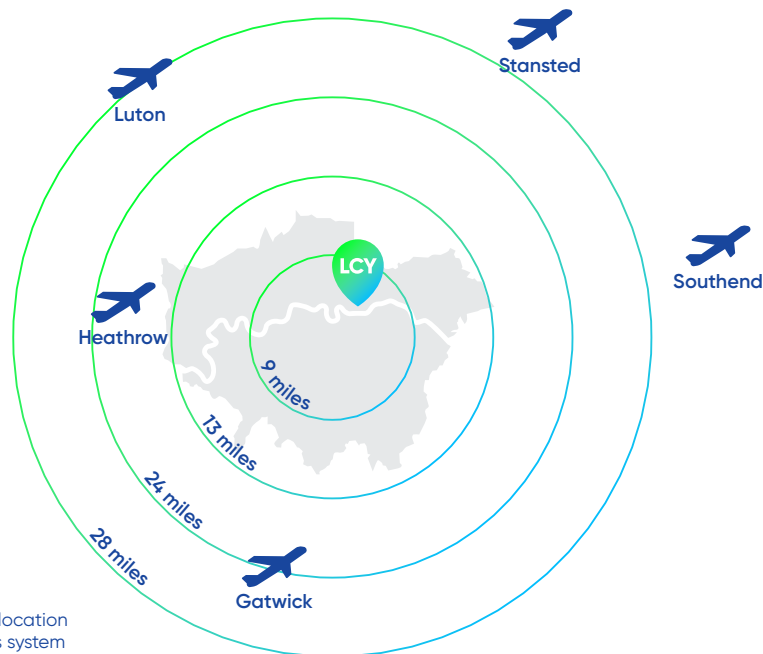


Figure 1.2: Existing Airport Plan

1.3 Getting to and from the airport

Highest public transport use of any UK airport



London City Airport's location
in the London airports system

Since the opening of the DLR at the airport in 2005, we have developed a reputation for offering a quick and reliable passenger experience with the highest public transport use amongst passengers of any UK airport at 69%.⁷ Our recently published Airport Surface Access Strategy sets ambitious targets to achieve 75% of passenger journeys by public and sustainable transport modes⁸ by 2025.

The DLR offers a high frequency service into central London (every 4 minutes at peak times), connecting with the wider tube and rail network. Passengers can get from the DLR to gate in 20 minutes and from aircraft to DLR in 15 minutes. This speedy, efficient and friendly service has been an important part of our proposition and will continue to be so.

We also benefit from two bus services, the 473, running every 10 to 15 minutes between North Woolwich and Stratford, and the 474, running 24 hours at a similar frequency between Canning Town and Manor Park.

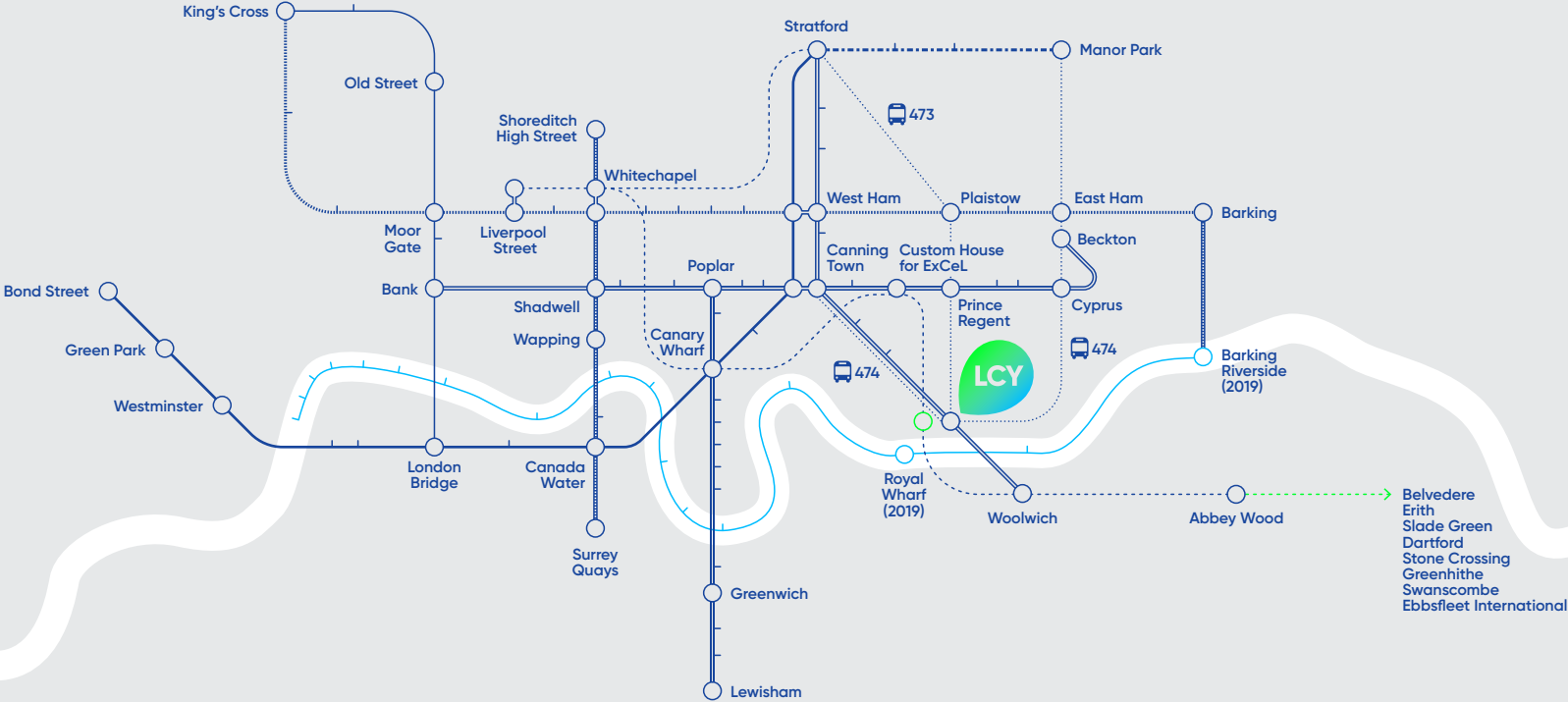
Almost 1 in 4 passengers arrive at the airport by taxi or private hire vehicles with numbers of passengers arriving by private car being the lowest of any London airport at around 12%.

⁷ Public transport usage in 2018 included 64% DLR, 4% black taxi and 1% bus.

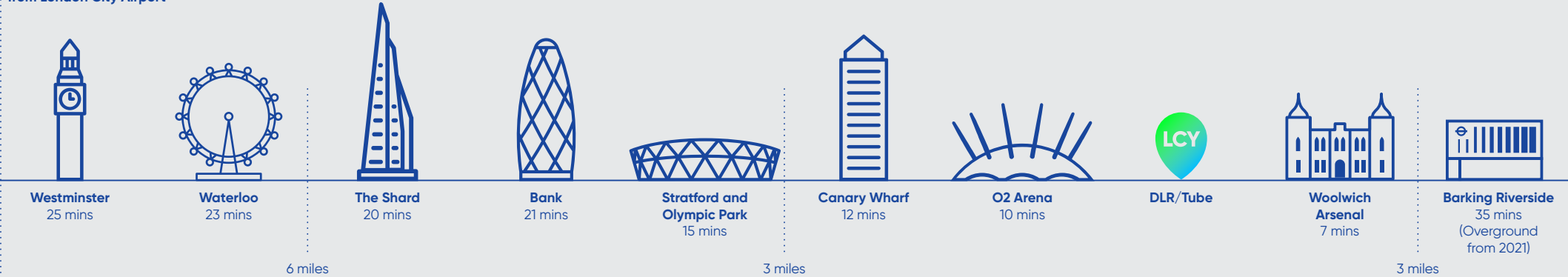
⁸ Public and sustainable transport mode targets include DLR, bus, walking and cycling. In real terms the 75% target will increase travel by public and sustainable modes by 10 percentage points compared to 2018 given the omission of black taxis from future targets – this aligns with the policies in the Mayor's Transport Strategy 2018



- Northern Line
- Docklands Light Railway (DLR)
- Jubilee Line
- Overground
- Hammersmith & City
- Elizabeth Line
- Bus Route
- TFL Line
- Thames Clippers
- Potential future
- Crossrail extension



Approximate travel times
from London City Airport





Our current priorities and initiatives for further improving how people get to and from the airport include:

- working with stakeholders including the Airport Transport Forum, LBN and Transport for London (TfL) to identify **opportunities for earlier DLR services to match staff shift patterns** and demand from early morning departing passengers;
- **contributing our fair share** to delivering additional rolling stock and capacity improvements on the DLR as part of our current £500 million CADP investment;
- **providing connections to Crossrail** when it begins to operate;
- **exploring potential for connecting with future planned river services;**
- working to ensure that our passengers and employees have the **access to the best and most up-to-date travel information and wayfinding**, in both digital and physical formats;
- collaborating with DLR and other stakeholders in terms of **inclusivity, considerate design and equal access** to ensure the airport is welcoming for all passengers and staff;
- actively **promoting healthier modes of transport such as cycling and walking**, in particular for our staff, by investing in new cycle and walking routes and infrastructure with LBN and TfL – this includes a new link from the airport to the proposed cycle and walking route for the Royal Docks; and
- recently launching a **lift share initiative to encourage our staff to use more sustainable methods of traveling to work to reduce congestion and reduce local emissions**; and
- **supporting improvements in air quality and lower carbon emissions**, we will be providing 50 parking spaces with electric charging facilities as part of CADP including rapid charging for black taxis.

1.4 Employment

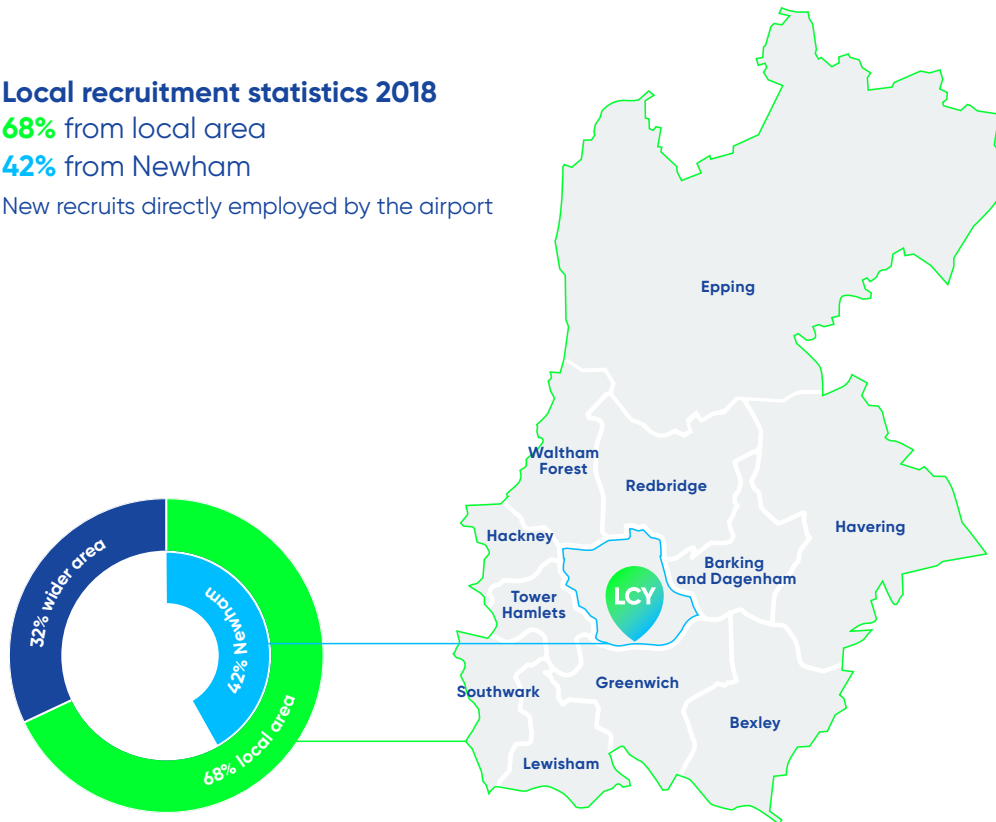
Creating job opportunities for East Londoners

Local recruitment statistics 2018

68% from local area

42% from Newham

New recruits directly employed by the airport



As a London Living Wage employer, we pride ourselves on creating opportunities for local people. Local people make our airport more resilient and help us reflect the energy, vibrancy and diversity of our local area when welcoming people from around the world. We are one of the biggest private sector employers in the London Borough of Newham (LBN) with over 2,200 people employed onsite in 2018. 65% of staff employed onsite live in the local area. In 2018, 42% of employees recruited by London City Airport were from Newham. These figures exclude construction jobs which peaked at 800 in 2018.

To date, through our award-winning Take Off Into Work employment scheme⁹, over 750 residents gained employment at the airport in departments such as Security, Customer Services, Ramp Services, Retail and Finance since its establishment in 2009.

Since 2016, nearly 10,000 young people have participated in our educational programmes including visits to the airport to learn about our operations and future careers in Science, Technology Engineering and Maths, in so doing addressing the rising skills shortage in this area.¹⁰

⁹ The Take off Into Work scheme, established in 2009, is a partnership between the airport and Newham Workplace, London Borough of Newham's recruitment agency. The scheme provides Newham residents over the age of 18 with a variety of training, work experience and access to onsite jobs at the airport.

¹⁰ CBI & Pearson 2018 – Educating for the Modern World



1.5

Our community

Proud to be part of
the fabric of Newham
and East London

The airport believes in transparent, regular engagement with our local communities. We want residents to be engaged and informed. That's why we host regular events and meetings across the local area, publish a quarterly community magazine for 9,000 residents as well as work with our consultative committee and committee sub-groups on community and environmental issues.

We have a long-standing partnership with Richard House Children's Hospice for which the airport staff have generated nearly £1 million. Over the past three years, our staff have participated in volunteering activities across eight East London boroughs focused on wellbeing, equality and biodiversity, investing over 5,500 hours of their time. As part of the current investment programme the airport is spending over £7 million on education, employment and community investment initiatives in the local area. A summary of our most significant initiatives are included below.

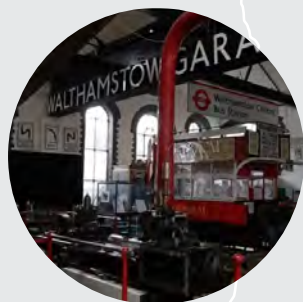


Investing in the people of East London



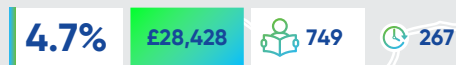
Newham

Newham's SMEs participated in the inaugural 'Royal Docks Meet the Buyer' event with over 130 East London businesses participating resulting in a £1.1 million in contract value win.



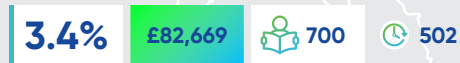
Waltham Forest

The airport is encouraging its visitors to discover East London's culture hotspots through the creation of a video series with the Londonist: 'Beyond Zone 1', featuring Waltham Forest as the London Borough of Culture 2019.



Tower Hamlets

80 residents from Tower Hamlets received employability training and 50% were offered a job through the collaboration between the airport and the council supporting Workpath's overall achievement of 5,000 residents into employment in 2018.



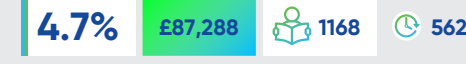
Redbridge

Wanstead High School pupils won the 'Women in Aviation' 2019 challenge, joining 300 female students from 10 different East London schools to hear more about the opportunities in the aviation industry.



Barking and Dagenham

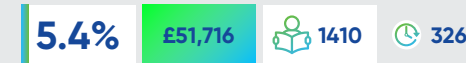
Barking Abbey School pupils won the airport's third annual STEM in Aviation Day in 2018, joining 400 East London secondary pupils from 25 different schools to experience STEM subjects in the Aviation industry.



Greenwich

600 secondary students increased their confidence and learned skills for future employment through participation in the 'Runway to Success' education programme initiated by the airport in collaboration with the Royal Borough of Greenwich.

METRO, a leading equality and diversity charity specialising in providing health, community and youth services, was supported by the airport by helping to raise their profile through the sponsorship of their float at London Pride.



Key:



*Investment in addition to current planning commitments and obligation



Case studies

STEM in Aviation event

The aviation industry is seeing a rising demand for Science, Technology, Engineering and Maths (STEM) skills. Our 'STEM in Aviation Event' aims to tackle this rising skills shortage by inspiring 400 East London Students from 25 different schools. In 2018, the Aviation Minister Baroness Sugg joined the event along with representatives from the sector including London City Airport, British Airways, NATS, Accenture, Bechtel, BAM Nuttall and the Emirates Aviation Experience.

The students experienced the variety of ways that STEM can be applied in the workplace, including use of voice recognition, machine learning, artificial intelligence and virtual reality. The event proved hugely successful with 3 in 4 saying they gained a better knowledge of STEM related careers in the aviation industry and almost half considering future opportunities to work in the aviation industry.



Women in Aviation Programme

To attract the next generation of female aviation leaders on the airport's doorstep, the 2019 Women in Aviation programme brought together 300 female East London pupils to encourage them to consider a career in the industry. The initiative helped challenge historic gender associations for certain roles and historical stereotypes.



Royal Docks Meet the Buyer event

Our aim is to be a catalyst of local economic growth by supporting local businesses to thrive. Our 'Royal Docks Meet the Buyer event', gives East London's Small and Medium Enterprises (SMEs) a unique opportunity to create ongoing relationships with buyers in London's Royal Docks and beyond. The inaugural event in 2018 was very successful and brought together 132 local SMEs with £1.1 million of business transactions. The event builds on our existing supply chain record, which equates to a £9 million spend annually with East London businesses.

Community Fund

We support local charities and community organisations that represent the inclusive and diverse communities across East London through our new £75,000 Community Fund. The fund will support organisations to create positive change for communities near to the airport or underneath our flight paths. It is linked to our new Incentives and Penalties Scheme which charges airlines financial penalties when aircraft are noisy on take-off. The penalties are added to the fund. Grants will be given to not-for-profit organisations such as social enterprises, schools, charities and community groups and will be distributed annually. The fund builds upon the success of our 30th anniversary fund from which 15 recipients located in East London received grants ranging from £300 – £3,000.

LONDON CITY AIRPORT
COMMUNITY
FUND



1.6 Current airport operations and controls

Managing and reducing the effects of our operations



Our current operating hours include an 8-hour night time curfew on all flights between 22.30 to 06.30 and a 24-hour weekend closure between 12.30 on Saturday to 12.30 on Sunday. These were introduced in 1998. Flight numbers are also limited at weekends and bank holidays as well as in the first and last half hour of each day.

In terms of our main noise and operational controls, we have some of the most comprehensive of any airport in the UK. We are extremely conscious about managing and reducing impacts on our local community, those under our flight paths and on the environment. Each year we publish an annual report¹¹ documenting our performance and progress on meeting our operational and environmental targets. Some of these include:

- all aircraft must take a **steeper approach** with a glide slope of 5.5 degrees to reduce noise impacts on local communities under the arrival flight paths;
- operating within a noise quota count annual budget, which is based on the noise performance of individual aircraft types;
- operating within a **noise contour envelope area limit that is checked annually**. This envelope relates to the 57 dB L_{Aeq,16h} noise contour¹² and has an area limit of 9.1 km². These are supported by our Incentives and Penalties Scheme to encourage airlines to operate their aircraft more quietly;
- operating a **comprehensive Sound Insulation (SI) Scheme** for residential dwellings and public buildings. The scheme is tiered so that those closest to the airport receive a higher specification of insulation. The trigger for eligibility for treatment is currently the joint lowest of any UK airport. Further details are available in our 2018–2023 Noise Action Plan on our website;¹³
- carrying out **comprehensive air quality monitoring** onsite, including monitoring ambient air quality and sharing the results with the local authority. Near-real time data is available online¹⁴ and the findings are reported annually; and
- operating an Air Quality Management Strategy to help us further improve performance against the UK air quality objectives for all pollutants monitored – these are currently all within the relevant limits.

¹¹ The airports Annual Performance Report is published annually on the consultative committee website: www.lcacc.org

¹² Noise contours show areas affected by the air noise around airports. Similar to height contours on a map which show changes in ground levels over an area, the noise contours show areas where the noise is above a certain noise level. The contours depict average air noise levels over a 16-hour day, specifically determined from aircraft movements over the 3-month period from 16th June to 15th September.

¹³ <https://www.londoncityairport.com/corporate/noise-and-track-keeping-system/noise-action-plan>

¹⁴ monitoring.aqconsultants.co.uk/index.php/LCY

1.7 Ongoing investment

A £500 million transformation of our passenger facilities and airfield

Figure 1.3.1: View of new terminal and airfield following City Airport Development Programme



Works on CADP started in 2017 and are ongoing with significant infrastructure coming on stream for 2022. CADP will deliver a £500m transformation of the airport and a much-improved service while retaining the airport's modest size and speedy passenger service. Once complete an additional 1,600 jobs¹⁵ will be created in the local area, with ambitious targets to secure 70% of new jobs for local residents and 40% for Newham residents.

The CADP permission allows us to grow to 111,000 scheduled aircraft movements and 6.5 million passengers annually.

The existing terminal building is to be extended and comprehensively updated. An extension to the east of the existing building will provide new check-in, baggage handling facilities, commercial areas and a departure lounge. The existing terminal building will be updated and reconfigured to accommodate a mixture of improved processing facilities for departing and arriving passengers. A new pier connected to the terminal building will be developed to the east to provide access to new gates and associated seating areas.

¹⁵ Full Time Equivalent compared to 2014 baseline

Figure 1.3.2: Escalator leading to Departures area in new terminal



Figure 1.3.3: Entrance to new terminal



The CADP scheme will deliver eight additional Code C stands on a deck to the east of the existing apron over King George V Dock. The proposed stands will allow new generation aircraft to park in a nose-in configuration to minimise land take and will be fitted with modern aircraft handling equipment including fixed electrical ground power (FEGP). The new stands will be connected to the existing runway by a new eastern parallel taxi-lane to the south of the runway, running from west to east. This will allow for the more efficient use of the runway particularly during peak periods and deliver up to 45 movements per hour from 25 stands in total.¹⁶

The terminal forecourt areas will be reconfigured and expanded in front and to the east of the terminal to accommodate buses, private car, taxi drop-off and pick-up (location 4 on Figure 1.4). A new hotel building is also included in the CADP scheme located close to the terminal for passenger convenience (location 5 on Figure 1.4).

A decked car park is also proposed (location 7 on Figure 1.4). This has been safeguarded to allow future flexibility to adapt the infrastructure and consolidate onsite parking into a single multi storey structure, with provision for electric charging and zero emissions vehicles. This is explained further in section 4.

¹⁶ The airport currently operates 18 stands, following completion of CADP one temporary stand at the Jet Centre will be decommissioned to leave 25 in total.

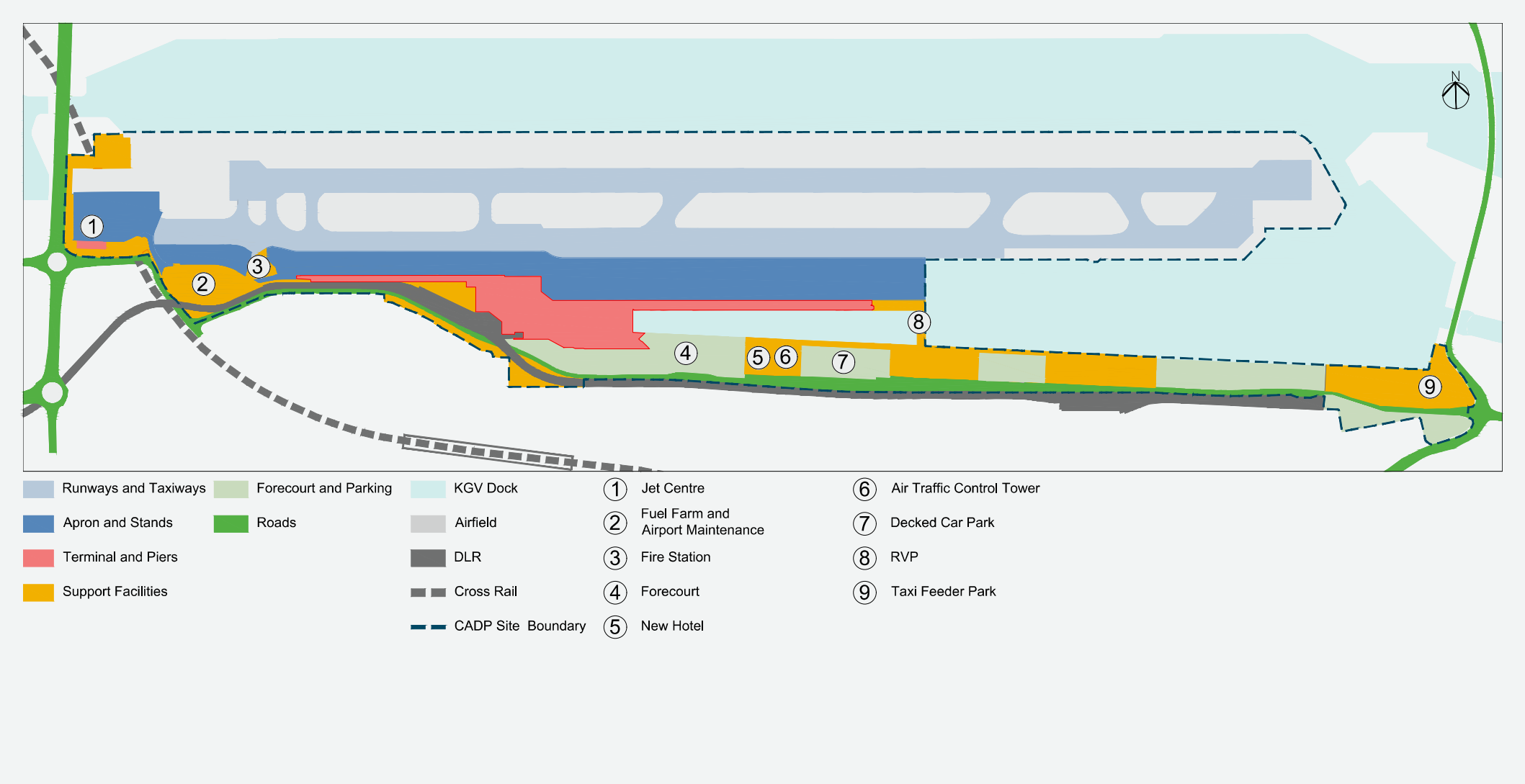


Figure 1.4: Site Plan following completion of CADP

2 Context

This section gives some background and context on the previous 2006 master plan and presents the emerging population growth, particularly in East London and the demand for aviation in a constrained London market. It also comments on the other relevant considerations taken into account when preparing this draft including policy and airspace change.

2.1 2006 master plan

2.2 The growth of London

2.3 Demand for aviation

2.4 Constrained aviation infrastructure

2.5 Airspace modernisation

2.6 Policy

2.1

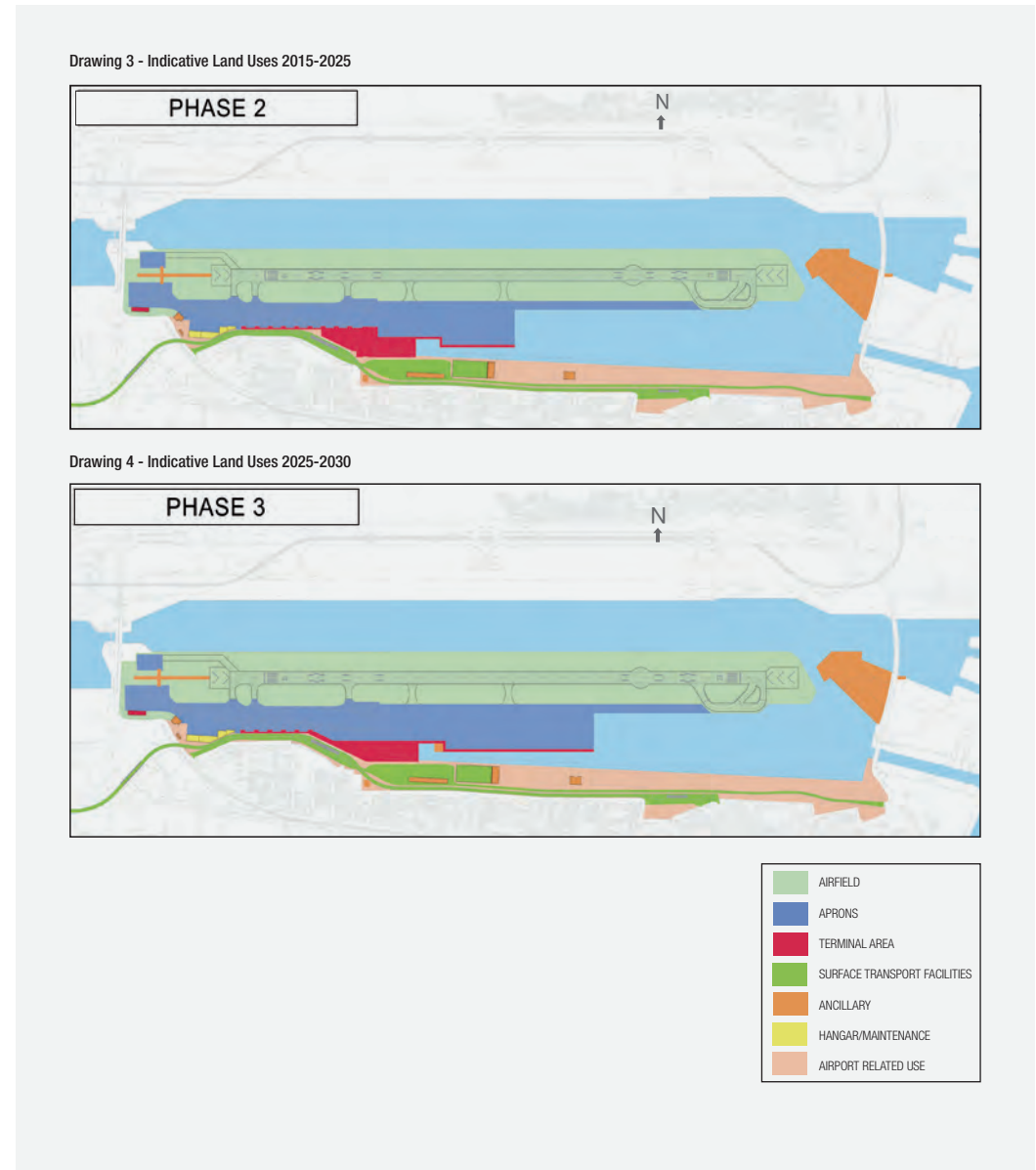
2006 master plan

The airport's current master plan was published in November 2006. At that time the airport handled 2.5 million passengers per year and it was expected that growth would occur at 9% per annum up to 2010 and by 6% per annum beyond that to 2030. The 2006 master plan has broadly informed development at the airport since it was published.

Three phases of development were shown to allow the airport to accommodate 3.5 million passengers by 2015 (Phase 1), 6 million passengers by 2025 (Phase 2) and 8 million passengers by 2030 (Phase 3). As shown in Figure 2.1 below the diagrams in the document show the progressive expansion of the terminal and stands building out over KGV Dock eastwards in a phased manner after 2015.

The accompanying forecasts anticipated reaching 143,000 ATMs and 27,600 business jet movements by 2030 (total 170,600 ATMs). CADP, once complete, will have broadly delivered Phase 2 of 2006 master plan. We now feel it is appropriate to update Phase 3 based on the time elapsed, changes to Government policy and emerging demand and to look ahead beyond the current timescale covered by the 2006 master plan.

Figure 2.1: Extract of London City Airport Master Plan 2006 – Phases 2 and 3

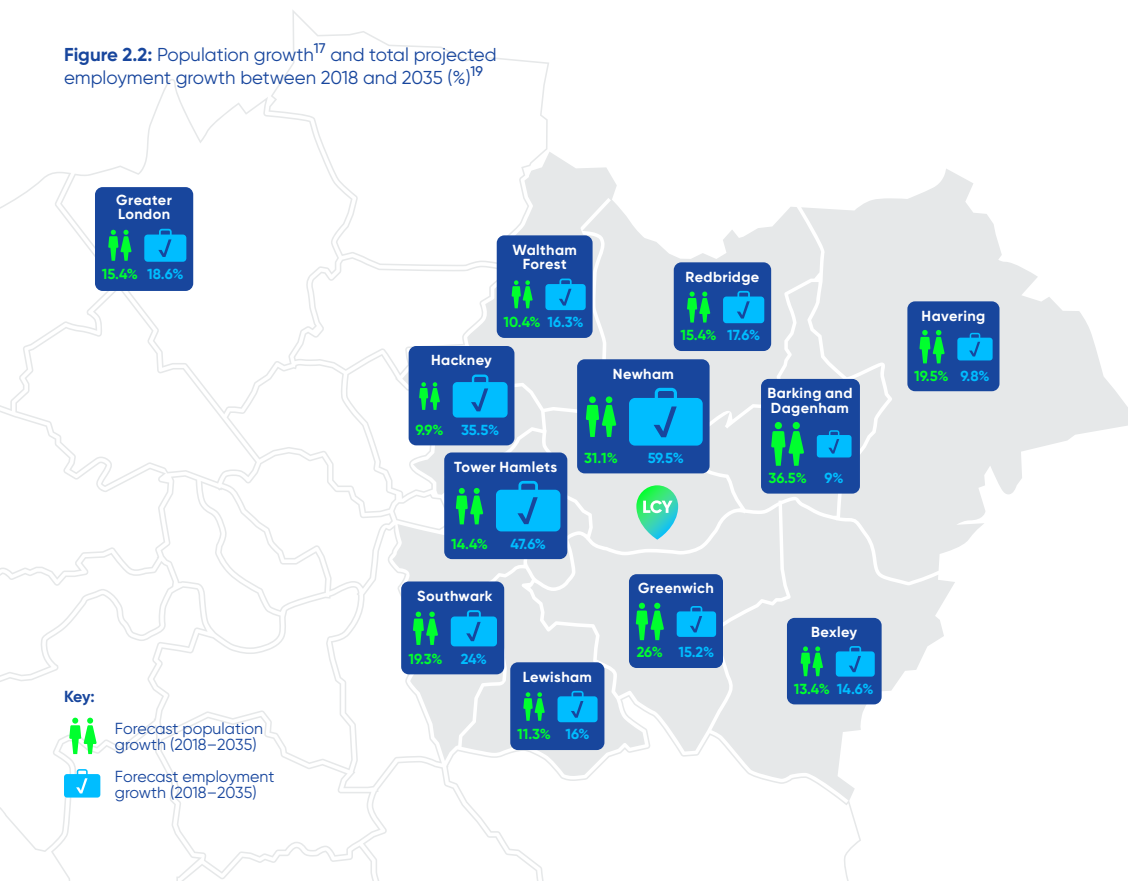


2.2

The growth of London

The world's best city is fast-changing

Figure 2.2: Population growth¹⁷ and total projected employment growth between 2018 and 2035 (%)¹⁹



Currently, there are over 8 million Londoners and the population is projected to grow to just under 10 million by 2025, larger than at any time in the city's history. The Greater London Authority (GLA) projects an increase to 10.4 million by 2035.

Strong growth is projected specifically in East London, showing that the centre of gravity of population and economic growth is gradually moving east. The population in Newham, where the airport is located, is expected to grow by 31%, equivalent to over 100,000 people by 2035.

Employment forecasts to 2035 also paint a picture of a rapidly expanding East London. As the GLA's projected employment estimates show in the table below, the boroughs in the east of London demonstrate strong rates of total employment growth between 2018 and 2035. When looking at the five boroughs with the fastest growing total employment in the Greater London, three boroughs are concentrated around the airport (Newham, Tower Hamlets and Hackney) and one borough (Southwark) is in the South East.¹⁸

With foundations laid by the successes of Canary Wharf, the Olympic Park and our own operations at London City Airport, London's gravity is moving eastward. According to Savills, within 60 minutes of the airport there will be 4.1 million homes by 2026, 6.7 million jobs by 2041 and a 21% population increase to 10.7 million people by 2039.²⁰ In Newham, office space is set to increase quicker than any other borough in the capital. Employment at Canary Wharf currently provides 120,000 jobs²¹, and is expected to double in the next 20 years.²² Overall, strong growth in office space and housing is expected, making this part of London an increasingly attractive place for businesses and individuals to move to.

Being uniquely located in the heart of East London, the airport has significant potential to serve demand and provide jobs as well as improving connectivity to domestic, European and global markets.

¹⁷ GLA 2017, Central Trend (population) London.

²⁰ Savills, 2018, London City Airport – Growth and Prospects in East London.

¹⁸ GLA 2017, Central Trend (population) London.

²¹ <https://group.canarywharf.com/media/press-releases/canary-wharf-catalyst-for-30-years-of-growth-in-tower-hamlets-080218/>

¹⁹ GLA 2017, Labour Market Projections 2017 <https://www.london.gov.uk/business-and-economy-publications/london-labour-market-projections-2017>

²² (Canary Wharf Group PLC, n.d.)

Selected regeneration schemes near the airport



5 Greenwich Peninsula²⁷

A £8.4 billion revamp of 150 acres of former industrial land and gasworks around the O2, opposite the financial district of Canary Wharf has planning consent to build 15,720 homes in seven neighbourhoods, along with a new design district, film studio, two schools, health services, shops and offices. It is built as the biggest regeneration project by a single developer in the UK and is expected to be completed by 2032.

Time from airport:
15 mins (DLR / Jubilee line)



6 Asian Business Park (ABP)

Part of the Royal Docks Enterprise Zone, ABP is creating a brand new waterside development and dynamic commercial district. It will transform Royal Albert Dock into London's third business and financial district, becoming a hub for businesses from Asia looking to reach new markets in Europe and for European companies seeking to do business with them and expand into the Far East. The 4.7 million sq ft development comprises mainly offices, with residential, retail and public realm

Time from the airport:
10 mins (cycle)
5 mins (bus)
19 mins (walk)



7 Thameside West

Thameside West is a riverside development on one of the largest brownfield sites in London that will play host to more than 5,000 new homes, multiple new retail spaces, a new school, a new nursery, spaces for creative industries as well as a new London parkland. There are also plans for a new Thames Wharf DLR station.

Time from the airport:
10 mins (DLR and walk)
8 mins (cycle)



8 Barking Riverside

Located along the banks of the River Thames, covering 443 acres, Barking Riverside will include 10,800 new homes of mixed size and style. There is also provision for 65,000 square metres of commercial floor space for shopping, restaurants, cafés, community and leisure facilities, healthcare and schools. There are also plans for large open spaces, public squares and a brand new rail station with bus and river transport interchange providing excellent links to central London.

Time from the airport:
25–30 mins (DLR / tube / Overground)
35 mins est. (DLR / river)



1 Canada Water²³

Plans for a large 53-acre regeneration of Canada Water – which include a new high street, town centre and leisure centre – have been submitted to the council. The Canada Water master plan would deliver up to 3,000 homes as well as workspace and retail, leisure, entertainment and community space.

Time from the airport:
15 mins (DLR / Jubilee line)



2 Canning Town and Custom House²⁴

Work is well underway for a £3.7 billion project in Canning Town and Custom House. By 2018 the programme had delivered over 2,200 new private and affordable homes. Developers are currently on site building another 1,200 new homes. By the end of the regeneration programme, around 12,000 new homes will have been built.

Time from the airport:
9 mins (DLR)
12 mins (bus)
9 mins (cycle)
29 mins (walk)



3 Silvertown Quays²⁵

The £3.5 billion regeneration of Silvertown in the West Ham area of Newham, is currently being implemented. The 62-acre site centres around the restoration of the 1930s Millennium Mills. Once completed, the major development will provide 3,000 homes including affordable housing, offices, a school, health centre, retail facilities and a new Roundhouse music venue. Residents are expected to move in by 2020.

Time from the airport:
4 mins (cycle)
7 mins (walk)



4 North Woolwich²⁶

A series of proposed developments on the banks of the River Thames at Woolwich will bring a set of historic buildings back into use to house cultural organisations and industries. Royal Arsenal Riverside will deliver nearly 5,000 new homes, as well as a hotel, office and retail space and a community centre. The redevelopment of Spray Street will include over 650 new homes, restaurants, offices, shops, cafes, leisure facilities such as a cinema, and new and improved public spaces. Other mixed-use redevelopment projects include Thomas Street and the Woolwich Estates.

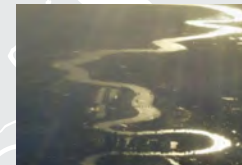
Time from the airport:
15 mins (DLR)
16 mins (cycle)
30 mins (walk)



9 Royal Wharf

Royal Wharf will comprise of 3,385 residential sites on a prime riverside location, incorporating a communal square, high street, 2.4 acre park and a riverside promenade. The development will be served by Royal Wharf Pier – a brand new riverboat terminal in collaboration with MBNA Thames Clipper, providing river connections to central London.

Time from the airport:
6 mins (DLR and walk)
7 mins (cycle)



10 Thames Estuary

In 2016, The Thames Estuary Commission was formed to develop a 2050 vision for the area focusing on five productive places. One of these places, referenced as 'City Ribbon' corresponds to the catchment area of the airport. The vision aspires to convert this area into a hub for production with spaces for start-ups and small and medium sized businesses, for example through the creation of creative enterprise zones and strategic transport infrastructure projects. Within the vision, the airport is recognised as a significant strategic asset providing employment and international connectivity. In March 2019, the Government's response to the commission gave commitments to support and deliver growth in the Estuary.



11 Stratford, Newham

An area of London that has transformed in the past decade, with new developments, including Queen Elizabeth Olympic Park and East Village and major schemes along the High Street such as Strand East (1,200 new homes, 58,000 sqm of workspaces, and a 350 room hotel), The University of East London and Birkbeck at University Square (8,600 sqm), the redevelopment of the Carpenters Estate (3,000 new homes and 20,000sqm of commercial space) and Stratford Island sites (1,500 new homes).

Time from the airport:
14 mins (DLR)
36 mins (bus)

²³ (Canada Water Masterplan, 2018)

²⁴ (Newham Council, 2018)

²⁵ (Lend Lease, 2018)

²⁶ (Royal Borough of Greenwich, 2019)

²⁷ (Homes & Property UK, 2017)

2.3 Demand for aviation

Record demand for domestic and EU travel



Department for Transport (DfT) demand forecasts show that in an unconstrained market, the demand for air travel in the UK could grow from close to 270 million passengers in 2016 to 355 million by 2030 and 420 million by 2040²⁸. However, the DfT's forecasts also show a significant level of constraint to achieving these forecasts based on airport capacity. In the unconstrained forecasts, demand for air travel to and from London is expected to grow faster than the UK regions, but it is London and the South East in particular that will suffer the greatest level of constraint if new capacity is not added.

As befits a major global city, the economy of London is very diverse – estimates from the Office of National Statistics (ONS) show that the professional services, real estate, scientific and technical sectors make up the largest component of employment in the city²⁹, but are followed by sectors such as administrative and support services, information and communication and finance and insurance. The Mayor's economic plan points to target growth sectors as including financial and business services, manufacturing, life sciences and the technology and digital sector.³⁰ These sectors are among the largest generators of air travel demand to and from London and will underpin continued growth in air services due to their global nature.

355 million
UK passengers
by 2030
420 million
UK passengers
by 2040

DfT forecasts for London airports

Tourism also plays a major role in the London economy, being one of the most visited cities globally. The sector is again recognised by the Mayor's economic plan as a key sector for growth, with the tourism strategy aimed at increasing visitor numbers by almost 30% by 2025. However, this will only be achievable over the long term if new capacity at airports is made available. The DfT's constrained forecasts show that it is leisure passengers that will be squeezed out of the market by airport constraint. Such constraints will impact both inbound and outbound leisure passengers.

Given its position at the heart of East London, growth at the airport could make a significant contribution to alleviating some of these constraints and supporting business and tourism.

²⁸ UK Aviation Forecasts, October 2017, Department for Transport, Central Case

³⁰ The Mayor's Economic Development Strategy for London, December 2018, Mayor of London

²⁹ Summary of Employee Jobs by Broad Industry Sector in London, 2009 to 2017, Office for National Statistics

Domestic

London City Airport plays an important role in supporting domestic air connectivity to London and the UK regions, handling nearly 1.1 million domestic passengers in 2018. This represents around 23% of all passengers using the airport, a higher proportion than seen at any other London airport. Of our domestic passengers 97% are destined for London, with the proportion making onward connections the lowest figure seen at any London airport. This highlights the role the airport has in supporting direct routes between London and the regions.

In this respect, the airport plays a key role in offering good quality links to domestic points where road and rail alternatives are likely to be significantly slower. Services to Edinburgh and Belfast serve the financial services sector, while Glasgow provides a key link for media and creative industries as well as manufacturing. The high frequency of services are attractive to inbound tourists from across the UK to London, as well as serving the needs of the population around the airport, providing easy access to visit friends and relatives.

We also provide high quality links to the Crown Dependencies of Jersey and the Isle of Man, contributing to the economic vitality of these islands. Currently around 100,000 domestic passengers fly on services to the Channel Islands and Isle of Man.

Domestic passenger numbers are expected to continue to increase as the airport grows. By 2035 we forecast that demand for domestic air travel could be up to 3 million (over 25%) per annum.

**1.1m domestic passengers today
forecast 3 million domestic passengers by 2035**



European

Our network extends to provide connectivity to some of the most important business centres across Europe, including Zurich, Frankfurt, Amsterdam and Milan. High frequencies of service and attractive flight times make these links critical to supporting efficient business in London, increasing the ease and attractiveness of doing business with companies in the City.

New services have been launched to hub airports including Lisbon and Warsaw with major EU flag carriers. High frequencies of services to these points minimises the connection times between flights, and better supports business efficiency and leisure passenger convenience.

Many of the European destinations also generate high levels of inbound tourism and support the local population's demand for leisure travel. In 2018 over 3.7 million passengers flew between London City Airport and Europe, and it is forecast that demand will increase to around 8 million by 2035.

The airport also provides good connections across the globe through major hubs such as Amsterdam, Dublin and Frankfurt.

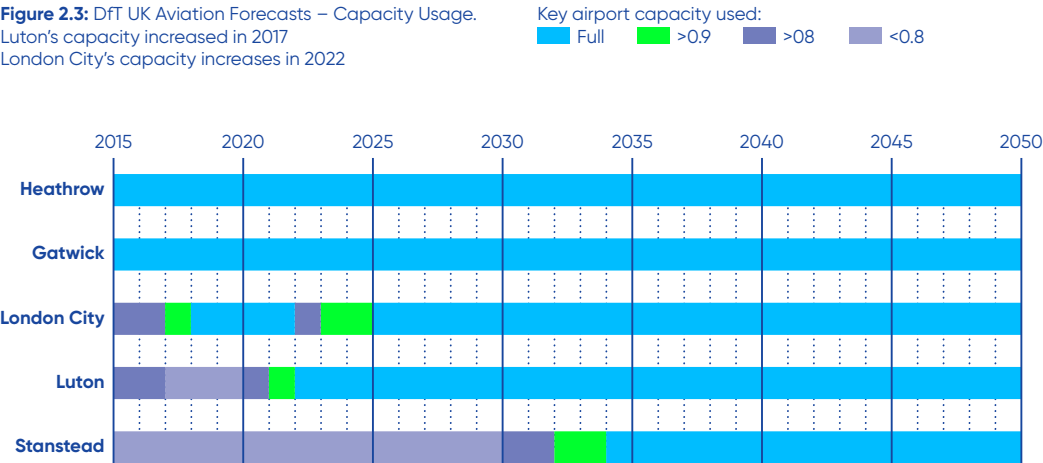
Forecast demand of up to 8 million passengers between London City Airport and Europe by 2035



2.4 Constrained aviation infrastructure and operations

London’s air travel market is approaching capacity

Figure 2.3: DfT UK Aviation Forecasts – Capacity Usage.
Luton’s capacity increased in 2017
London City’s capacity increases in 2022



The London air travel market is served by 5 main airports: London City Airport; London Heathrow; London Gatwick; London Luton and London Stansted. Currently, there is little spare capacity at peak times across these airports. The Airports National Policy Statement³¹ indicates that the whole London airport system is forecast to be full by the mid-2030s if additional capacity is not provided as illustrated in the chart below, taken from DfT’s UK Aviation Forecasts 2017.

Today, we account for around 2.7% of London’s airport capacity. We expect our current annual passenger limit of 6.5 million and annual movement limit of 111,000 ATMs to be reached in 2022, slightly earlier than our previous forecasts suggested. This growth is in part a reflection of the opportunities offered by the quieter, cleaner, new generation aircraft (that are already starting to be used) and the increasing base of demand in the airport’s local catchment area and London generally. If we are to respond to the significant demand from both business and leisure passengers beyond 2022 the current limits will need to be changed.

We are not alone in considering how we can expand to meet the future need for air travel. London Heathrow is pursuing a third runway, in line with Government policy, which would be delivered in the mid-to-late 2020s. London Gatwick has produced its master plan to grow to between 57-70 million passengers per annum by the mid-2030s and London Luton has confirmed its intent to grow to 32 million passengers per annum by the late 2030s. These sit alongside the recent permission granted to London Stansted to expand to 43 million passengers per annum.

However, these other airports are not best placed to meet the needs of business and leisure passengers in our unique and growing local market. Our master plan takes account of planned expansion elsewhere and seeks to ensure that we can continue to meet the needs of local passengers, by making best use of our existing runway. This allows us to make a small but important contribution to the London aviation market ahead of proposals for other larger aviation projects in the South East.

³¹ Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England, June 2018, Department for Transport

2.5 Airspace modernisation

Government-led process to improve UK airspace



Michael Tomas

The UK's airspace is an essential part of our national transport infrastructure, however, it is currently outdated and struggling to keep pace with growing demand, resulting in delays, unnecessary carbon emissions and flight paths that are not optimised to minimise noise. The Government has therefore made airspace modernisation a priority with the objective to deliver quicker, quieter and cleaner journeys with more capacity for the benefit of both passengers and communities. We are one of 15 airports that are part the Government led airspace modernisation programme called 'Our Future Skies'.

The Civil Aviation Authority, as the national supervisory authority for the planning and regulation of national airspace, has a responsibility to ensure that UK expansion is developed to meet demand and avoid the need for NATS to impose regular restrictions due to insufficient capacity.

The first step in this process occurred in 2016 when we underwent an airspace change to introduce modern navigation technology (RNAV1) along our flightpaths. This upgrade was mandated by the CAA and was implemented to improve the operational efficiency and safety of the airspace, minimise future delay and improve environmental performance. The changes resulted in 1.2 million people no longer being regularly overflown below 7,000ft, arrivals staying over the sea for longer and in a narrower path over land as well as departures climbing high quicker.

NATS are now developing airspace change proposals to modernise the airspace structure and route network above 7,000ft. All airports in the South East are key consultees in this process and are required to review arrival and departure routes to determine how best to connect with these high-altitude network changes. We are committed to working with NATS and all London airports to facilitate an integrated approach.

Separate to the consultation on this draft master plan, we will be engaging with stakeholders during summer 2019 to develop design principles under Stage 1 of the process in line with the CAA's guidance on airspace design (CAP1616). This engagement will include local councils, the GLA, relevant community and business groups and our Consultative Committee. We will also publish details of the engagement on our website. The CAA's guidance outlines the next stages of the process, including development of design options which will be subject to full public consultation in Q2 2021.

2.6 Policy

Making best use of existing runway and addressing environmental issues



This draft master plan has been informed by the national, regional and local planning and policy frameworks.

National

The Government's 2013 Aviation Policy Framework includes the following key themes:

- *Making Best Use* – which requires the best use of existing airport runways, thereby lending support to the more intensive use of existing infrastructure.
- *Limiting Environmental Impacts* – seeking to “limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise” with noise envelopes and respite seen as important means of mitigating noise.

The DfT is in the process of updating its Aviation Strategy. As part of this and to accompany the Airports National Policy Statement, the Government confirmed that policy supports all airports in making best use of their existing runways, subject to there being a balance of benefits over environmental costs.³² More recently, the DfT published its Green Paper on the Aviation Strategy ‘*Aviation 2050: the future of UK aviation*’ which stresses the importance of aviation in these changing times: “As we leave the European Union, the UK’s future prosperity depends on our ability to reach out to the rest of the world, to forge new trade links, to connect and compete.”

Once adopted, it will provide the main policy document giving strategic direction for the development of air travel up to 2050 and beyond. It predicts significant growth in the number of passengers using UK Airports from 284 million terminal passengers in 2017 to 444 million by 2050. The ability to meet this demand requires all airports to make best use of their existing runways, alongside the provision of a third runway at Heathrow Airport. Even then, there will still be an element of unmet demand across the UK. The draft policy expects airports to achieve this by amongst other things:

- demonstrating that future growth is delivering its contribution towards the UK’s climate change commitments, with a requirement on airports to provide air quality plans to manage emissions;
- seeking to provide innovative solutions and incentives for journeys to airports in order to help to reduce carbon, congestion and improve air quality;
- meeting objective noise limits and setting noise caps on future growth in order to provide certainty and strike a fair balance between the industry and communities; and
- giving a fair deal to communities on noise by lowering the current noise insulation policy threshold beyond the current 63dB LAeq 16hr contour to 60dB LAeq 16hr, seeking consistency in the specification for noise insulation schemes across airports and reviewing the effectiveness of existing schemes.

Other important aspects of the Green Paper are enhancing the passenger experience, making airports more accessible to all, improving safety and encouraging innovation and new technology and ensuring that the aviation industry is subject to challenging targets for tackling emissions.

On the 12 June 2019 the Government announced that it will amend the 2008 Climate Change Act so that the UK will be zero carbon by 2050 rather than adopting an 80% reduction in emissions by this date.

³² Department for Transport, *Beyond the Horizon, The future of aviation, Making best use of existing runways*, June 2018.

London

The Mayor of London has the responsibility for strategic planning in the capital. In December 2017, the Mayor published his draft replacement London Plan which is timetabled for adoption in late 2019. Within this document, the Mayor supports the case for additional aviation capacity in the South East of England providing it meets London’s passenger and freight needs. The draft plan makes it clear that support for additional capacity is also dependent on the aviation industry meeting its environmental costs in respect of noise, air quality and climate change, while also contributing to a significant increase in the numbers of new jobs and homes.

London City Airport sits within the Royal Docks/Beckton Riverside Opportunity Area. These areas are earmarked as having significant development capacity to accommodate new housing, commercial development and infrastructure of all types. The Royal Docks/Beckton Riverside Opportunity Area is identified as potentially delivering 30,000 homes and 41,500 jobs and is expected to become a vibrant new London quarter creating a world class business, industrial, cultural and residential district.

The future growth of the airport will complement this growth and give Londoners more choice and improved connectivity.

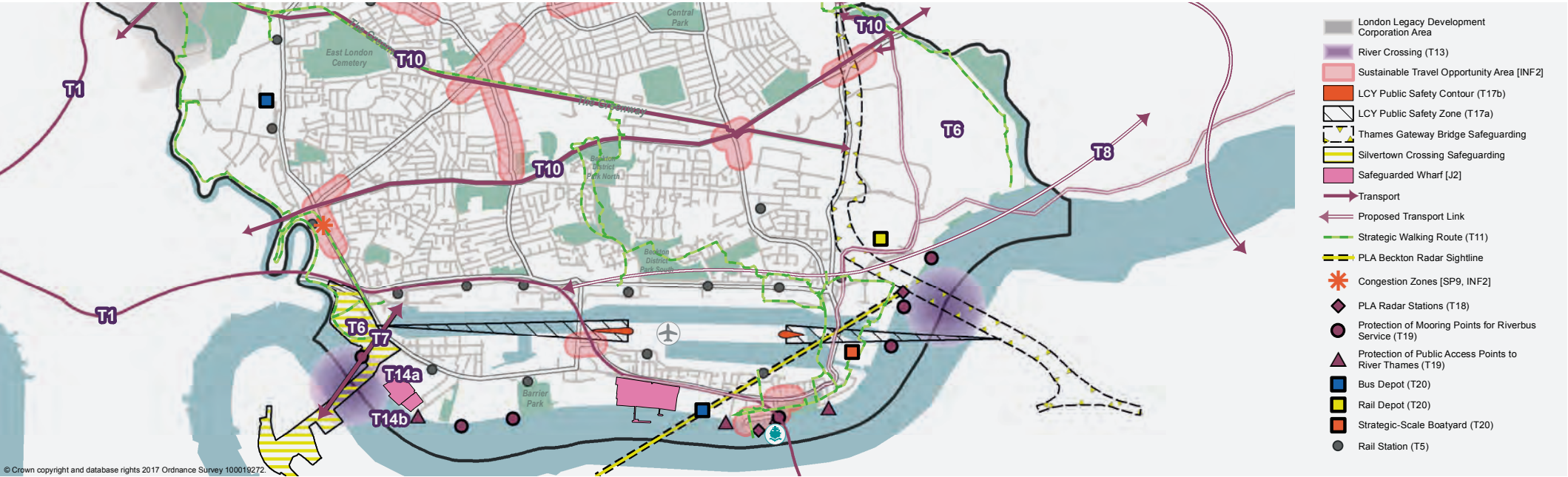
Newham

Adopted in December 2018, Newham’s Local Plan states that the 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 and sustainable transport.

The plan (at paragraph 5.37) recognises that London City Airport is a major employer and a catalyst for investment within the area, supporting London’s international role.

The airport is identified as an employment hub with a focus on the visitor economy, business and logistics (policy J1) with adjacent land identified as a Local Industrial Location and there is support for measures that improve investment and regeneration into Newham and help achieve modal shift to sustainable transport, such as a new Crossrail station (Policy INF1) as well as operational safeguarding and public safety zone restrictions. Figure 2.4 (Figure 6.1 of the Local Plan) shows the borough wide transport map including the location of airport public safety zones and planned and safeguarded transport improvements.

Figure 2.4: Newham Plan Proposals Map



3

Towards a new master plan

This section explains why we are updating our 2006 master plan and then sets out our forecasts for both passengers and aircraft movements over the next 15 years up to 2035. It summarises the benefits of using more of the quieter, cleaner new generation aircraft as we grow to meet demand and identifies our priorities for growth.

3.1

Why are we updating our master plan?

3.2

Demand forecasts

3.3

Route development

3.4

New generation aircraft

3.5

Innovation and technology

3.1

Why are we updating our master plan?

Our current 2006 master plan identifies future demand for the airport up to 2030. It identified growth in demand that is consistent with our current development plans, but we now consider it appropriate to update the master plan given the passage of time, increasing demand going forward and changes in the aviation industry and Government policy.

This draft master plan is intended to provide a framework for how we should respond to demand. Its purpose is to inform and involve the local community and stakeholders about potential future development and inform planning authorities to help them to prepare local and strategic planning documents.

This draft master plan follows guidance in the Government's Aviation Policy Framework which requires master plans to address the following 'core' areas:

- forecasts;
- infrastructure proposals;
- safeguarding and land/property take;
- impact on people and the natural environment; and
- proposals to minimise and mitigate impacts.



3.2 Demand forecasts

Up to 11 million passengers annually by 2035



The 2006 master plan forecast around 5 million passengers by 2020. This forecast was broadly accurate as we anticipate reaching this number in 2019.

The 2006 master plan also forecast reaching 8 million passengers annually by 2030 accommodated on 171,000 movements, including 27,600 business aircraft movements. Having updated our forecasts, we now predict that demand will increase to 9.8 million passengers annually by 2030, accommodated by 137,000 movements, including 5,000 business aircraft movements – 20% fewer aircraft movements than anticipated in 2006.

Looking forward to 2035, we forecast that demand will further increase to 11 million passengers annually accommodated by 151,000 movements, including 5,000 business aircraft. This forecast demand equates to around 4.3% of the demand using the 5 key London airports, up from around 2.7% today.

Since the forecasts used to underpin the CADP infrastructure (currently under construction) were produced in 2015, we have seen more passengers travel on fewer aircraft movements primarily because airlines have re-equipped with jet aircraft with more seats, more quickly than previously expected and are filling a higher proportion of seats on each flight than seen historically. This has enabled the airport to serve a broader range of passengers and destinations, including more leisure flights.

Our updated forecasts for future passenger demand to use London City Airport are based on Department for Transport projections of Air Passenger Demand across the UK as published in 2017. These have been adjusted to reflect the expected short-term curtailment of economic growth projected as a result of the UK leaving the European Union.

A key driver in the short-term will be capacity constraints at other London airports, in particular Heathrow, and this will increase the demand for services from London City Airport over the period until the new runway is operational in the late 2020s. Our forecasts suggest that new capacity at London Heathrow Airport may see a short period of limited growth, although capacity constraints are expected to arise again at London Heathrow within a few years of opening a new runway.

Historic and Forecast Passenger Demand

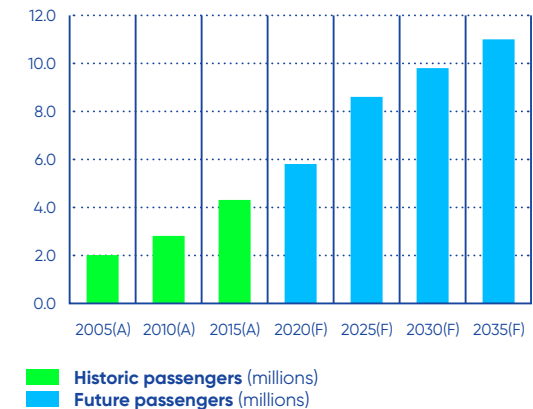


Figure 3.1: London City Airport demand forecasts
Source: York Aviation

London City Share of Total London Demand



The changing nature of the demand at our airport is likely to see a continuation of the increased number of leisure passengers, both inbound and outbound, over time. This is expected to reflect both the growing population in East London and changing demands from both millennials and the older population. By 2035, we expect business passengers to represent around 36% of all demand increasing to almost 4 million annually (compared to 50%, 2.4 million today), still a higher proportion than seen at any other London airport, reflecting our ongoing role in supporting the economic prosperity of London. Alongside this, we expect to see increased use by tourists visiting London and Britain, and by other passengers looking to connect to global destinations via our daily services to major European hubs.

Over the forecast period we predict that there will be an increase in the proportion of movements undertaken by jet aircraft and a significant proportion will be quieter, cleaner, new generation aircraft which can be provided for within our noise contour area limit. By the end of the forecast period subject to re-fleeting decisions by airlines, it is projected that between 75–80% of the passenger jet fleet will be the quieter, cleaner variants. It is expected that turboprop aircraft will continue to operate at the airport throughout the forecast period albeit their use will likely reduce over time.



The expected increase in leisure flying will be important to airlines as they seek to replace their existing fleets with newer, quieter aircraft types. The increased number of leisure passengers will allow more seats to be filled on these aircraft in off-peak times, helping underpin the business case for the investment in more environmentally attractive aircraft, while at the same time keeping fares lower for the benefit of all passengers. The broader mix of passengers will also support a wider range of destinations and allow airlines to optimise their services, focusing on key business routes at peak times of the week and offering leisure connections to benefit the local population and inbound tourism in off-peak periods.

3.3

Route development

Growing destinations to new markets for both business and leisure

Our route network has diversified over recent years and the airport currently serves a total 45 destinations across the UK, Europe and the United States. Many of these destinations are served throughout the year and are supplemented by leisure orientated routes on a seasonal basis.

Our route development strategy aims to ensure that we deliver even better connectivity for London and East London in particular. Our role will only become more important as Heathrow strengthens its global hub role with an increasing focus on delivering the Government's target global connectivity to emerging markets both before and after the opening of the third runway.

We expect to remain focused on city destinations which support the business community, but which also play a vital role in offering services for inbound tourism and support the air travel needs of the increasing number of residents and businesses in East London. Several destinations, such as Rotterdam and Exeter, are not served from any other London airport, while frequencies to destinations such as Luxembourg, Milan (Linate) and the Isle of Man are higher from London City Airport than any others in the London system. This pattern of services reflects the unique role offered by the airport within London in providing vital connectivity that either cannot be supported at the other airports or has been crowded out.

Current airlines and alliances

Star Alliance



Lufthansa TAP Air Portugal SWISS LOT Polish Airlines

Sky Team



Alitalia KLM

One World



British Airways

Other



Luxair Flybe Aer Lingus

Our draft plans also aim to maintain a high frequency of services on key routes, including core financial centres in Europe, such as Frankfurt, Edinburgh, Milan and Zurich, but also enhance services to emerging cities on the network, such as Berlin and Munich.

More modern aircraft types with associated infrastructure will allow us to serve a range of further afield destinations in Europe more efficiently. This is expected to lead to the return of destinations such as Stockholm and Madrid, as well as providing the opportunity to serve new points, such as Helsinki and parts of central and southern Europe. Improved aircraft efficiency will also allow us to respond better to a growing domestic demand, providing improved connectivity between the regions and central London.

While the airport has seen increases in the leisure network during the summer months, the current fleet of aircraft limit opportunities available to meet the needs of local passengers in the winter. More efficient aircraft will have the range to overcome this and could provide services to winter destinations such as Cyprus and the Canary Islands. This will provide a more balanced network to serve the local market and ensure residents can use their local airport.

More recently there has been an increased focus by European carriers to serve their hubs and this has widened the scope of possible destinations available from the airport. This is largely driven by the local demand around the airport. With continued growth in the local population we will be seeking to build on these hub connections and the frequency of services to those locations.

Figure 3.3: London City Airport destinations

- Existing routes
- Potential future routes



3.4 New generation aircraft

Quieter, cleaner and more fuel efficient

³³ Single event 80 and 90 dB(A) SEL

³⁴ Based on EASA certification noise levels

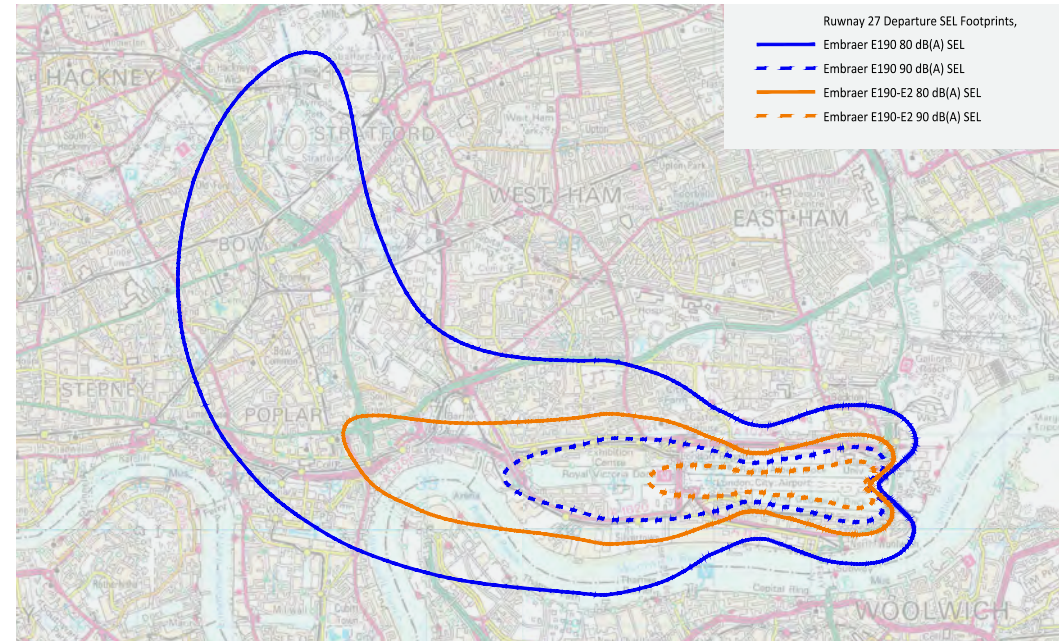


In recent years there has been an emergence of new quieter, cleaner, jet aircraft, which offer improved operational performance and reduced impacts. These aircraft, such as the Embraer E2 Jets and Airbus A220-100 (previously Bombardier CS100), are highly efficient in terms of engine power plant performance and fuel consumption. Importantly, they are quieter than their predecessors, offer improved passenger experience and open up new destinations by flying a longer range. The first new generation aircraft (A220-100) started operations at the airport with Swiss Airlines in 2017, and the expectation is that Embraer E190-E2 aircraft will be certified to operate in 2020.

In EASA certification testing to date, the E190-E2 had the lowest noise levels among all new generation single aisle aircraft and offers a significant improvement compared to the current Embraer E-jets and other aircraft types. These new generation aircraft are up to 17% more fuel efficient than current models and coupled with more seats, this means carbon emissions per passenger mile flown are lower than with existing and previous generation aircraft.

Figure 3.4 shows indicative noise contours³³ for a departure by a current E190 aircraft shown in blue and a new generation E190-E2³⁴ shown in orange. The noise contours for the new generation Embraer E190-E2 are less than a third of the area of those for the Embraer E190, showing the large expected improvement in departure noise levels.

Figure 3.4: Departure noise contour comparison for Embraer E190 versus E190-E2



Industry progress in new technologies

Industry progress in hybrid and battery-electric aircraft

New generation commercial aircraft at London City Airport

Industry trends in customer experience

Today



Electric air taxi
first manned flight

2020–2025



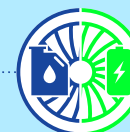
Electric air taxi enter service
for urban mobility
No. of passengers: 2
Range: 150 nautical miles (nm)

2025–2030



Market entry for small hybrid-electric
aircraft for business or commercial use
No. of passengers: 10–15
Range: 700nm

2030–2035



Airlines offering regional
scheduled flights based
on hybrid-driven aircrafts
No. of passengers: 50–100
Range: 850nm

2035–2040



Market entry for battery-powered
aircraft on short haul flights
No. of passengers: up to 150
Range: 290nm



Airbus A220–100
In operation since August 2017



Embraer 190–E2*



Embraer 195–E2†
Airbus A220–300‡
A320neo¶



- Digital air traffic control
- Augmented reality to improve customer experience
- Artificial intelligence for operations and customer experience
- Sensors and tracking technology
- Advanced predictive analytics for airport management
- Common self-service bag drop



- Biometric verification and facial recognition at the border
- Computed tomography (CT) 3D scanners at Security
- Self service end-to-end passenger experience
- Next-generation single token based travel
- Increased journey personalisation offering choice to passengers
 - Walking pace processing through terminal
 - Frictionless border
- Remote check in and baggage drop



- Blockchain technology for passenger identification
- Autonomous vehicles to and from the airport
- Potential for introduction of autonomous vehicles

Sources: IATA; Sustainable, Aviation, UK Aviation Strategy 2050, London City Airport data

While the future is unpredictable, we can assume that passengers will want more flexibility, convenience and connectivity in their travel choices supported by personalised real-time information, surface transport options and faster passage through airports.

By embracing technology, a significant contribution to emissions reduction can be achieved. The share of aircraft equipped with the most modern fuel-efficient technologies is constantly growing. Each new generation of aircraft yields a typical 15% fuel efficiency improvement. Innovation in aircraft will go hand in hand with London City Airport's future growth, benefitting in the short-term from the Airbus A220-100 and Embraer E190-E2. The rate of progress in this sector means that feasibly the airport could be operating battery-powered aircraft towards the mid-century.

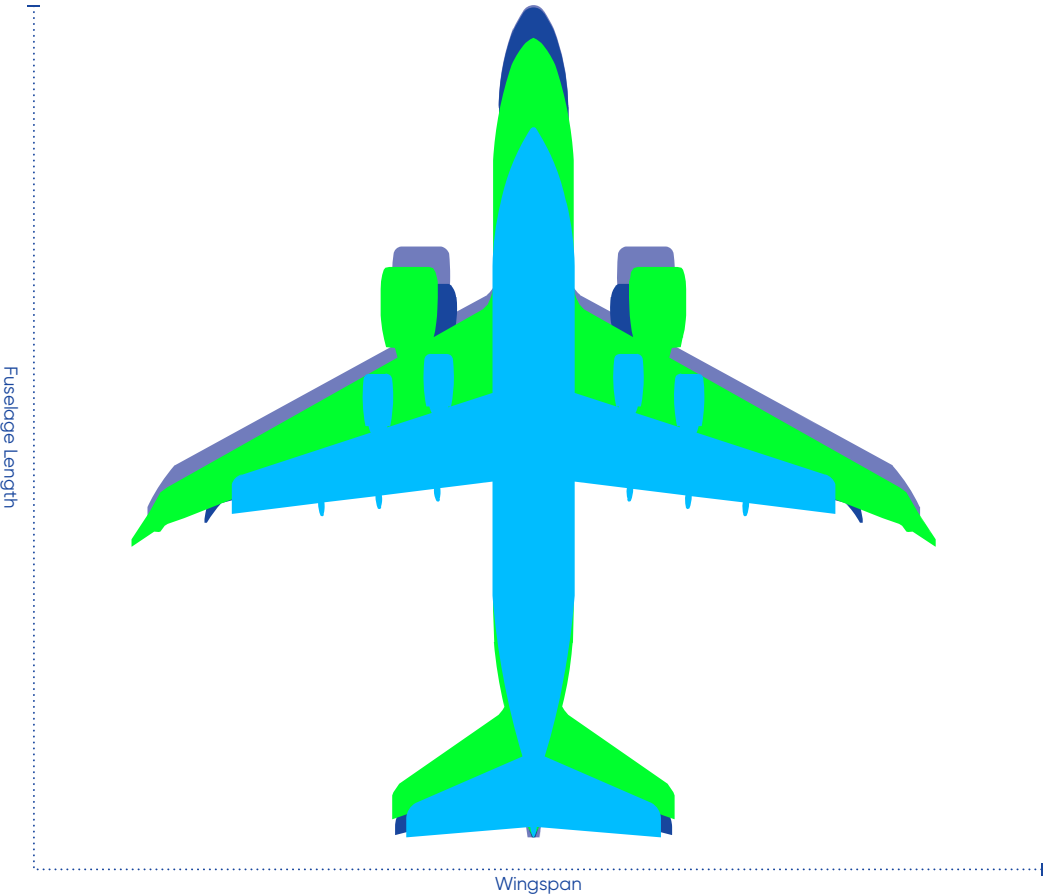
* Existing carriers are evaluating the use of the E190-E2 following test flight in July 2018

† No certification work undertaken to date, but the manufacturer is confident it is viable for London City Airport

‡ No certification work undertaken to date

¶ No certification work undertaken to date. A320neo may be feasible for London City

Figure 3.5: Aircraft size comparison between old and new generation aircraft



However, there are some challenges for our infrastructure to accommodate these new aircraft as their wingspan tends to be wider than the aircraft they replace as demonstrated in Figure 3.5.

Several of our airlines are expected to phase out the older generation aircraft such as the Avro RJ and Embraer E1 E-jets in the coming years and replace them with the new quieter generation aircraft. In order to achieve the performance and efficiency enhancements these aircraft have been designed with wider wingspans and some have higher seating capacities too. This presents an opportunity to increase the number of passengers that our airport can serve with the same equivalent number of aircraft movements.

However, the introduction of more aircraft with wider wingspans may require further modifications to our airfield beyond delivery of CADP and we have shown how these may be delivered in Section 4 to realise the operational and environmental benefits of these aircraft.

In addition to the increased numbers of new generation aircraft, the aviation industry is committed to becoming more sustainable and reducing carbon emissions by continuing to innovate. While technology is emerging, it is anticipated that hybrid and electric aircraft will have the capability to fly 1,000 miles within the next decade and potentially open up opportunities to become compatible with our domestic and short haul European network in the longer term. We will continue to work with manufacturers and airlines on supporting this important development over the duration of this master plan.

Aircraft	Passenger Capacity	Wingspan	Fuselage Length
Avro RJ-100	97–112	26.2m	30.99m
Airbus A220-100	116–135	35.1m	34.9m
Embraer 190	96–114	28.72m	36.24m
Embraer 190-E2	96–114	33.72m	36.33m

3.5 Innovation and technology

Cutting edge solutions



To maximise our potential and deliver an outstanding passenger experience, throughout our history, we have sought to embrace innovation and technology.

For example, working with companies like Crowd Vision has enabled us to directly measure how quickly passengers are moving through the airport, helping us to deliver our 20-minute train to plane proposition.

Looking to the future, to continue to operate with the highest safety standards, to meet passenger expectations and to ensure we continue to offer a unique service, our airport of the future will continue to embrace change:

- **passportless travel:** Working with airlines, UK Border Force (UKBF) and security agencies, our ambition is to deploy the latest biometric technology;
- **UK border:** Work with partners, including UKBF to deliver a frictionless border upon arrival at London City Airport;
- **security:** Deploy the latest range of CT scanners that will further improve screening as well as make the experience quicker and slicker;
- **maximise the potential of the digital air traffic control tower** and other latest technologies so that it can further enhance perimeter and airspace security and avoid operational disruption;
- **train to plane:** investigate direct links from the DLR direct to airport security for passengers travelling without luggage to check in to improve passenger experience and speed – encouraging modal shift to use public and sustainable transport to and from the airport; and
- **sustainability:** Working with industry partners to embrace the emerging biofuels agenda and other ways to reduce impacts on the environment.



4

Framework for growth

This section describes the key airport operational and infrastructure changes that could be made in order to accommodate future demand to 2035 and provides an update to the previous 2006 master plan while building on the ongoing CADP investment.

The significant employment and economic benefits of growth to 2035 are also presented alongside the potential future improvements in how people get to and from the airport.

4.1

Growth and modernisation

4.2

Adapting our infrastructure

4.3

Adjusting current operations

4.4

Creating new jobs and opportunities

4.5

Contributing to wider economic growth

4.6

Improving transport to and from the airport

4.1 Growth and modernisation

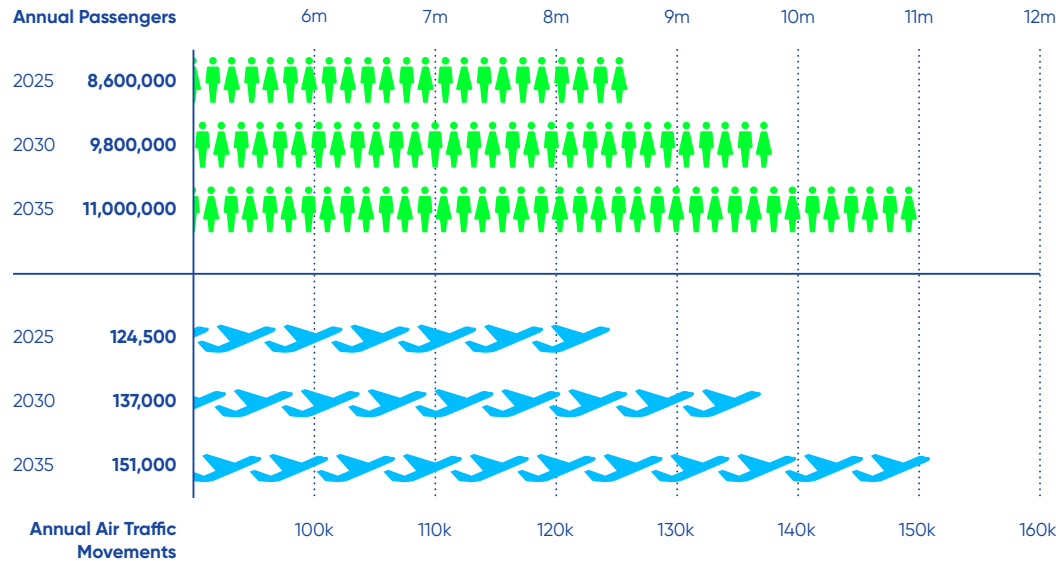


Figure 4.1: Demand Forecasts – 5 yearly
Source: York Aviation

By 2035 we forecast that passenger demand will increase to 11 million annually and some 151,000 aircraft movements (including 5,000 business jet movements). Figure 4.1 below shows how this may develop at 5-year intervals:

As mentioned in Section 2, we anticipate our current capacity limits of 6.5 million annual passengers and 111,000 annual ATMs to be reached in 2022. If the airport is to respond to the significant demand from both business and leisure passengers beyond 2022, the current limits will need to be changed.



4.2 Adapting our infrastructure

Making best use of our existing runway

Our land use plans at the end of the forecast period to 2035 have been developed to ensure that an operationally efficient and flexible airport layout is deliverable. Our development plans also seek to meet future demand and maximise benefits while minimising the extent of new infrastructure and environmental impacts. To achieve this, we will seek to make best use of our existing runway and land within the existing airport boundary and undertake future development in a balanced manner to reduce where possible the extent of development outside of our current land ownership. Some limited development may be required over King George V Dock depending on airlines' fleet plans in the future.

The infrastructure requirements and potential airport layout to meet demand of 11 million passengers per annum in 2035 is outlined below as well as a brief description of how the airport infrastructure could be adapted to accommodate future growth. Potential interim phasing plans for 2025 and 2030 are at Appendix A.2.



Runway

It is not proposed to build a new runway or to extend the length of our existing runway. Our aim is to maximise the potential of the existing runway infrastructure consistent with Government Aviation Policy.

Taxiways

The new CADP parallel taxiway to the east of the existing apron will reduce the time needed for aircraft to occupy the runway and remove the need for aircraft to taxi along or 'back-track' along the runway, therefore improving safety. It will also allow for up to 45 ATMs an hour to use the runway at peak times.

To respond to the demand of 151,000 ATMs forecasted by 2035, we will need to make some additional airfield upgrades in addition to CADP. These are likely to include upgrades to the western apron to include new aircraft hold points on the west for a more balanced airfield layout and more efficient use of the runway by removing the need for back-tracking of aircraft (location 2 on Figure 4.2).

These upgrades would allow us to respond to the likely peak demand by 2035 of up to 52 ATMs per hour to cater for growth in traffic.

Apron and Stands

Additional aircraft stands and modifications to some existing aircraft stands may be needed to meet the forecast changes in peak hour demand and provide greater capacity. However, this need will be dependent on airlines refueling plans for a cleaner, quieter, new generation of aircraft and the phasing of delivery.

The following changes may be required:

- reconfiguration of three stands 12–14 on the western apron to create two new larger Code C stands, capable of serving new generation aircraft such as the Airbus A220–100 and Embraer E190–E2 (location 2 on Figure 4.2). This may require the relocation of the existing Fuel Farm and other support facilities to the eastern end of the airport as explained below (location 8 on Figure 4.2);
- upgrade of the stands served by the existing West Pier to serve new generation aircraft. Some reconfiguration may be required depending on the number and type of stands required (location 8 on Figure 4.2); and
- up to three new Code C stands, capable of serving new generation aircraft such as the Airbus A220–100 and Embraer E190–E2, could be added at the eastern end of the apron. These stands would need to be constructed over KGV dock as an extension of the new stands currently being delivered as part of CADP (location 7 on Figure 4.2). Some of these additional stands could be served by an extended pier (location 7 on Figure 4.2).

To serve upgraded and additional aircraft parking stands, changes to the pier buildings which accommodate passenger gate lounges may also be needed.

All changes to the aprons and stands can be accommodated within the existing airport site, apart from the stands over KGV Dock which would only require a modest development over the dock.

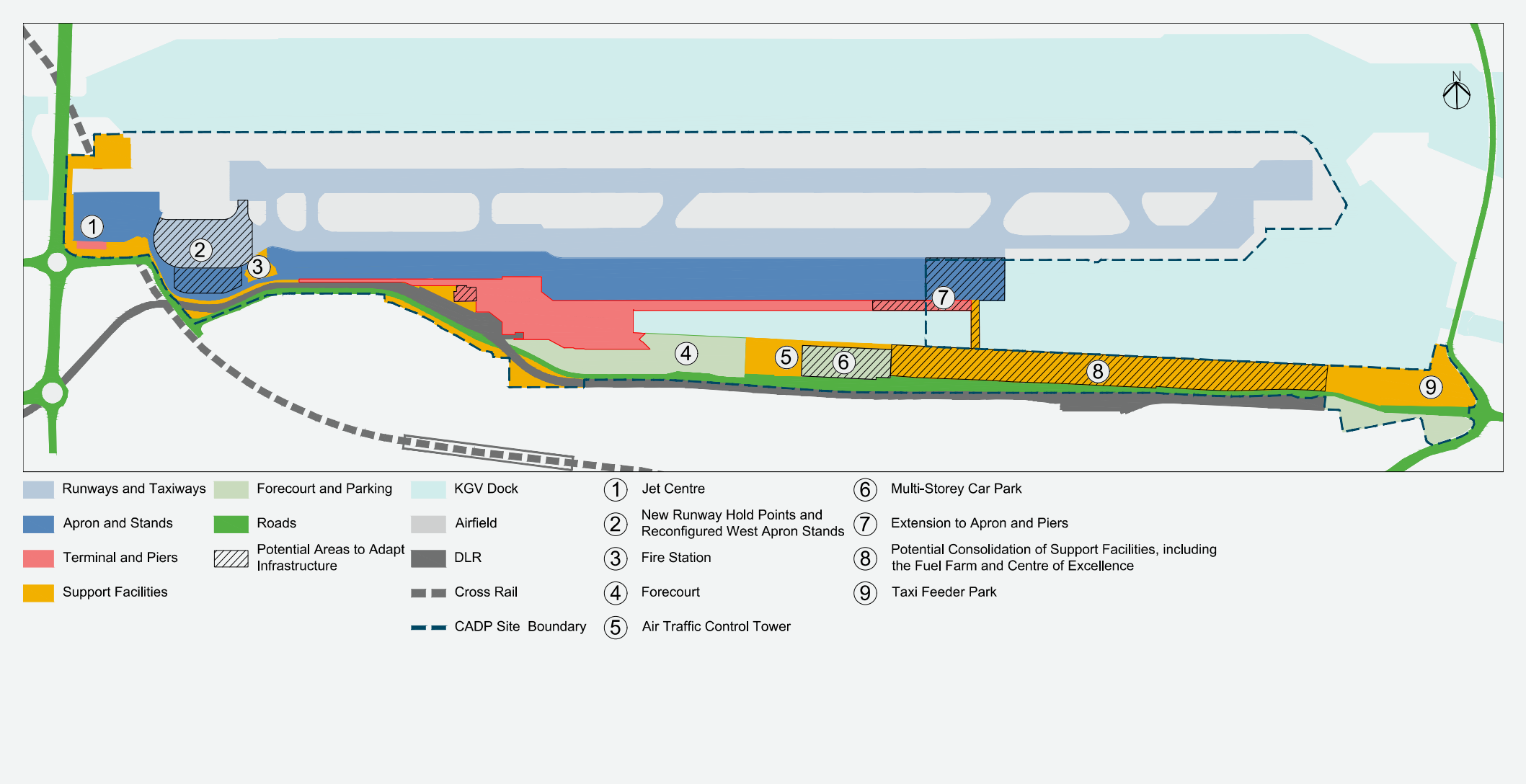


Figure 4.2: 2035 potential site land use

Terminal

The ongoing transformation and expansion of the terminal building as part of CADP may need to be reconfigured and optimised in the future to provide enough capacity to handle the forecast increased demand to 2035. A new terminal will not be required.

We expect that current and future innovation and technological advancements in passenger and baggage processing will help reduce the overall need for space in certain areas of the terminal and provide opportunities for other facilities within the existing building footprint. Similarly, some ‘back of house’ operational facilities could be relocated elsewhere on the airport site to provide additional space if required.

Our Jet Centre at the western end of the airfield (location 1 on Figure 4.2) is expected to continue to operate as long as there are runway slots available, though there is an expectation that as the number of scheduled passenger ATMs increases the Jet Centre movements may gradually reduce, particularly at peak times.

Support Facilities

Changes to the airfield, apron and stands at the western end of the airport (location 2 on Figure 4.2), in order to accommodate new generation aircraft and the forecast demand, could require the relocation of existing support facilities, currently located to the west of the terminal, including the Fuel Farm. These facilities could be relocated to the east of the terminal (location 8 on Figure 4.2) to make more efficient use of the land to the south of KGV Dock. Relocating these facilities to the dockside location would allow these facilities to more easily adapted over time in line with demand compared to the currently constrained locations.

The opportunity to relocate the Fuel Farm would be created by adapting the CADP single deck car park which has been safeguarded in design for multi storey use. To make best use of the existing dockside land the at grade parking, car rental and other facilities could be consolidated into a multi-storey car park to free up land for more appropriate development, such as airport maintenance and support facilities including the Fuel Farm (location 8 on Figure 4.2).

Land is also safeguarded to the south of KGV Dock for new employment creating opportunities. We also have ambitions to partner with our airlines in the future to develop an onsite Aviation Centre of Excellence on the dockside lands subject to consolidating onsite parking into a multi-storey car park. This facility could include airline offices, training rooms and aircraft simulators (location 8 on Figure 4.2).

The terminal forecourt is expected to have capacity to accommodate growth to 2035 with only minor modifications required (location 4 on Figure 4.2). Further details on the potential improvements regarding getting to and from the airport are provided in section 4.6.

4.3

Adjusting current operations

Accelerating investment in new generation aircraft



Our plans will ensure continued operation within our noise contour area limit which we will also seek to reduce over time. Our future growth will also maintain an 8-hour night time curfew on flights as we understand this is important to our local residents and those living under our flight paths.

However, to make best use of our current runway and other infrastructure, we are giving careful consideration to how adjustments could be made to how we operate, including the hours when aircraft fly. This may involve allowing more flexibility on the number of flights in the following periods:

- in the first half hour of permitted operations when there is demand for business travel including the potential to connect into early morning European hub traffic. This first half hour between 0630hrs – 0700hrs is currently limited to 6 movements;

- in the last half hour of permitted operations for delayed take-offs or arrivals. Movements in the last half hour between 2200hrs – 2230hrs are currently limited to 400 per year, or just more than one per day; and
- at weekends to allow us to respond to airline and customer demand for more flexible flight times. There is currently a 24-hour closure at weekends from 1230hrs on Saturday to 1230hrs on Sunday. This was introduced in 1998.

We believe that the above adjustments would help accelerate airlines' plans to invest in more of the quieter, cleaner, new generation aircraft. This will ensure continued operation within our existing noise contour area limit, and reduce the contour area below this limit and reduce the number of people that would otherwise fall within it over the forecast period to 2035.

4.4 Creating new jobs and opportunities

An additional 2,500 jobs locally by 2035



If the airport is to cater for 11 million passengers per annum by 2035, we will need even more local people working directly on site, further generating additional economic activity and employment through our supply chain and beyond. Compared to 2018, we predict that by 2035 the airport will create up to 2,500 new full-time equivalent (FTE) jobs in the local area, made up as follows:³⁵

- up to 2,100 new onsite jobs at the airport (1,800 jobs full-time equivalent FTE jobs);
- an additional 700 new indirect and induced FTE jobs in the local area; and
- £210 million in annual economic output measured as Gross Value Added (GVA) through direct, indirect and induced employment opportunities.

This would deliver growth in direct onsite employment of over 85% by 2035³⁶, expanding employment across all sectors and requiring a wide variety of skills. Around 65% of the jobs created directly at the airport will relate to operational activities such as aircraft handling, maintenance and engineering, freight or fuel handling. Another 20% of the new job opportunities will come from retail, and 15% from the airlines operating our flights (pilots, flight attendants, customer service, etc.) with the remainder created in contractor and concession activities.

We also have aspirations for a future onsite Aviation Centre of Excellence to create more highly skilled, good quality jobs and create additional pathways into employment at the airport, with our partners and East London boroughs. This would improve skilled opportunities across the local community and further improve economic benefits over the master plan period.

³⁵ Compared to 2018. An uplift in the region of 1,400 direct jobs and 600 indirect and induced jobs is predicted compared to CADP.

³⁶ Compared to 2018.



Figure 4.3: Indicative sector breakdown of direct (on-site) employment at the airport

- Other office functions
- Other concession (car rental and currency exchange agencies)
- Administration (internal LCY administration and on-site consultancies)
- Retail
- Airline
- Operations (air traffic control, logistics, facilities management, fuel handling etc.)

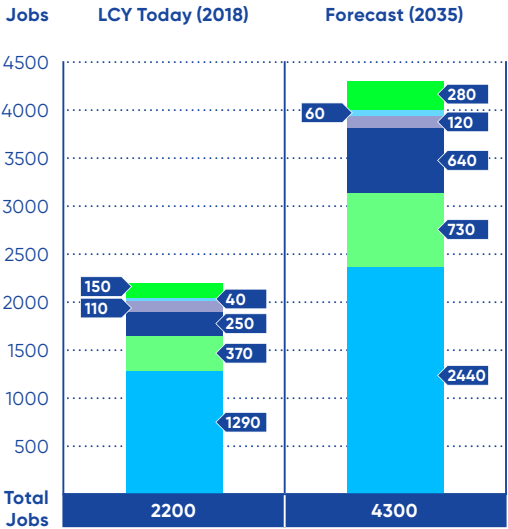
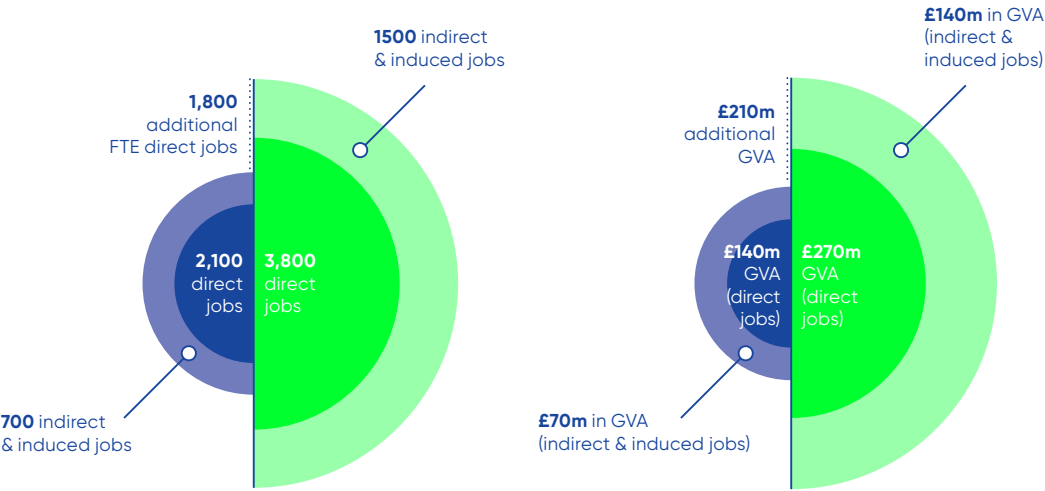


Figure 4.4: Full-time equivalent jobs and gross value added (GVA) impact in 2035 (green) vs. 2018 (blue)

- 2018 direct jobs
- 2018 indirect and induced jobs
- 2035 direct jobs
- 2035 indirect and induced jobs



London City Airport’s domestic supply chain

The airport generates jobs and opportunities for businesses and SMEs across the UK and locally.

Examples within the City Airport Development Programme include:

1 Dyer and Butler
(part of M Group Services, Stevenage)

HQ Location: Southampton
Contract value: £6.7 million
Works: Airfield taxiway and drainage works and the airfield services works

2 J & D Pierce
(Contracts) Ltd

HQ Location: Glengarnock, Ayrshire
Contract value: £15.6 million
Works: Steel contractor – fabricating and erecting the structural steelwork for new parts of terminal

3 Kilnbridge

HQ Location: Canning Town, Newham
Contract value: c.£17 million
Works: Civil works for the airport’s new terminal and energy centres

4 BAM Nuttall

HQ Location: Camberley, Surrey
Contract value: c.£85 million
Works: Piling and decking for new 75,000 m2 concrete deck extension

5 Careys

HQ Location: Southampton
Contract value: £6.7 million
Works: Airfield taxiway and drainage works and the airfield services works

6 Buckingham Group

HQ Location: Stowe, Buckinghamshire
Contract value: £6.5 million
Works: Digital Air Traffic Control Tower

7 Reach Engineering and Diving Services (REDS)

HQ Location: Rugby, Warwickshire
Contract value: £24,000
Works: Dock surveying

8 Dynasafe Bactec Ltd

HQ Location: Dartford, Kent
Contract value: £12 million
Works: Unexploded Ordnance survey work

9 Prater Limited

HQ Location: Surrey
Contract value: £37.3 million
Works: Envelope Contractor – fabricating and erecting the roof and façade elements of the new parts of terminal

10 Balfour Beatty Kilpatrick

HQ Location: London
Contract value: £7.3 million
Works: MEP Contractor – mechanical electrical and plant / public health works elements of the new parts of terminal

11 Kier

HQ Location: London
Contract value: £6.4 million
Works: Construction of ancillary buildings in the Western Service Yard

The operation of an international airport like ours relies on state-of-the-art engineering and management skills, knowledge and competencies. We are committed to ensuring that the benefits of growth maximise opportunities in the local area, especially in providing new employment. We will continue to work towards the ambitious onsite targets for local employment, currently set at 70% of new recruits coming from the local area, 40% of new recruits being residents of the London Borough of Newham³⁷ and continue our work with Newham and other East London agencies to provide residents with work and training opportunities.

In addition to maximising employment opportunities in our local area, our proposed expansion will also benefit businesses across the country. Our supply chain reaches across Britain (Figure 4.5). Further airport development will provide additional employment opportunities across the country in sectors such as energy and utilities, advertising, manufacturing and construction.

Our increased offer of flights for leisure purposes will lead to an increase in international and domestic tourism, supporting more London and local jobs. The projected increase in the number of leisure travellers from over 2.3 million annual passengers in 2018 to 7 million annual passengers, as well as the 70% increase in business passengers to 4 million by 2035 will boost the tourism sector in London and across the UK through increased spending in food, accommodation, transport, retail and other leisure industries.

Figure 4.5: The airport’s UK-wide supply chain

³⁷ London City Airport has even more ambitious targets of 50% of new recruits being from Newham

4.5

Contributing to wider economic growth

£2 billion for the UK economy annually by 2035



Our role in supporting economic prosperity is a key component of our plans. Our easily accessible location in the east of London provides a range of benefits to the economy such as improving access for businesses to international markets. Currently, we estimate that the airport contributes £760 million per annum to the UK.³⁸ It is expected that CADP will increase this number to £1.5 billion. With demand growing, this contribution is expected to increase considerably.

By 2035, we estimate that our additional impact could be as much as £586 million for the UK economy annually³⁹ made up as follows:

- £190 million in productivity and economic growth benefits;
- Up to £73 million in trade benefits;
- £95 million per year in increased tax receipts from more productive jobs;
- £68 million in benefits to passengers; and
- £160 million in annual economic output associated with local employment.

Our total annual contribution to the UK economy by 2035 could therefore reach over £2 billion.

Productivity and increased economic output due to reduced travel costs and improved competition

Overall, by 2035, we expect to contribute an additional £190 million per annum to UK GVA as a result of increasing productivity and economic output. By being located close to key business districts including the City of London, Canary Wharf and those expanding in the Royal Docks and Stratford, the development of the airport will benefit many enterprises in high value-adding industries, leading to productivity benefits. Productivity benefits will also arise from attracting an increased number of businesses to these districts, leading to a greater concentration of economic activity.

Growth in demand served beyond the current limits would also support businesses to increase economic output as a result of reduced travel costs and increased competitiveness and collaboration. Our forecasts indicate that demand from business passengers will increase by 63% by 2035 compared to today.

³⁸ Arup Analysis (2019). Note that these benefits include both local and national impacts which may not be fully mutually exclusive.

³⁹ See note 31 above.

Trade impacts and inward investment

The strength of London's economy stems in part from the high levels of productivity and output generated by sectors that are highly dependent on international connectivity. Improved access to international markets will increase interdependencies, which can help lead to higher levels of trading and inward investment. This will be especially important to London from an international competitiveness perspective in the next decade.

Our impact on trade, including productivity impacts, is estimated to be up to £73 million per year by 2035. The expected increase in trade in the form of exports and imports will enhance competition and provide a greater choice of goods and services. In turn, this will help to raise baseline productivity in trade-related sectors. This is especially valuable for London as it is an overall net exporter of goods and services.

More productive jobs

Because higher productivity leads to higher wages, workers are often attracted to more productive jobs as their pay levels increase. There is also a positive impact on tax revenue to government. We estimate that this could amount to £95 million per year by 2035.

Benefits to passengers

We will be able to offer more flights to more destinations for our passengers. This will contribute to more efficient journeys for our existing passengers as well as allowing new trips to happen that otherwise would not have been made. In total, we estimate that user benefits will amount to around £68 million per year by 2035.



4.6 Improving transport to and from the airport

Increasing sustainable public transport use

With the help of our partners
80% of passengers
using public and sustainable
transport by 2035



- As we respond to demand, we will continue to increase public and sustainable transport use by passengers, with a target of 75% of journeys to and from the airport using the DLR, bus, walking or cycling by 2025;
- We will also continue to implement measures to reduce single car occupancy amongst our staff to less than 40% by 2025;
- We support in principle the proposals set out in the Mayor's Transport Strategy to 2041. With support from our partners, including Transport for London (TfL), we believe that a target of 80% of passengers using public and sustainable transport modes can be achieved by 2035;
- We will continue to engage with TfL and stakeholders such as our Transport Forum to explore ways of further improving public transport, including DLR, frequencies and earlier services to better align with staff shift patterns and demand from early morning departing passengers;
- We will continue investment in and promotion of improved local infrastructure for pedestrians, cyclists, bus and potentially river services in the Royal Docks/Silvertown area; and
- In the longer term, we are committed to working with local stakeholders to deliver a new Crossrail Station on the Elizabeth Line south of the airport which would improve connectivity in the south east and deliver a host of regeneration benefits in the wider Thames Estuary.

Our forecasts predict that once CADP and other planned transport upgrades (DLR and Crossrail) are completed, there will be sufficient capacity on the DLR, our forecourt and on the local road network to accommodate up to 11 million passengers per year by 2035.

Our aspiration is to further improve our status as the best performing UK airport for passenger public and sustainable transport use as follows:

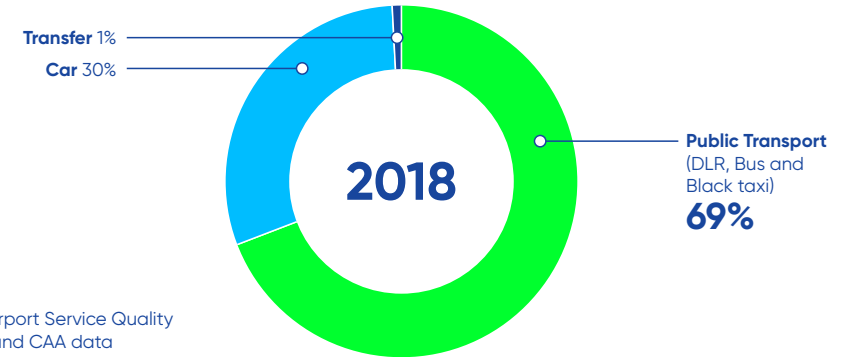
- encouraging staff to use more sustainable modes of transport. DLR mode share by staff is currently around 30%. This could be higher but shift patterns are currently a barrier to public transport use (almost 40% of airport staff start their shift before the first DLR service);
- exploring ways to further increase DLR use, including engaging with TfL to help deliver higher frequencies and earlier DLR services as part of their planned upgrade programme. We are also exploring the potential benefits of better integrating the terminal and DLR station, and minimising level changes to both reduce congestion and to improve the speed and service for passengers;
- working alongside TfL and local businesses in supporting additional connectivity around North Woolwich and the Royal Docks, either by introducing shuttle bus services or improving the existing bus routes;

- by 2035, additional opportunities for cyclists and pedestrians will be created along Hartmann Road and along Connaught Road (A112), connecting the airport to the Newham cycle network. This will support our target of almost trebling our cycle parking provision for staff and public use, increasing from 72 to 175 spaces, reflecting our future position as part of the wider Royal Docks cycling network;
- the completion of the Royal Wharf Pier and expected increase in river boat services could provide the opportunity for the river to become a mode of transporting people to and from the airport. We will work with TfL, developers and LBN to promote and support this for passengers and staff;

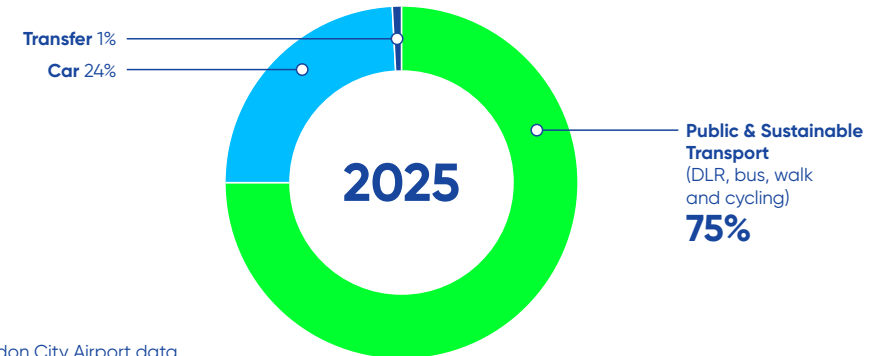


- to make better use of the airport site and to accommodate modest increases in parking, the single decked car park could be modified for multi-storey use. This would free up land for airport support facilities. The CADP infrastructure provides 1,250 parking spaces for staff and passengers and have been designed to accommodate the currently permitted 6.5 million passengers annually. We forecast that despite a 70% increase in passenger demand to 11 million by 2035, and a doubling of staff, compared to today, we are considering how we could limit parking increases to 20% (circa 1,500 overall) with a view to delivering our ambitious targets to shift passengers and staff onto more sustainable forms of travel to and from the airport. These additional spaces would all have electric charging facilities as part of the airport's commitment to reduce its CO2 emissions; and
- in addition to 300 spaces with electric charging points, we are also considering how to make provision for electric charging or zero emission vehicles on all onsite parking spaces by 2035.

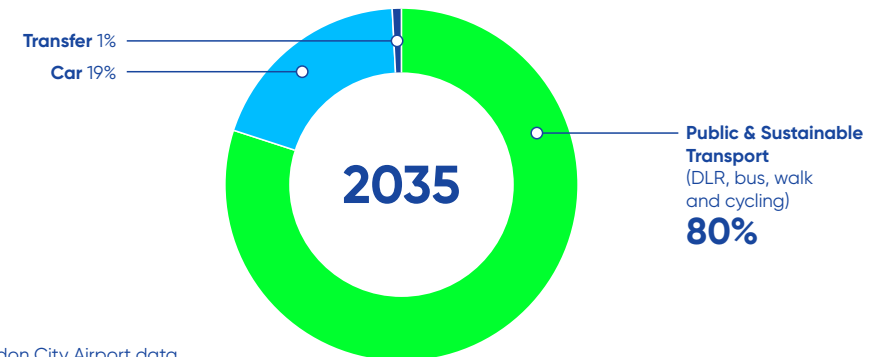
Transport mode share



Source: ACI Airport Service Quality (ASQ) survey and CAA data



Based on London City Airport data



Based on London City Airport data

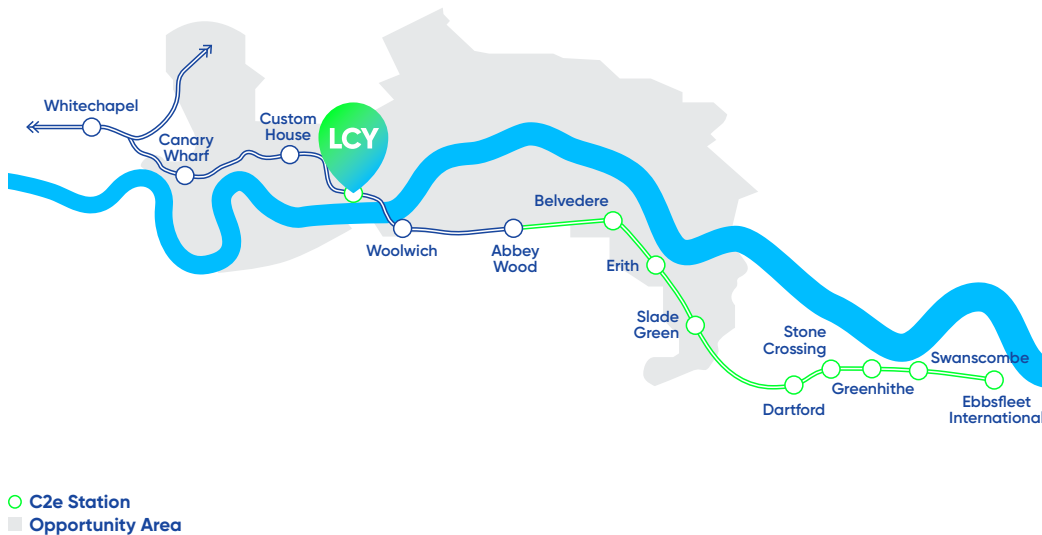
Crossrail and London City Airport

The Elizabeth Line (Crossrail), will provide a step-change in rail connectivity across the capital. It will run from Reading in the west through central London to Shenfield and Abbey Wood in the east, with train services operating with a five-minute frequency through the eastern sections. It is envisaged that one of the capacity benefits of the Elizabeth Line will be relieving the current congestion on the DLR (in particular from Woolwich Arsenal into London in the morning peak and reversed in the pm peak) to create capacity for the new developments around the Royal Docks.

We are looking to maximise the airport's connectivity with Elizabeth Line as follows:

- promoting the link to Custom House station and the rerouting of the 474-bus service to connect the airport and Custom House;
- working with TfL to promote the Stratford station interchange to enable passengers to have a convenient, covered and secure interchange between the Elizabeth Line and DLR; and
- engaging with TfL on their redevelopment of Poplar DLR Depot to provide a better passenger interchange between DLR and the Elizabeth Line.

Crossrail to Ebbsfleet proposed scheme



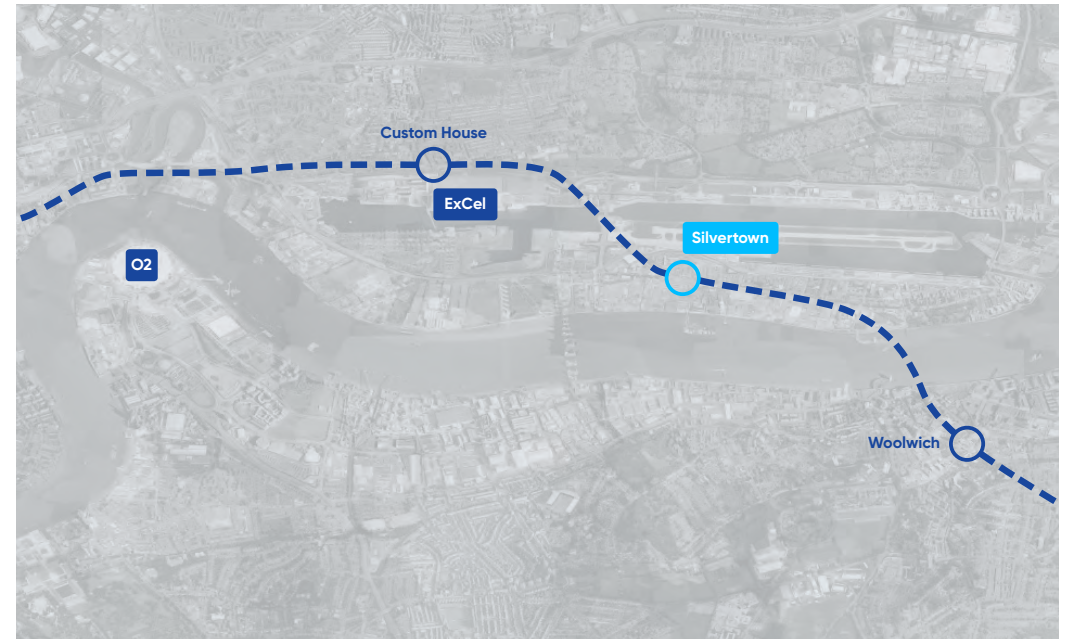
The London Borough of Newham has recognised the potential benefits of a new Crossrail station close to the airport and have identified the potential benefit of a new dedicated station in its Local Plan and Infrastructure Delivery Plan. A new station could be part of any future changes to the Elizabeth Line, such as the Abbey Wood to Ebbsfleet extension and the airport is working with the promoters of the scheme, Crossrail to Ebbsfleet Partnership, to include it within the next stages of the feasibility and design development process. The airport will also seek to engage with TfL as the proposals are developed in more detail.

While our growth is not dependent upon a new Crossrail Station at Silvertown adjacent to the airport, this would provide a significant opportunity to create an outstanding interchange. This would improve connectivity from East London to the Estuary, which would benefit residents and businesses, as well as unlocking significant strategic regional benefits, including additional housing across the region.⁴⁰

⁴⁰ <https://www.c2ecampaign.com/>



Figure 4.6: Potential location for new Elizabeth Line station



5 Sustainability and environmental strategy

This section summarises the potential environmental impacts of our proposed changes in order to meet demand through to 2035. It also sets out a summary of future measures that will be put in place to manage and control any impacts on the local community and the environment. The topics considered include noise, air quality, carbon and climate change, dock water quality and biodiversity, waste disposal, heritage and archaeology.

Some of the key priorities and future measures that will be put in place are included in the box below.

5.1 Noise

5.2 Air quality

5.3 Carbon and climate change

5.4 Other environmental matters

5.5 Heritage and archaeology



Air noise

- Accommodate all future growth within our permitted 9.1 km² air noise contour area limit which we will also seek to reduce over time;
- Maintain our commitment to an 8-hour night time curfew on flights;
- Ensure that no noisier aircraft than are currently allowed to operate will do so in the future; and
- Add to the current comprehensive suite of noise controls to ensure that we mitigate noise effects associated with growth to 2035. This will include further improvements to our Sound Insulation scheme, which already has the current joint lowest daytime threshold in the UK at 57dB.

Air quality

- Working with partners we will seek to retain our position as the UK's best performing airport for public and sustainable transport use with a target of 80% public transport use by passengers by 2035;
- All vehicles owned by the airport will be London Ultra Low Emissions Zone compliant by December 2020;
- All airside vehicles will have a permanent vehicle pass to be electric (or zero emissions) or use renewable fuels by 2030;
- We will provide 300 parking spaces with electric charging points, as well provision for electric charging or zero emission vehicles on all other spaces by 2035; and
- All future stands will be equipped with Fixed Electrical Ground Power.

Carbon and climate change

- Become an independently accredited 'carbon neutral' business by 2020;
- Work with airlines to deliver more new generation aircraft which are more fuel efficient and will emit fewer carbon emissions per passenger per flight;
- Achieve net zero emissions by 2050, consistent with the emerging commitments from governments and industry around the world;
- Invest more in low carbon technology and more energy efficient buildings;
- Promote increased public and sustainable transport usage by staff and passengers;
- Work with airlines and manufacturers on the hybrid and electric aircraft agenda; and
- Work with NATS to deliver their predicted annual savings in fuel burn and CO2 emissions through participation in the Government's airspace modernisation process.

5.1 Noise

Growing within, and reducing over time, our existing noise contour limit



Air noise

The term “air noise” refers to noise from aircraft that are either airborne or are landing or taking off on the airport’s runway. The total air noise to which local communities are exposed over a given period depends on the noise emitted by individual aircraft and the total number of aircraft movements (arrivals and departures) in that period. An overall measure of air noise exposure can be depicted on a noise map which shows noise contours.⁴¹ In the UK noise contours are generally produced for the 92-day summer period (16th June to 15th September) as this is normally the busiest period at airports and therefore represents a worst case scenario.

Measures currently in place

Managing the impacts of air noise is an absolute priority of ours – both for our local community and also those living under our flight paths. As described in Section 1.6 we already have a comprehensive suite of controls in place. These include:

- operating within a fixed noise contour envelope area limit that is checked annually. This envelope relates to the 57 dB $L_{Aeq,16h}$ noise contour and has an area limit of 9.1 km²;

⁴¹ Noise contours connect points that have the same average noise exposure. The contours are generated using computer models, based on the known

characteristics of aircraft noise generation and attenuation, and calibrated using noise measurements from the airport’s noise monitoring terminals.

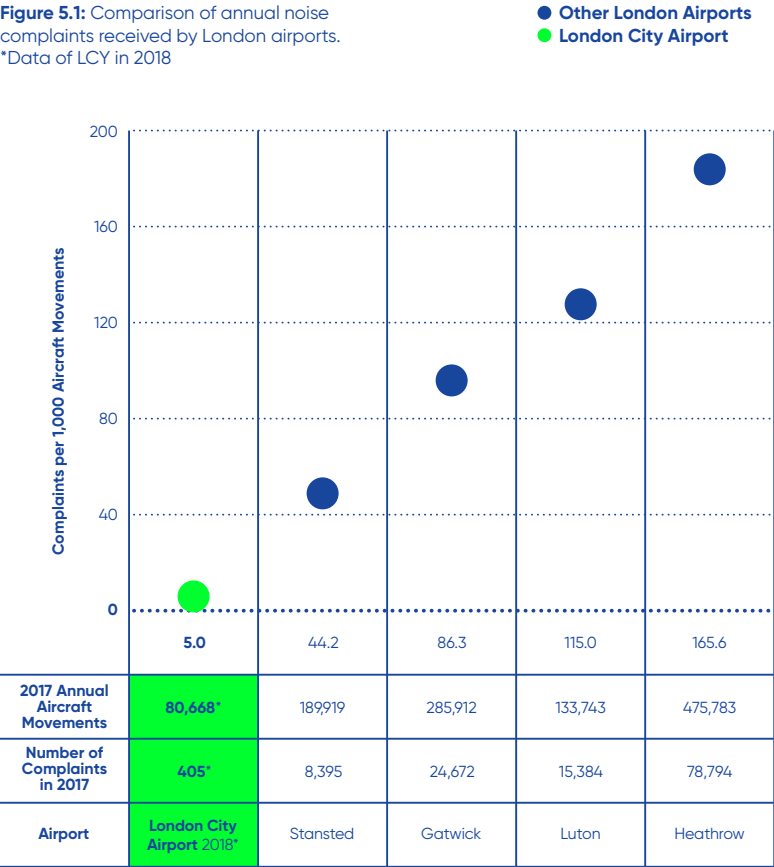
- operating a comprehensive Sound Insulation (SI) scheme for residential dwellings and public buildings, which already has the current joint lowest daytime threshold in the UK at 57dB. The scheme has recently been improved to include treatment at 63 dB $L_{Aeq,16h}$ and additional treatment at 66 dB $L_{Aeq,16h}$. The tiered scheme ensures that those closest to the airport and most affected by noise receive a 100% grant for a high level of sound insulation treatment;
- requiring all landing aircraft to approach at a glide slope of 5.5 degrees. The normal approach angle adopted at most UK and international airports is 3 degrees. This ensures aircraft are kept higher for longer, reducing the noise impact on local communities under the arrival flight paths; and
- operating an Incentives and Penalties Scheme to manage how aircraft fly day to day and encourage airlines to operate aircraft more quietly, by awarding credits to aircraft that are operated quietly and penalties to those that exceed the upper noise thresholds. The money from any penalties (£600 per dB exceedance) is added to the Community Projects Fund which we have set at a minimum of £75,000 per year to fund local projects. The noise thresholds are more stringent than any other UK scheme for daytime operations. Good performance is rewarded by publishing a league table each year.

These measures are supplemented by a comprehensive noise monitoring system which includes seven fixed monitors as well as mobile monitors which can be placed in the community as required. Noise levels are available through our aircraft noise tracking system called Travis on our website.⁴²

Effectiveness of controls

As an illustration of the effectiveness of our existing noise controls (which are amongst the tightest of any European airport), last year we received just 5 complaints per 1,000 aircraft movements. The table below compares our 2018 complaints with those at other London airports for 2017 and shows that we received significantly fewer complaints per 1,000 flights than any other major London airport.⁴³

Figure 5.1: Comparison of annual noise complaints received by London airports.
*Data of LCY in 2018



Contours 2020 to 2035

The forecast demand by 2035 will require an increase in annual aircraft movements beyond our current limit of 111,000 ATMs. The number of annual movements are forecast to increase gradually over time reaching around 151,000 ATMs by 2035. Air noise contours have been produced in 5 yearly increments from 2020 to 2035 based on our projected fleet mix and our understanding of airlines’ ability to deliver the quieter, cleaner, new generation aircraft provided that the necessary infrastructure and incentives are in place. Importantly, all contours up to 2035 collectively fit within the current 57 dB contour area limit of 9.1km², which shows that demand can be accommodated within our existing noise contour limit as currently permitted.

The contours may reduce over the master plan period as the number of quieter, cleaner new generation aircraft increase to account for between 75–80% of the passenger jet fleet. While our forecasts suggest 75% of the jet fleet will be new generation aircraft by 2035, we will work with airlines to potentially achieve 80% and reduce the associated contour area by 2035 and the number of people that would otherwise fall within it if the noise contour area limit remains as now. Comparative contours for 75% and 80% re-fleeting of the passenger jet fleet by 2035 are shown for indicative purposes.

The areas of all air noise contours and estimates of the number of people within them are given in the tables below. Figure 5.2 below shows a comparison of the 57 dB contours for 2020, 2025, 2030, 2035 at 75% and 80% re-fleeting of the passenger jet fleet to new generation aircraft. The small changes in contour shape are due to slight variations in potential aircraft mixes over time.

The number of people within the contours (those exposed to 54 dB and above) is forecast to reduce by 2035. While the number of people within the 57 dB contour and above is forecast to increase slightly over time (except in 2035 with up to 80% re-fleeting when decreases primarily occur), any increase in noise will generally be of a very small magnitude. Between 2020 and 2035 most people within the noise contours will experience a negligible change in aircraft noise and more people will experience a decrease in aircraft noise than an increase. A small number of people located to the north and south of the airport are forecast to experience a minor increase in noise of less than 3dB.

⁴² <https://travislcy.topsonic.aero>
⁴³ Data for 2018 not available for all airports at time of publication therefore fullest dataset (2017) used

Figure 5.2: Comparison of 57 dB LAeq,16h noise contours



Overall the forecast increase in the number of movements up to 2035 will not have a significant impact on the local community due to the increase in the proportion of movements by quieter new generation aircraft. This will allow us to remain within our current contour area limit, which shows that our noise footprint will be no worse overall than currently permitted. Our assessment predicts that most of the people within the airport’s air noise contours will experience a slight decrease in average daytime noise levels from 2020 to 2035 and no one will experience a significant increase in noise.

We are committed to maintaining the 8-hour night time closure. Although there are currently no criteria for the assessment of respite, we recognise that any potential changes to existing operational hours would change how local residents experience noise. Should any changes be proposed to the existing operations, these would be fully assessed, and appropriate mitigation provided.

Future measures to mitigate air noise
Future measures to further mitigate air noise impacts could include enhancements to our Sound Insulation scheme. We will also seek to ensure that our noise control and abatement procedures take on board any recommendations from future government guidance.

We will deliver our future growth within our permitted 9.1 km² air noise contour limit which we will also seek to reduce over time and ensure that no noisier aircraft than are currently allowed to operate will do so in future.

Ground noise
The main sources of ground noise include aircraft taxiing and manoeuvring between the runway and aircraft stands, use of aircraft’s auxiliary power units (APUs) and testing (ground running) of aircraft engines.

We currently have a comprehensive suite of controls in place to manage and mitigate ground noise. These include:

- phased delivery of Fixed Electrical Ground Power (FEGP) on existing aircraft stands, to reduce the use of Mobile Ground Power Units (MGPUs);
- limiting the use of auxiliary power units to 10 minutes before departure from the stand and 10 minutes after arrival except under exceptional circumstances;
- restricting engine testing to designated areas except in emergencies;
- rectification, rather than routine testing;

- engine test and maintenance activities are restricted to those associated with engine rectification, rather than routine testing;
- operating within an engine testing noise limit of 60 dB L_{Aeq,12h} which is based on the average daily noise level during the noisiest month of the year; and
- maintaining and developing the existing airport buildings and barriers, which are specifically designed to act as a continuous noise barrier to protect properties south of the airport from ground noise.

Due to the forecast increase in aircraft movements up to 2035 ground noise is forecast to increase slightly. In most areas the absolute levels of ground noise are currently relatively low and are forecast to remain so in the future. Air noise, road traffic noise and/or industrial noise are generally greater sources of noise in the environment, even close to the airport.

Ground noise tends to be highest close to the airport within the eligible zone of our air noise Sound Insulation Scheme. This means that dwellings in this area have been or are eligible for sound insulation treatment to mitigate the effects of aircraft noise, or in the case of newer dwellings they will have been designed to mitigate noise from the airport when they were built.

In the event of any new stands being built in the future, appropriate noise barriers will be constructed to ensure that satisfactory mitigation is in place prior to operating any new stands.

Figure 5.3: Forecast noise contour areas

Noise Contour, dB L _{Aeq,16h}	Summer Daytime Noise Contour Area, km ²				
	2020	2025	2030	2035 forecast 75% reflecting	2035 potential increased reflecting (up to 80%)
54	16.0	16.1	15.8	15.8	15.0
57	9.0	9.1	9.1	9.1	8.7
60	4.8	4.9	4.9	5.0	4.7
63	2.4	2.5	2.5	2.5	2.4
66	1.3	1.3	1.3	1.4	1.3
69	0.7	0.7	0.8	0.8	0.8

Figure 5.4: Forecast number of people exposed to noise

Noise Contour, dB L _{Aeq,16h}	Population ⁴⁴				
	2020	2025	2030	2035 forecast 75% reflecting	2035 potential increased reflecting (up to 80%)
54	107,100	104,600	102,400	101,000	94,400
57	45,700	45,900	45,400	45,900	42,700
60	16,500	18,100	18,600	19,100	18,000
63	4,500	4,700	4,900	4,700	4,200
66	1,200	1,300	1,300	1,600	1,400
69 ⁴⁷	0	0	0	0	0

⁴⁴ The populations have been determined using data supplied by CACI Ltd. This data is based on census information factored up to 2018 and consists of population by postcode.

⁴⁵ The forecast population within the 69 dB noise contour has been informed by a detailed modelling exercise that has been undertaken allowing for local screening from the airport’s noise barriers and terminal buildings.

5.2 Air quality Managing air quality around the airport

Air quality at London City Airport

The airport already operates a comprehensive air quality monitoring network, with no recorded breaches since monitoring began in 2006. The network comprises two onsite automatic monitoring stations and 17 local passive monitoring stations. The pollutants measured include nitrogen oxides (NO_x), nitrogen dioxide (NO₂), fine particulate matter (PM₁₀) and, since the end of 2018, very fine particulate matter (PM_{2.5}).

We are committed to monitoring ambient air quality and sharing the results with the local authority. As mentioned in section 1, near real time data are available online⁴⁶ and the findings are reported annually. Our monitoring data shows that concentrations are under the UK air quality objectives for all the pollutants monitored. Figure 5.5 shows the recent annual mean NO₂ concentrations from the two automatic onsite monitors and four of the local sites too. It shows that monitored levels have been consistently well below the UK air quality objective over the past 4 years. Figure 5.6 shows the locations of these monitoring sites.

⁴⁶ monitoring.aqconsultants.co.uk/index.php/LCY

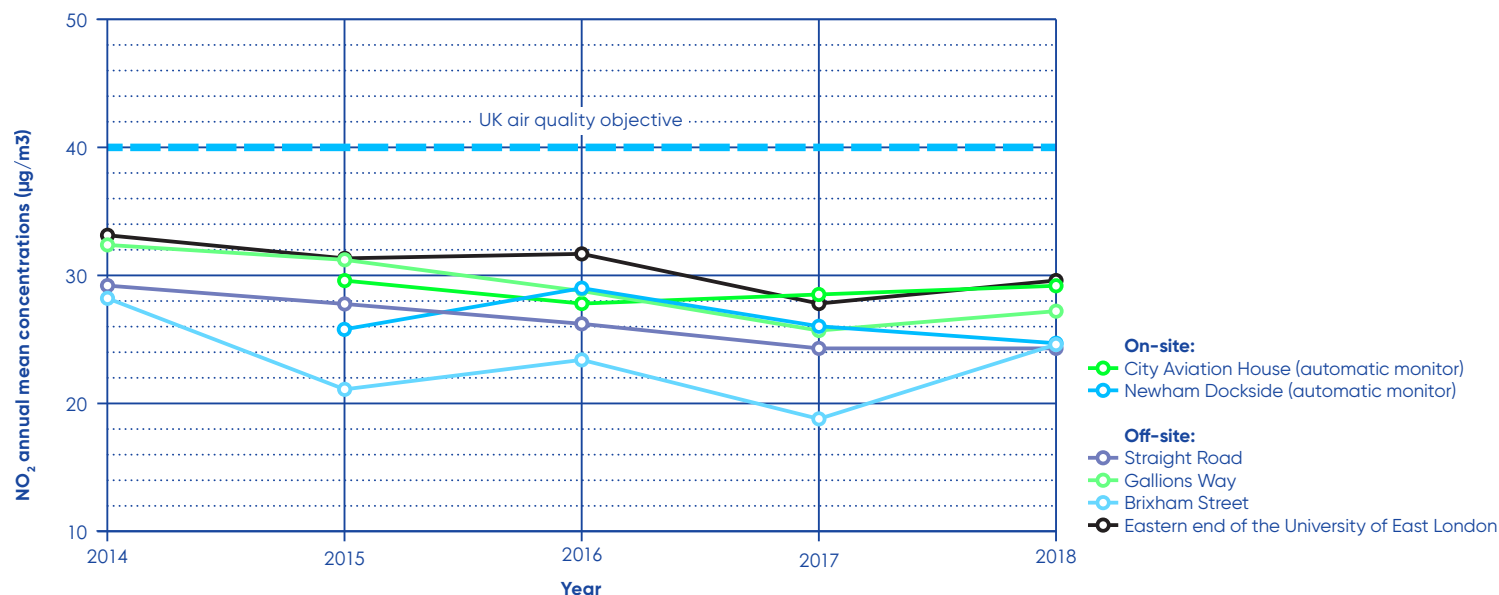


Figure 5.5: Annual mean NO₂ concentrations (2014 – 2017)



Figure 5.6 The location of the monitoring sites

Measures we are currently taking to reduce effects

The main potential impacts on air quality arise from aircraft on the ground, aircraft in the air, ground-based activity such as vehicles, machinery and mobile power plant, stationary energy plant and road traffic. Emissions from aircraft above 1,500ft (equal to 457m) generally have a negligible impact on ambient concentrations at ground level. Similarly, the impact of near-ground and aircraft emissions and other airport activity on ambient concentrations is limited to within a few hundred metres of the point of emission. At greater distances the main air quality issues are those due to passenger and staff travel to and from the airport.

Our Air Quality Management Strategy (AQMS) lists the measures we are currently taking to reduce the effects of pollution on air quality. A full report is included in our Annual Performance Report which is available on our website.⁴⁷ Some of the key measures include:

- as part of the CADP build, use of gas-fired Combined Heat and Power (CHP) systems to suit the airport's base load profiles and photovoltaic panels on the terminal building roof;
- provision of ultra-low NO_x boilers and CHP systems that include 95% catalytic reduction of emissions;
- installation of fixed electrical ground power (FEGP) to all CADP stands;

- an airport-wide strategy for expanding the use of low emission and electric vehicles;
- requiring all vehicles issued with a new Airside Vehicle Permit to comply with the latest vehicle emissions standards for road vehicles (Euro Standards); and
- controlling Auxiliary Power Units (APU) ground running and engine testing and undertaking routine emissions testing for airside vehicles.

Additional measures to 2035

Our assessment of air quality to 2035 has considered all relevant local sources of emissions, including aircraft on the ground and in the air, other vehicles on the airport ground, road traffic and energy sources. Emissions from future sources outside the local area have been considered through the background pollutant concentrations.

In 2035, the maximum concentrations are predicted to decrease, compared with the current situation, in the vicinity of the airport. The highest predicted annual mean NO₂ concentration for 2035 is 21.6µg/m³ and the highest predicted annual mean PM₁₀ and PM_{2.5} concentrations are 16.8µg/m³ and 10.4µg/m³ respectively, all of which are below the relevant air quality objectives. The airport can therefore meet demand and grow without causing any exceedance of EU limit values or delaying compliance with EU limit values.

The decrease in concentrations is due to the predicted decrease in road traffic emissions and in background concentrations by 2035, both of which are due to tighter road vehicle emissions regulations. The impact of increased aircraft activity on concentrations is limited as some of those emissions occur at height (aircraft in the air) while the impact of emissions near ground level drops off rapidly with distance from the airport.

To mitigate impacts on air quality to 2035 we will:

- work with airlines to encourage improvements in aircraft performance and so reduce emissions;
- provide Fixed Electrical Ground Power on all future stands;
- ensure all vehicles owned by the airport will be ULEZ compliant by December 2020;
- ensure all airside vehicles with a permanent vehicle pass will be electric (or zero emissions) or use renewable fuels by 2030; and
- ensure that 300 parking spaces (1 in 5) are equipped with electric charging points by 2035, with provision for electric charging or zero emission vehicles on all other spaces.



⁴⁷ <https://www.londoncityairport.com/corporate/Action-Plans-and-Reports/Annual-Performance-report>

5.3

Carbon and climate change

Reducing emissions to net zero by 2050



The airport can exert significant influence over activities which contribute to climate change, such as: emissions from aircraft on the ground and in the Landing and Take-off (LTO) cycle; emissions from airport buildings and energy plant; ground operations including airside vehicles and ground power units; surface access transport; construction and refurbishment works; and the sustainable consumption of water, energy and natural resources by its own activities and those of our suppliers and tenant companies based at the airport. While not all of these activities are within our direct control there are a number of initiatives that we have committed to which will help us move closer to a low, and ultimately carbon-neutral future.

We fully understand and support the need to reduce our carbon emissions and to become an even more sustainable business. We have already exceeded our 2020 targets to achieve a 20% reduction in carbon emissions per passenger compared to 2013, and are now working to achieve Airport Carbon Accreditation level 3+ neutrality by becoming a carbon neutral airport by 2020.

The DfT's Beyond the Horizon (2018) policy statement and the recently released Aviation 2050: the future of UK Aviation green paper, demonstrates that the UK can keep within its legally binding carbon budget while also allowing airports to make best use of their existing runway capacity. Meeting these targets, and potentially stricter zero carbon objectives announced by the Government at the start of June 2019, needs to be tackled at an international level because air travel transcends national borders. Alongside industry partners and consistent with the recent Government announcement, we are committed to achieving net zero emissions by 2050, as agreed at the ACI Europe Congress in June 2019. To achieve this, we will embrace innovation and deploy several practices to reduce emissions even further and meet international industry standards to advocate net zero emissions in the wider industry.



Some of the measures to achieve net zero emissions by 2050

- Increase opportunities to further improve emissions by accommodating quieter, cleaner, more fuel-efficient new generation aircraft (such as the A220-100 and E190E2). These new generation aircraft are up to 17% more fuel efficient than current models and they can accommodate more seats, meaning carbon emissions per passenger mile flown are lower than with existing and previous generation aircraft. The more efficient airfield layout achieved through CADP will also play its part in reducing taxiing time, thus reducing emissions from aircraft on the ground;
- Continue our programme of upgrading existing buildings, plant and equipment to make them more energy efficient and to extend the life of our assets. Measures include installing FEGP to all stands, investing in low energy and low carbon technology, such as low-energy lighting and fuel-efficient ground vehicles;
- Play our part in reducing air emissions in-flight progressively over time by supporting the **decarbonisation of the aviation sector** where possible. That's why we support moves to further strengthen the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). CORSIA is the first global carbon pricing instrument covering an entire sector. The significance of this agreement cannot be overestimated. It requires all carriers to offset of their related carbon emissions. As a result, CORSIA will overall result in a greater CO2 mitigation in international aviation than any domestic policy for aviation can achieve;
- Participate in the Government's **airspace modernisation programme** 'Our Future Skies', which seeks to deliver annual savings of CO₂ by adopting more efficient operating procedures and allowing aircraft to fly more direct routes;
- Our target, with the help of our partners and **extended DLR operating hours**, is to achieve **80% of journeys by public and sustainable transport by 2035**; and
- Reduce overall demand for energy in buildings current and future through the adoption of energy efficiency measures and controls, including use of photovoltaics.

5.4 Other environmental matters

Managing water quality, biodiversity and waste disposal

Dock water quality and biodiversity

Our current Sustainability and Biodiversity Strategy contains a number of specific objectives and targets, progress against which is reported in our Annual Performance Report.

The Royal Docks support an unusual mix of both sea and freshwater fish species, arising as a result of the docks' location being transitional between saline seawater and freshwater.

In 2017, we installed an artificial fish habitat (submerged wire mesh panel) into the KGV Dock to compensate for the loss of sections of the dock wall during the CADP construction programme. These structures provide an alternative substrate for algae growth and marine invertebrates to colonise naturally which, in turn, provides a food source for fish and offers a space for the fish fry and invertebrates to shelter in. We will investigate how we can go further and will look at developing a dock water aeration system and additional artificial habitat systems to further enhance the biodiversity and maintain a flourishing marine community at the airport.

Run-off from the airport, which discharges to the River Thames via Thames Water Utilities, is also regularly monitored to ensure compliance with our discharge consent. We have been exploring opportunities to manage the potential impacts from de-icer, pesticide and herbicide use more carefully. We have already trialled and put into use more environmentally friendly ground de-icers, which affect water quality less than traditional glycol-based alternatives. The utilisation of the airport's certified Environmental Management System will ensure that impacts on water quality and ecology are considerably reduced and effectively monitored.

Previous and current construction methods to build stands over KGV Dock have been selected to avoid pollution of the underlying groundwater and to minimise the disturbance of dock sediment and bed material as far as reasonably practicable, thus reducing the risk of adverse effects on water quality. These tried and tested techniques have been effective and are likely to be re-used in the construction of any future stands over the dock if required.



Waste disposal

We were one of the first UK airports to remove plastic straws from all our food and drink outlets. We have also helped to reduce the application of single-use plastic by providing free drinking water refills and are looking to cease their use elsewhere within the airport, wherever possible.

We will continue to manage our waste according to the principles of the waste hierarchy (Reduce, Re-use, Recycle, Recover, Dispose) and continue to work with our business partners to minimise the production of waste, promoting the re-use and recycling of waste materials in order to retain our status as a 'zero waste to landfill' company. This will also include providing convenient collection facilities, incentivising recycling and waste reduction with our business partners, and working with airlines and organisations such as Sustainable Aviation to help explore options to recover more recyclables from cabin waste.

Our target is that at least 70% of waste will be recycled or composted. Where this is not feasible, waste will continue to be sent for energy recovery to ensure that as an alternative we continue to eliminate all waste going to landfill. We will also look to implement a waste reduction strategy to 2035.

5.5 Heritage and archaeology

Recognising the history of the Royal Docks

While not a formally listed heritage feature, King George V Dock and its surviving pontoons, dock wall and adjoining dockside features, such as sections of old railway tracks, do have heritage value. Therefore, we have invested considerable time and resources surveying and recording these features and, where possible, will retain them in-situ within our development plans. As part of CADP we also plan to open up the dockside to public access for the first time, with heritage boards and other signage and have provided coping stones from the dock wall for re-use in local park projects.

As part of any future development we will again evaluate the potential for 'townscape and visual impacts' on the surrounding community and how best to adapt the airport infrastructure to minimise impacts.



6

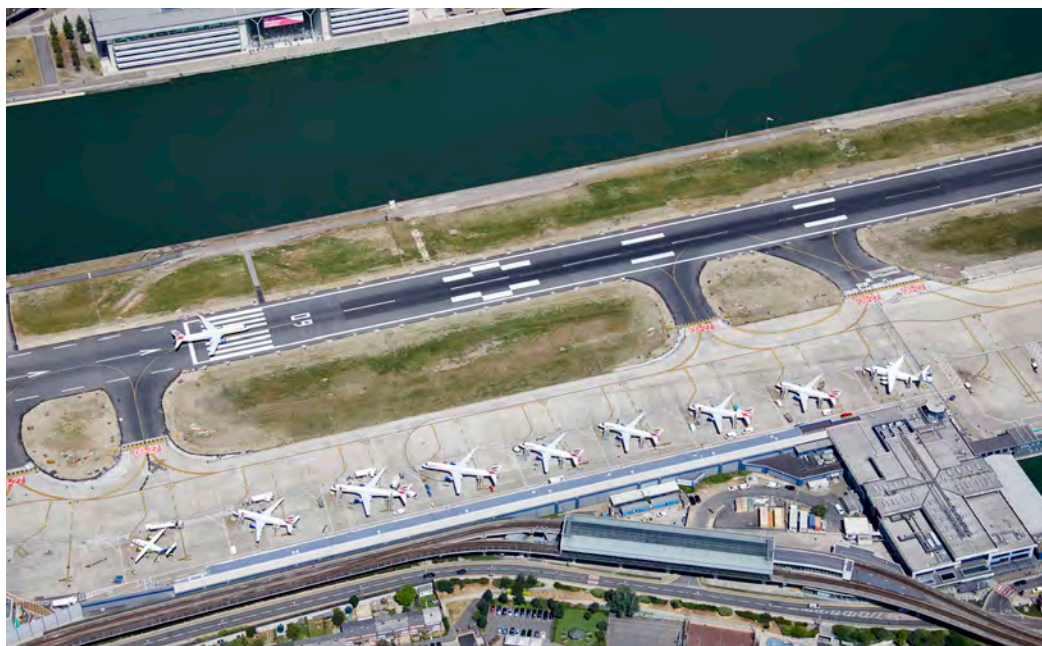
Public Safety Zone and other safeguarding

This section presents any potential changes to the Public Safety Zone due to the updated forecasts to 2035 and summarises the aerodrome safeguarding process adopted by the airport and which is unchanged by the forecasts to 2035.

6.1

Public Safety Zone and other safeguarding

Enhancing safety and security of the site



Safety and security

Airport safety and security requirements are subject to a range of statutory regulations, for example covering access controls, passenger and baggage search, safety on the airfield and in the area surrounding the airport. We are committed to the highest standards in safety and security to meet or exceed regulatory requirements. As the airport continues to develop, we will enhance safety and security through the design and operation of new facilities, technologies and infrastructure.

Aerodrome safeguarding

We make every effort to engage and work with developers and other third parties at an early stage to ensure that aerodrome safety is not compromised while facilitating the ambitious development targets across East London.

Local planning authorities consult the airport on any planning applications that may have an impact on the safety of our operation. This process is known as aerodrome safeguarding and is intended to ensure that no obstacles are built which would conflict with the safe operation of aircraft. The statutory provisions are contained in the Town and Country Planning (Safeguarded Aerodromes, Protected Sites and Military Explosive Storage Areas) Direction 2001 and Circular 01/03.

We do not expect any changes shown in this draft master plan to affect the current aerodrome safeguarding around the airport which has long been established. Because safeguarding is a function of existing physical obstacles and aircraft operating procedures which are prescribed by London City Airport's Operating Licence (which is not expected to be affected by any changes shown in this master plan) the Obstacle Limitation Surface and other operational restrictions would be unaffected.

Public Safety Zones (PSZ)

The risk of air accidents occurring as aircraft arrive at or depart from the airport, while extremely low, is such that the use of land at the ends of the runway is restricted. These designated areas are known as Public Safety Zones (PSZs). The Government's aim (as set out in DfT Circular 01/2010 'Control of Development in Airport Public Safety Zones') is to ensure, through planning policy, that there is no increase in the number of people living, working or congregating in PSZs and that, over time, the number should be reduced as circumstances allow.

The airport's current PSZ was published in 2010 before the approval of CADP in 2016. It was published by the Department for Transport (DfT) in 2010 and is shown on Figure 2.4. In determining the CADP planning application it was accepted by Government that the PSZ would be slightly larger. Because of an ongoing national review of the PSZ policy and risk calculation model, the DfT has yet to formally request a refresh of, or publish, an update to the airport's current 2010 PSZ.

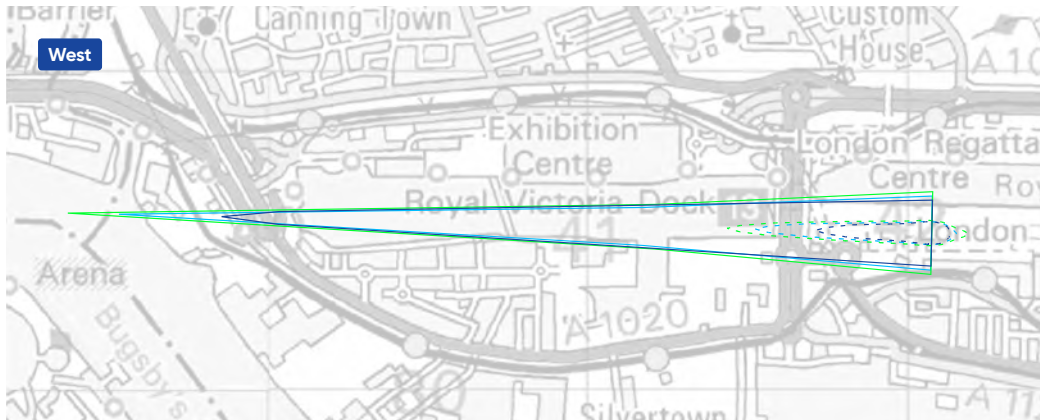
Nonetheless, due to the nature of growth in demand that we anticipate (through a higher proportion of scheduled ATMs and more modern aircraft which have a lower risk profile than, for instance, corporate and private aircraft) the forecast changes in the PSZ compared to the CADP PSZ are limited. Despite a forecast increase to 151,000 ATMs by 2035, the statistical risk of an incident affecting public safety would likely remain the same in overall terms (albeit in all scenarios the risks remain very low).

The airport commissioned the National Air Traffic Services (NATS) to undertake a third-party risk assessment to understand the implications of forecast growth to 2035. Figure 6.1 shows that the future predicted PSZ for 2035 is broadly consistent with those previously predicted for the currently permitted 111,000 ATMs per year. While the increase in the number of flights could marginally increase the extent of the PSZ when compared to the CADP PSZ, in practice we consider that it is more likely that the PSZ zones will be similar in size because over time the airport has the flexibility to phase out the operation of its Jet Centre which is largely used for corporate or private aircraft.

Figure 6.1: Public Safety Zone (PSZ) comparison for CADP v 2035 Master Plan

PSZ Contours (1 in 100,000)

- CADP forecast PSZ 2025
- 2035 forecast with Jet Centre
- 2035 forecast without Jet Centre



Risk Contours (1 in 10,000)

- CADP forecast PSZ 2025
- 2035 forecast with Jet Centre
- 2035 forecast without Jet Centre



7

Next steps

The draft master plan is subject to full public consultation from the 28th June 2019 until the 20th September 2019. During this time London City Airport will listen to feedback from all relevant stakeholders including local residents, community groups, airlines, councils and transport providers so that all views are considered. All feedback will be digested and considered, before a final master plan is published, along with a consultation report. This draft master plan is the start of a conversation where we want to hear your views, enabling us to create an airport that grows sustainably, and truly represents and delivers for the communities around us.

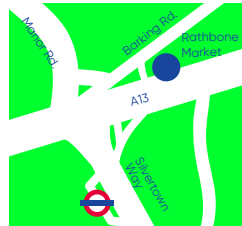
7.1

Next steps

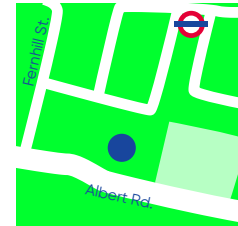
A comprehensive 12-week public consultation

We want to hear from you

London City Airport has published a new draft master plan, which details our proposals for future responsible growth and development between now and 2035. Join us at one of our consultation events in Newham, Tower Hamlets, Greenwich or the City of London to view the plans, speak to members of the expert project team, and provide feedback.



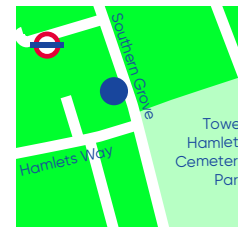
1. Newham
Canning Town Library
Rathbone Market,
18 Barking Road, Canning
Town, London E16 1EH
5 min walk from
Canning Town station
Wednesday 10th July,
4.30pm–7.30pm



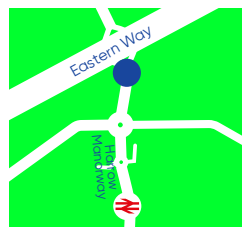
2. Royal Docks
**Royal Docks Learning
and Activity Centre**
Albert Road,
London E16 2JB
5 min walk from
King George V station
Saturday 14th September,
10.00am–4.00pm



3. Central London
The City Centre
80 Basinghall Street,
London EC2V 5AR
5 min walk from
Bank station
Wednesday 11th September,
12.00pm–7.00pm



4. Tower Hamlets
**Southern Grove
Community Centre**
Southern Grove, Mile End,
London E3 4FX
5 min walk from
Mile End station
Thursday 12th September,
3.30pm–7.30pm



**5. Greenwich
and Bexley**
Thamesmead
Broadwater Village Hall,
1c Goosander Way,
West Thamesmead,
London SE28 0ER
15 min walk from Abbey Wood
Tuesday 9th July, 3.30pm–7.30pm



**The 12-week
consultation will
commence 28th June
and run until
20th September.**

You can visit
www.londoncityairport.com/consultation
for more information and
to respond online

Appendix

A.1

Glossary of terms

A.2

Master plan phasing

A.1

Glossary of terms, abbreviations and acronyms

ABP scheme Advanced business parks (ABP) £1 billion scheme between Chinese company (ABP) and the Mayor of London to create a trade hub for Asian businesses to invest in the UK	BA British Airways
ACA Airport carbon accreditation scheme Independent institutionally endorsed, carbon management certification standard for airports	Biodiversity The different plants or animal life in an area or habitat
Aircraft stands Aircraft parking positions	BREEAM Building research establishment environmental assessment Method of assessing, rating, and certifying the sustainability of buildings
Aircraft holding points Locations where aircraft can be held before entering the runway in order to facilitate efficient surface movement of aircraft	CAA Civil Aviation Authority The national supervisory authority for the planning and regulation of national airspace
Apron The aircraft manoeuvring area including and adjacent to the aircraft stands	CADP City Airport Development Programme London City Airport's current plan for development of the airport's infrastructure to meet increased demand
Airport related use Land within the airport's ownership available for airport related uses	Carbon neutral Having a zero new carbon footprint
Airport operating hours The hours between which the aircraft can take off and land	CAV Connected autonomous vehicle
Airfield The operational area including the runway and taxiways	CHP Combined heat and power
APU Auxiliary power units	CFE Community Food Enterprise Social enterprise food business and a registered charity based in East London working to improve food security
ASAS Airport surface access strategy	Code C aircraft New generation aircraft like Airbus A220–100 and Embraer E190E2
ASQ Airport service quality awards The world's leading benchmarking survey with over 380 airports participating across 90 countries from Airports Council International	Community fund £75,000 fund from London City used support organisations and create positive change for nearby communities and those underneath the flight path
ATM Air transport movements Aircraft take-offs and landings at an airport	Community sponsorship fund £30k community sponsorship fund from which 15 recipients located in East London received grants ranging from £300 – £3,000
AQMS Air quality management strategy	CRC Carbon reduction commitment
	CSIS Construction sound insulation scheme

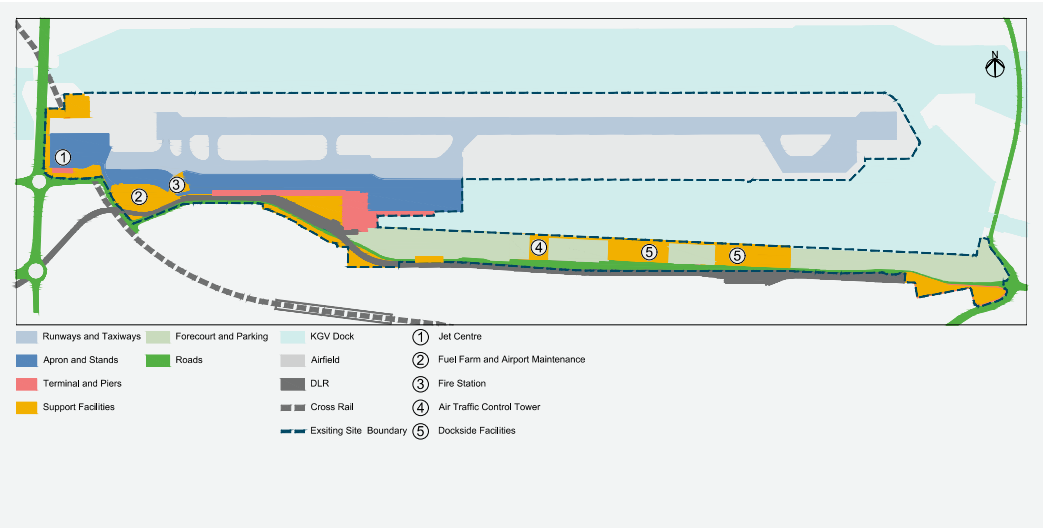
<p>Decibel A measure of the intensity of sound levels</p> <p>Demand forecast The predicted level of passengers and aircraft that will use the airport in the future</p> <p>DFT Department for Transport</p> <p>DLR Docklands Light Railway</p> <p>EASA European Aviation Safety Agency Agency of the European Union with responsibility for civil aviation safety</p> <p>EIA Environmental impact assessment</p> <p>EV Electric vehicle</p> <p>FEGP Fixed electrical ground power</p> <p>FTE Full-time equivalent (jobs)</p> <p>Fuel farm Storage and distribution facility for Aviation Fuel</p> <p>GDP Gross domestic product Used to determine economic performance</p> <p>GLA Greater London Authority</p> <p>Good growth Growth that provides benefits for the local community, London and the UK, while also mitigating for negative impacts</p> <p>GPU Ground power unit</p> <p>GSE Ground service equipment</p> <p>GVA Gross value added</p> <p>Jet Centre Corporate aviation facility</p>	<p>KGV King George V</p> <p>LAMP London airspace management programme Proposal to modernise airspace arrangements in south-east England</p> <p>LBN London borough of Newham</p> <p>LCY London City Airport</p> <p>LHR NWR London Heathrow Airport north west runway scheme</p> <p>MaaS Mobility-as-a-service</p> <p>Master plan The Airport's plan to safeguard space for potential future development</p> <p>MGPU Mobile ground power units</p> <p>Mode share The percentage of travellers using a particular type of transportation or number of trips using said type</p> <p>MPPA Million passengers per annum</p> <p>MSCP Multi-storey car park</p> <p>NATS National Air Traffic Services National provider of air traffic control and airspace management</p> <p>New generation aircraft New modern aircraft that are quieter and more fuel-efficient than previous aircraft types</p> <p>Noise contour The areas surrounding the airport within a defined noise level specified by our planning permission</p> <p>NPS National policy statement</p> <p>OLS Obstacle limitation surface</p>	<p>ONS Office for National Statistics</p> <p>Phasing The different stages and time periods of development at the airport</p> <p>PSZ Public safety zone Public safety zones are areas of land at the end of runways established at the busiest airports in the UK, within which certain planning restrictions apply. These aim to control the number of people on the ground at risk in the unlikely event of an aircraft accident on take-off or landing</p> <p>Ramp See Apron</p> <p>Royal Docks enterprise zone Designated area in the Royal Docks that provides tax breaks and government support to enable local economic growth</p> <p>Runway Defined rectangular area at an airport prepared for the landing and take-off of aircraft</p> <p>Section 106 Planning agreement which controls the operation of the airport and secures mitigation measures</p> <p>SI scheme Sound insulation scheme</p> <p>SME Small or medium sized enterprise Defined by the European Commission is a business or company: <ul style="list-style-type: none">○ that has fewer than 250 employees; and○ has either (a) annual turnover not exceeding €50 million (approximately £40 million) or (b) an annual balance-sheet total not exceeding €43 million (approximately £34 million); and○ of whose capital or voting rights, 25 per cent or more is not owned by one enterprise, or jointly by several enterprises, that fall outside this definition of an SME</p> <p>Sound insulation scheme London City Airport scheme providing eligible properties associated treatments for sound insulation funded by the airport</p>	<p>Statutory public consultation A consultation which allows local residents to provide their thoughts on the airport's plans</p> <p>STEM Science, technology, engineering and maths</p> <p>STOL Short take off and landing</p> <p>SuDS Sustainable urban drainage systems</p> <p>Support facilities Additional facilities required to help with the operation and safety of the airport</p> <p>Surface access A collective term for the different modes of transport used to travel to and from the airport</p> <p>SWDS Surface water drainage strategy</p> <p>Taxilane/Taxiway Defined path at an airport established for the taxiing of aircraft and intended to provide a link between one part of the airport and another including stands, apron areas and the runway</p> <p>TFL Transport for London Local government body responsible for the transport system in Greater London</p> <p>TORA Take off run available</p> <p>ULEZ Ultra-low emission zone Designated zone in Central London where a daily charge is applied to vehicles in the zone to help reduce exhaust NOx and PM emissions</p>
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A.2

Master plan phasing

Potential phasing of development to meet demand

Figure A.2.1: Existing Plan



The draft master plan has been developed so that the infrastructure proposals can be incrementally provided in phases to meet forecast changes in demand. The following plans illustrate a potential approach to phasing the master plan and therefore indicatively show how the airport could develop over time from the existing layout to the CADP plan and then through three phases of the master plan in 2025, 2030 and 2035.

Phase 1 of the master plan has been developed to meet the demand and requirements predicted for 2025. The key airfield changes from the CADP layout are the potential development of two new generation aircraft stands and additional runway hold points to the west of the Fire Station, within the airport boundary. To facilitate these infrastructure changes the fuel farm and some operational support facilities could be relocated to the dockside east of the terminal, also within the airport's ownership. A multi-storey car park could be built to free up space on the dockside for the support facilities and other future airport land uses.

Phase 2 of the master plan has been developed to meet the demand and requirements predicted for 2030. The proposed layout for this phase is the same as 2025 as the growth in demand we believe could be accommodated by the terminal and apron infrastructure already provided, subject to some adjustments.

Phase 3 of the master plan has been developed to meet the demand and requirements predicted for 2035. The key changes from the 2025/30 layout are the addition of up to three stands at the eastern end of the apron, which would need to be constructed over the dock as an extension of the stands currently being delivered as part of CADP. There may need to be some adjustments to the west apron stands and West Pier to accommodate more cleaner, quieter new generation aircraft.

The ongoing transformation and expansion of the terminal building and associated forecourt as part of CAPD should – together with further technological advancements – provide enough capacity to handle much if the anticipated growth in passenger demand to 2035. However, some modifications to the interior of the terminal buildings may be required to ensure that the building can adequately process the passenger and baggage demand forecast at peak times by 2035.

The Rendezvous Point (RVP) and second Vehicle Control Point (VCP) provided as part of CADP near the potential Aviation Centre of Excellence (location 8 on Figure A.2.5) would need to be relocated further to the east in this phase of the master plan due to the extension of the east pier and apron.

Figure A.2.2: CADP Plan

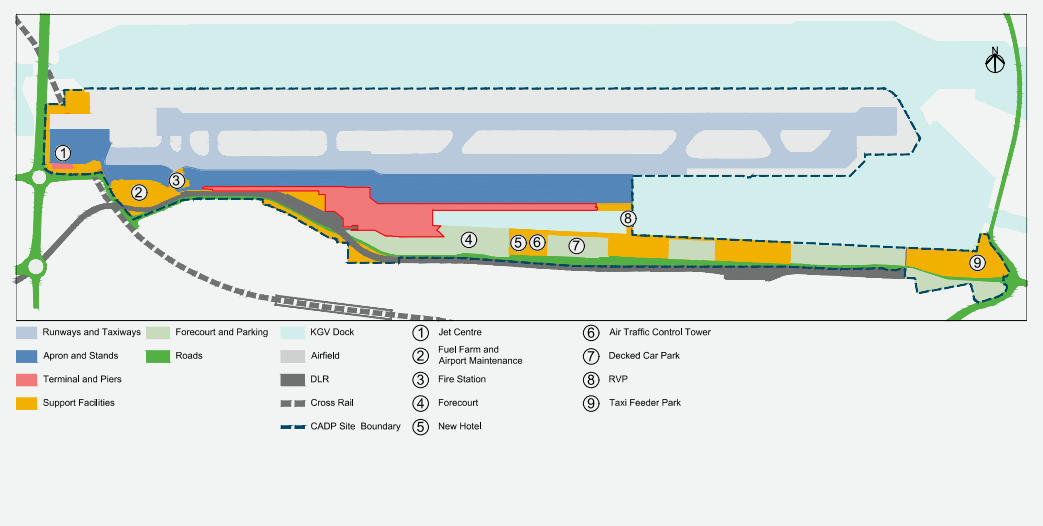


Figure A.2.3: Master Plan Phase 1 - 2025

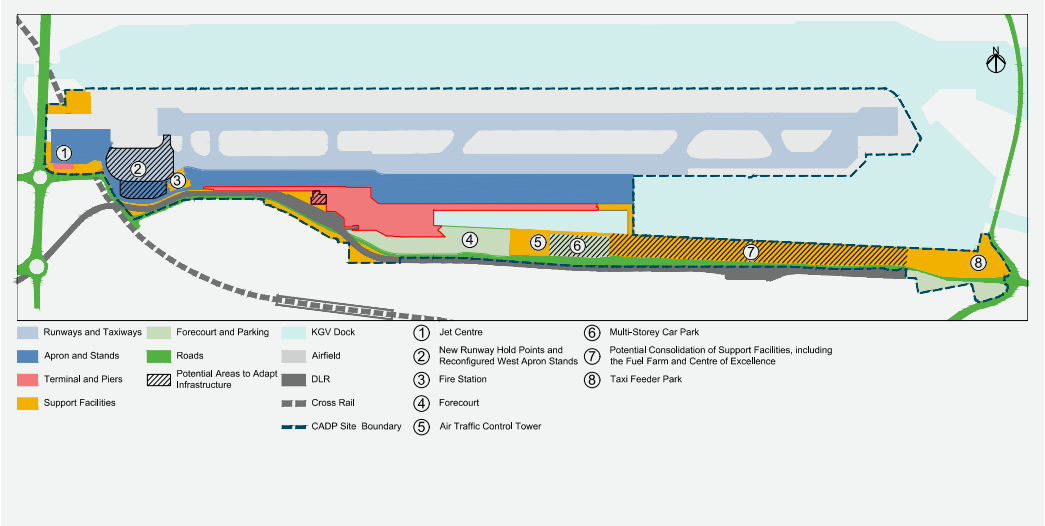


Figure A.2.4: Master Plan Phase 2 - 2030

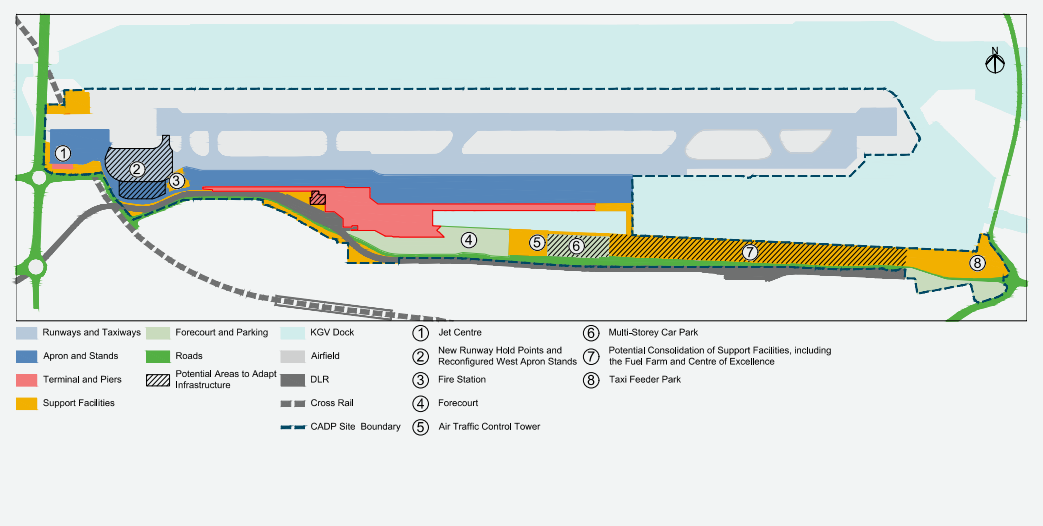


Figure A.2.5: Master Plan Phase 3 - 2035

